

# Selection guide 2018.

Discretes, Logic and MOSFETs



nexperia

EFFICIENCY WINS.

# Introduction

Welcome to the 2018 edition of the Nexperia Selection Guide. Here we present all our Discrete, Logic and MOSFET devices in one single document to give you a complete overview of our portfolio. We hope that makes it even easier for you to find the right product for your design.

Our extensive portfolio offers a wide range of general purpose devices and those that meet the stringent standards set by the automotive industry. They are housed in some of the most advanced, industry-leading small packages that combine power and thermal efficiency with best-in-class quality levels.

Alongside quality and efficiency, Nexperia customers value reliability and a consistent supply they can trust. We produce consistently reliable semiconductor components at high volume (85 billion annually) and we work at every step to safeguard the long-term availability of our manufacturing processes and products, to ensure secure supply for all our customers.

We have a long history and broad experience. That ensures we can support you with the dedicated in-house technical support you need – from simplifying selection via quick-reference material to simple-to-use design tools and application insights. All to help drive up efficiency in your designs.

## All the functionality you need in one spot

Just like on our website, you will find the selection guide is split into our five key product areas. There is also a dedicated section on packages, highlighting the latest package innovations and packing options.

### Bipolar transistors

- › Resistor-equipped, low  $V_{CEsat}$  and small-signal transistors
- › Standard SMD, leadless and clip-bond packages

### Diodes

- › Broad choice of Zener, Schottky and switching diodes
- › Ultra-small, low-profile surface-mount package options

### ESD protection, filtering and signal conditioning

- › Extensive range of protection in ultra-small form factors
- › Optimized for signal integrity, robustness and system protection

### MOSFETs

- › Low  $R_{DSon}$  devices from < 20 V to > 200 V
- › True power packages with solid wireless-clip for smart efficiency

### Logic

- › Comprehensive portfolio operating from 0.7 V to 15.0 V
- › Unrivalled package innovation and lowest power logic solutions

### Packages

- › The next generation of packaging for volume production
- › Package cross-reference and packing options

As an innovative company we are continually adding to our product portfolio, so to discover all our latest product information you should visit our website – [www.nexperia.com](http://www.nexperia.com)

# Our commitment: quality and reliability



## AEC-Q100/Q101 qualified

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We qualify our products according to the automotive AEC-Q100/Q101 standard and even exceed it's requirements, for instance when doing extended lifetime testing.



## Go for quality

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All our processes and manufacturing plants are subject to regular international and internal audits, including the following:

- › ISO9001
- › ISO/TS 16949 for automotive sites
- › ISO14001
- › OHSAS18001



## Design for excellence

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Nexperia's Design for Excellence (DfX) program ensures that each new development builds on past learning and that best practices are always employed. The result is continual product improvement.

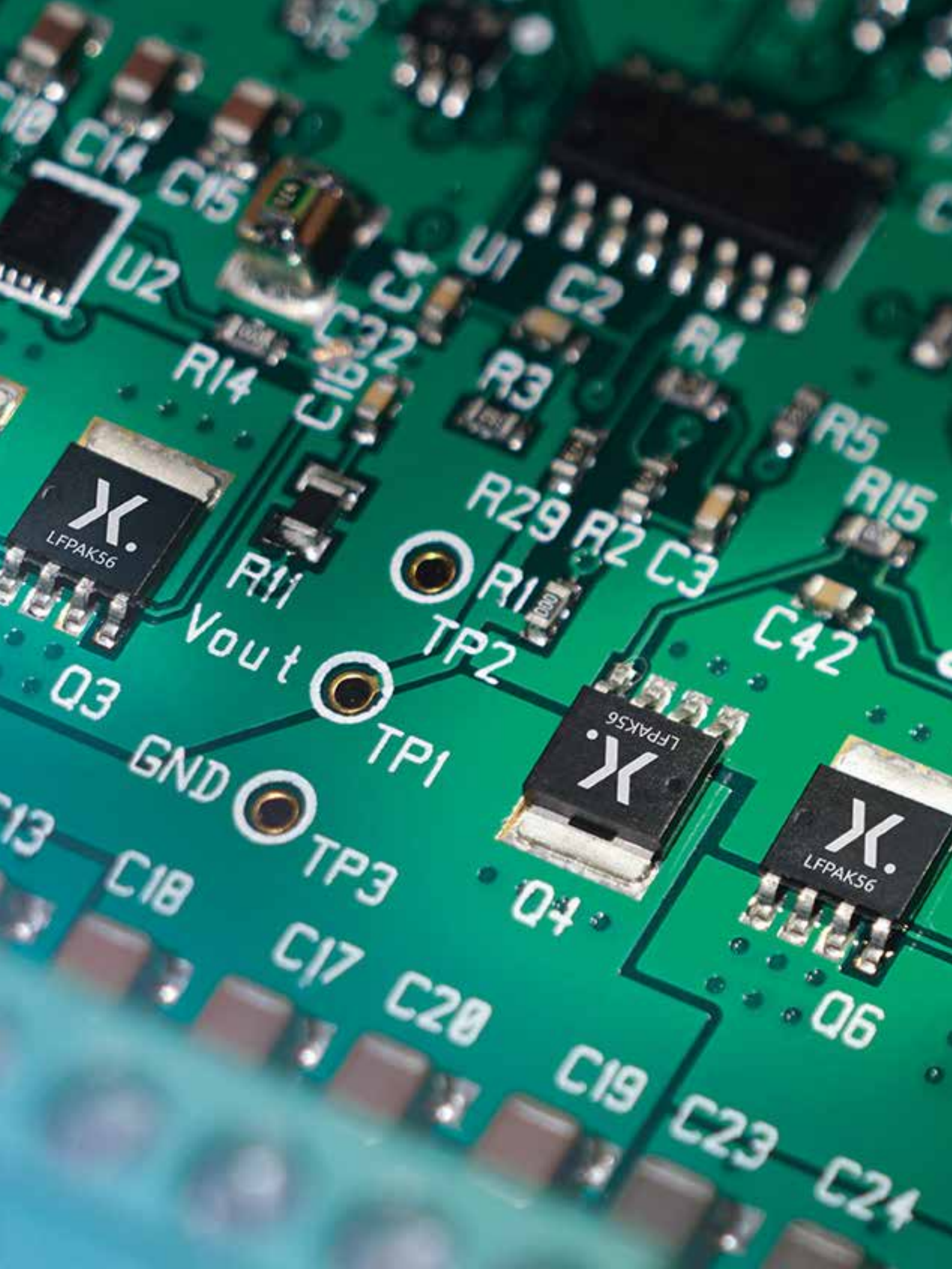


## Zero defect

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Zero defect is our goal. To ensure continuous improvement failure analysis and the determination to find root causes is performed at all stages of development and production by adoption of quality-analysis tools and methods (e.g. Six-Sigma, Safe-Launch).

**Rigorous attention to detail and commitment to quality have yielded a very low product failure rate of a single-digit part per billion (ppb).**



K.  
LFPAK56

Vout

TP2

TP1

GND

TP3

K.  
LFPAK56

K.  
LFPAK56

LFPAK56

Q6

C14 C15

R14

C16 C13 C12 C11

R3

R29

R2 R3

C42

R5

R15

Q3

Q4

C18

C17

C20

C19

C23

C24

U1

U2

U10

U13



# Selection guide 2018.

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## New products

As an innovative company we invest significantly in R&D, and continually expand our portfolio with the latest generation of technology and products. Here is a snapshot of our most recent releases, but don't forget to visit the website for the most up-to-date information - [www.nexperia.com](http://www.nexperia.com)

## Bipolar transistors

Category	Device	Description	Page
General purpose bipolar transistors	<b>BC817K-16</b>	45 V, 500 mA NPN general-purpose transistors in SOT23	15
	<b>BC817K-25</b>	45 V, 500 mA NPN general-purpose transistors in SOT23	15
	<b>BC817K-40</b>	45 V, 500 mA NPN general-purpose transistors in SOT23	15
	<b>BC807K-16</b>	45 V, 500 mA PNP general-purpose transistors in SOT23	15
	<b>BC807K-25</b>	45 V, 500 mA PNP general-purpose transistors in SOT23	15
	<b>BC807K-40</b>	45 V, 500 mA PNP general-purpose transistors in SOT23	15
	<b>BCP56H</b>	80 V, 1 A NPN medium power transistor in SOT223	17
	<b>BCP56-10H</b>	80 V, 1 A NPN medium power transistor in SOT223	17
	<b>BCP56-16H</b>	80 V, 1 A NPN medium power transistor in SOT223	17
	<b>BCP53H</b>	80 V, 1 A PNP medium power transistors in SOT223	17
	<b>BCP53-10H</b>	80 V, 1 A PNP medium power transistors in SOT223	17
	<b>BCP53-16H</b>	80 V, 1 A PNP medium power transistors in SOT223	17
	<b>BC817K-16H</b>	45 V, 500 mA NPN general-purpose transistors in SOT23	17
	<b>BC817K-25H</b>	45 V, 500 mA NPN general-purpose transistors in SOT23	17
	<b>BC817K-40H</b>	45 V, 500 mA NPN general-purpose transistors in SOT23	17
	<b>BCM56DS</b>	NPN/NPN matched double transistors in SOT457	20
	<b>BCM53DS</b>	PNP/PNP matched double transistors in SOT457	20
	<b>BCM847QAS</b>	NPN/NPN matched double transistors in SOT1216	20
	<b>BCM857QAS</b>	PNP/PNP matched double transistors in SOT1216	20
	<b>PMP4501QAS</b>	NPN/NPN matched double transistors in SOT1216	20
<b>PMP5501QAS</b>	PNP/PNP matched double transistors in SOT1216	20	
Low VCEsat (BISS) transistors	<b>PBSS4160X</b>	60 V, 1 A NPN low VCEsat BISS transistor in SOT89	22
	<b>PBSS4360X</b>	60 V, 3 A NPN low VCEsat BISS transistor in SOT89	22
	<b>PBSS5360X</b>	60 V, 3 A PNP low VCEsat (BISS) transistor in SOT89	24
	<b>PBSS5250TH</b>	50 V, 2 A PNP low VCEsat (BISS) transistor in SOT23	25
	<b>PBSS5350TH</b>	50 V, 3 A PNP low VCEsat (BISS) transistor in SOT23	25
	<b>PBHV9540X</b>	400 V, 0.5 A PNP high-voltage low VCEsat (BISS) transistor in SOT89	28
	<b>PHPT61002NYCLH</b>	100 V, 2 A NPN high power bipolar transistor in LFPAK56	29
	<b>PHPT61002PYCLH</b>	100 V, 2 A PNP high power bipolar transistor in LFPAK56	29
Resistor equipped transistors (RETs)	<b>PRMH11</b>	50 V, 100 mA NPN/NPN Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	<b>PRMD3</b>	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	<b>PRMB11</b>	50 V, 100 mA PNP/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	<b>PRMD2</b>	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	<b>PRMH2</b>	50 V, 100 mA NPN/NPN Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	<b>PRMD12</b>	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	<b>PRMH10</b>	50 V, 100 mA NPN/NPN Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	<b>PRMD10</b>	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	<b>PRMH13</b>	50 V, 100 mA NPN/NPN Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	<b>PRMD13</b>	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	<b>PRMH9</b>	50 V, 100 mA NPN/NPN Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	<b>PRMD16</b>	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31



## Diodes

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Switching Diodes	<b>BAS321J</b>	General purpose diode, planar technology, encapsulated in a very small plastic SOD323F (SC-90) package	39
PN Rectifiers	<b>ES1DVR</b>	200V, 1A Hyperfast PN Rectifier in CFP3 (low VF)	40
	<b>ES1DR</b>	200V, 1A Hyperfast PN Rectifier in CFP3	40
	<b>ES2DVR</b>	200V, 2A Hyperfast PN Rectifier in CFP3 (low VF)	40
	<b>ES2DR</b>	200V, 2A Hyperfast PN Rectifier in CFP3	40
	<b>ES2DP</b>	200V, 2A Hyperfast PN Rectifier in CFP5	40
	<b>ES3DP</b>	200V, 3A Hyperfast PN Rectifier in CFP5	40
	<b>ES1GR</b>	400V, 1A Hyperfast PN Rectifier in CFP3	40
PN Rectifiers - Automotive	<b>PNE20030EP</b>	200V, 3A Hyperfast PN Rectifier in CFP5 (Automotive grade)	41
	<b>PNE20020EP</b>	200V, 2A Hyperfast PN Rectifier in CFP5 (Automotive grade)	41
	<b>PNE20020ER</b>	200V, 2A Hyperfast PN Rectifier in CFP3 (Automotive grade)	41
	<b>PNE20010ER</b>	200V, 1A Hyperfast PN Rectifier in CFP3 (Automotive grade)	41
Schottky rectifiers	<b>PMEG60T20ELR</b>	60 V, 2 A low leakage current Trench MEGA Schottky barrier rectifier in CFP3	45
	<b>PMEG40T10ER</b>	40V, 1A Trench Schottky Rectifier in CFP3	46
	<b>PMEG40T20EP</b>	40V, 2A Trench Schottky Rectifier in CFP5	46
	<b>PMEG40T20ER</b>	40V, 2A Trench Schottky Rectifier in CFP3	46
	<b>PMEG045T030EPD</b>	45V, 3A Trench Schottky Rectifier in CFP15	46
	<b>PMEG40T30EP</b>	40V, 3A Trench Schottky Rectifier in CFP5	46
	<b>PMEG40T30ER</b>	40V, 3A Trench Schottky Rectifier in CFP3	46
	<b>PMEG40T50EP</b>	40V, 5A Trench Schottky Rectifier in CFP5	46
	<b>PMEG045T050EPD</b>	45V, 5A Trench Schottky Rectifier in CFP15	46
	<b>PMEG045T100EPD</b>	45V, 10A Trench Schottky Rectifier in CFP15	46
	<b>PMEG045T150EIPD</b>	45V, 15A Trench Schottky Rectifier in CFP15	46

## ESD protection, TVS, filtering and signal conditioning

Category	Device	Description	Page
Low capacitance ESD protection for high-speed interfaces	<b>PHDMI2FR4</b>	Very low-clamping ESD protection for HDMI	55
	<b>PHDMI2AB4</b>	Very low capacitance ESD protection for HDMI	55
General ESD protection devices	<b>PESD3V3T1BL</b>	Ultra compact Transient Voltage Suppressor in DFN1006-2	57
Application-specific ESD solutions	<b>PESD2ETH-D</b>	ESD protection for in-vehicle ultra high-speed interfaces, in SOT457 package	61
	<b>PESD2ETH-AD</b>	ESD protection for in-vehicle ultra high-speed interfaces, in SOT457 package	61
EMI solutions with integrated protection	<b>PCMF1HDMI2S</b>	Common Mode Filter with ESD protection for HDMI2.0	64
	<b>PCMF2HDMI2S</b>	Common Mode Filter with ESD protection for HDMI2.0	64
	<b>PCMF3HDMI2S</b>	Common Mode Filter with ESD protection for HDMI2.0	64
	<b>PUSB3FR6</b>	Very low-clamping ESD protection for six data lines	66
	<b>PUSB3AB6</b>	Very low-capacitance ESD protection for six data lines	66
	<b>PUSB3F97</b>	Very low-clamping ESD protection for USB3.2@ 10 Gbps	66
	<b>PESD3V3W1BSF</b>	Extremely low-clamping, high robustness ESD protection for USB3.2	66
	<b>PESD4V0W1BSF</b>	Extremely low-clamping, high robustness ESD protection for USB3.2	66
	<b>PESD7V0R1BSF</b>	Extremely low-capacitance ESD-protection with 7 V V <sub>RWM</sub>	66
	<b>PESD7V0H1BSF</b>	Very low-capacitance ESD-protection with 7 V V <sub>RWM</sub>	66
	<b>PESD7V0C1BSF</b>	Extremely low-clamping ESD-protection with 7 V V <sub>RWM</sub>	66
<b>PESD6V5C1USF</b>	Extremely low-clamping unidirectional ESD-protection with 6.5 V V <sub>RWM</sub>	66	

## ESD protection, TVS, filtering and signal conditioning

Category	Device	Description	Page
Transient voltage surge suppressor (TVS)	<b>PTVS4V5D1BL</b>	Ultra compact Transient Voltage Suppressor in ultra-small DFN1006-2	67
	<b>MMBZ16VAL</b>	High surge current unidirectional double ESD protection diodes in SOT23 (automotive grade)	67
	<b>MMBZ16VTAL</b>	High surge current unidirectional double ESD protection diodes in SOT23 (automotive grade)	67
	<b>PTVS20VU1UPA</b>	300 W unidirectional Transient Voltage Suppressor (TVS) in DFN2020-3	67
	<b>PTVS22VU1UPA</b>	300 W unidirectional Transient Voltage Suppressor (TVS) in DFN2020-3	67
	<b>PTVS24VU1UPA</b>	300 W unidirectional Transient Voltage Suppressor (TVS) in DFN2020-3	67
	<b>PTVS5V0Z1USKP</b>	Transient voltage suppressor in DSN1608-2 for mobile applications	67

## MOSFETs

Category	Device	Description	Page
Automotive MOSFETs	<b>BUK7J1R4-40H</b>	N-channel 40 V, 1.4 mΩ standard level Q101 MOSFET in LFPAK56E	75
	<b>BUK7Y1R7-40H</b>	N-channel 40 V, 1.7 mΩ standard level Q101 MOSFET in LFPAK56	75
	<b>BUK7Y2R0-40H</b>	N-channel 40 V, 2 mΩ standard level Q101 MOSFET in LFPAK56	75
	<b>BUK7Y2R5-40H</b>	N-channel 40 V, 2.5 mΩ standard level Q101 MOSFET in LFPAK56	75
	<b>BUK7Y3R0-40H</b>	N-channel 40 V, 3 mΩ standard level Q101 MOSFET in LFPAK56	75
Power MOSFETs	<b>PSMN8R5-100PSF</b>	NextPower 100 V, 8.7 mΩ N-channel MOSFET in TO220 package	90
	<b>PSMN018-100PSF</b>	NextPower 100 V, 18 mΩ N-channel MOSFET in TO220 package	90
	<b>PSMN8R5-100ESF</b>	NextPower 100 V, 8.8 mΩ N-channel MOSFET in I2PAK package	91
	<b>PSMN018-100ESF</b>	NextPower 100 V, 18 mΩ N-channel MOSFET in I2PAK package	91
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	<b>PSMN6R9-100YSF</b>	NextPower 100 V, 7 mΩ N-channel MOSFET in LFPAK56 package	92
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## Logic

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	<b>74HC161-Q100</b>	Presettable synchronous 4-bit binary counter; asynchronous reset	109
	<b>74LVC4T3144-Q100</b>	4-bit dual-supply buffer/line driver; 3-state	116
	<b>HEF4528B-Q100</b>	Dual monostable multivibrator	116
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Buffers/inverters/drivers	<b>74AHC9541A</b>	Octal buffer/line driver; Schmitt-trigger (3-state)	129
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	<b>74LV07AT</b>	Hex buffer with open-drain; TTL-enabled	133
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# Bipolar transistors






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## Transistors single NPN


Package					SOT23	SOT323 (SC-70)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)
									
Size (mm)					2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37
P <sub>tot</sub> (mW)					250	200	750	250	250
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min/typ	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)					
25	100	450	1200	100					
30	100	110 - 200	450 - 800	100	BC848B	PMST5089			
		350	900	100		BC848W	PMST5088		
32	100	110 - 420	220 - 800	100	BCW31 / 32 / 33				
		180 - 380	310 - 630	250	BCW60B / C / D				
45	100	110 - 420	220 - 800	100	BC847 / A / B / C	BC847W / AW / BW / CW	BC847AQA / BQA / CQA	BC847AM / BM / CM	BC847AMB / BMB / CMB
		120 - 380	220 - 630	100	BCX70G / H / J / K				
		110 - 200	220 - 450	100	BCW71 / 72				
50	100	500	1250	100	PMBT6429	PMST6429			
		210 - 290	340 - 460	100 - 150	2PD601ART 2PD601ARL 2PD601ASL	2PD601ARW / SW			
60	100	110 - 200	220 - 450	100	PMBT6428	PMST6428			
65	100	110 - 200	220 - 450	100	BCV71 / 72				
50	150	110 - 200	220 - 450	100	BC846 / A / B	BC846W / AW / BW		BC846BM	BC846BMB
		120 - 200	240 - 400	80	NXP3875Y / G				
	200	120 - 270	270 - 560	100		2PC4081Q / R / S		2PC4617QM / RM	2PC4617QMB / RMB
		210	340	100	2PD601BRL				
45	500	100 - 250	250 - 600	100	BC817 / -16 / -25 / -40	BC817W / -16W / -25W / -40W	BC817-25QA / -40QA		
		100	600	100	BCX19				
50	500	85 - 170	170 - 340	140 - 180	2PD602AQL 2PD602ARL 2PD602ASL	2PD1820AR / S			
60	500	50	-	100		PMSTA05			
45	800	100-250	250-600	100	BCW66F/G/H				

## Transistors single PNP






Package					SOT23	SOT323 (SC-70)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)
									
Size (mm)					2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37
P <sub>tot</sub> (mW)					250	200	750	250	250
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min/typ	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)					
30	100	125 - 220	500 - 800	100	BC858B	BC858W			
32	100	120 - 215	260 - 500	100	BCW29 / 30				
		180 - 380	310 - 630	100	BCW61B / C / D				
45	100	210 - 290	340 - 460	70 - 80	2PB709ART 2PB709ARL 2PB709ASL	2PB709ARW / SW			
		180 - 380	310 - 630	100	BCX71H / J / K				
		120 - 215	260 - 500	100	BCW69 / 70				
60	100	125 - 420	250 - 800	100	BC857 / A / B / C	BC857W / AW / BW / CW	BC857AQA / BQA / CQA	BC857AM / BM / CM	BC857AMB / BMB / CMB
		120	260	150	BCW89				
65	100	125 - 200	250 - 475	100	BC856 / A / B	BC856W / AW / BW		BC856BM	BC856BMB
50	150	120 - 270	270 - 560	100		2PA1576Q / R / S		2PA1774QM / RM / SM	2PA1774QMB / RMB / SMB
		210	340	100	2PB709BRL				
	200	290	460	100	2PB709BSL				
45	500	100 - 250	250 - 600	80	BCX18				
		100	600	80	BC807 / -16 / -25 / -40	BC807W / -16W / -25W / -40W	BC807-25QA / -40QA		
50	500	85 - 170	170 - 340	100 - 140	2PB710ARL 2PB710ASL	2PB1219AQ / R / S			
60	500	100	-	50		PMSTA55			
80	500	100	-	50	PMBTA06	PMSTA06			
		100	-	50	PMBTA56	PMSTA56			
45	800	100-250	250-600	80	BCW68F/G/H				

## High performance transistors (superior power dissipation)

Types in **bold** represent new products

Package							SOT23
							
Size (mm)							2.9 x 1.3 x 1.0
P <sub>tot</sub> (mW)							775
Polarity	V <sub>CEO</sub> (V)	V <sub>ebo</sub> (V)	I <sub>c</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)	
NPN	45	5	0,5	100	250	100	<b>BC817K-16</b>
				160	400	100	<b>BC817K-25</b>
				250	600	100	<b>BC817K-40</b>
PNP	45	5	0,5	100	250	80	<b>BC807K-16</b>
				160	400	80	<b>BC807K-25</b>
				250	600	80	<b>BC807K-40</b>

## Transistors double

Package						SOT457 (SC-74)	SOT363 (SC-88)	SOT666	DFN1412-6 (SOT1268)	DFN1010B-6 (SOT1216)	
											
Size (mm)						2.9 x 1.5 x 1.0	2.0 x 1.25 x 0.95	1.6 x 1.2 x 0.55	1.4 x 1.2 x 0.5	1.0 x 1.0 x 0.37	
P <sub>tot</sub> (mW)						750	300	300	480	350	
Polarity	V <sub>CEO</sub> (V)	I <sub>c</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)						
NPN	40	100	120	450	100		PUMX1	PEMX1			
	45	100	200	450	100	BC847DS	BC847BS	BC847BV	BC847RA	BC847QAS	
	65	100	110	-	100			BC846S			
			200	450	100	BC846DS	BC846BS				
	50	150	120	560	100		PUMX2				
45	500	160	400	80	BC817DS			BC817RA			
PNP	40	100	120	450	100	PIMT1	PUMT1	PEMT1			
	45	100	200	450	100		BC857BS	BC857BV	BC857RA	BC857QAS	
	65	100	110	-	100			BC856S			
			200	450	100		BC856BS				
45	500	160	400	80	BC807DS			BC807RA			
NPN / PNP	40	100	120	450	100		PUMZ1	PEMZ1			
	45	100	200	450	100		BC847BPN	BC847BVN	BC847RAPN	BC847QAPN	
	50	100	120	560	100	PIMZ2	PUMZ2				
	65	100	200	450	100		BC846BPN				
	12	500	200	-	250 / 100				PEMZ7		
45	500	160	160	100 / 800	BC817DPN				BC817RAPN		

## Switching transistors single

Package							SOT223 (SC-73)	SOT89 (SC-62)	SOT23	SOT323 (SC-70)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)
Size (mm)							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37
P <sub>tot</sub> (mW)							1700	1300	250	200	250	250
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)	t <sub>off</sub> (ns)						
NPN	40	200	100	300	180	1200			PMBS3904	PMSS3904		
	15	600	40	120	500	20			PMBT2369	PMST2369		
	40	200	100	300	300	250			MMBT3904			
	30	600	100	300	250	250			PMBT3904	PMST3904	PMBT3904M	PMBT3904MB
	40	600	100	300	250	250	PZT4401	PXT4401	PMBT4401	PMST4401		
	40	600	100	300	300	250			MMBT2222A			
	40	600	100	300	300	250	PZT2222A	PXT2222A	PMBT2222A	PMST2222A		
PNP	40	800	100	300	300	250			BSR14			
	40	100	100	300	150	700			PMBS3906	PMSS3906		
	40	200	100	300	250	300			MMBT3906			
	40	200	100	300	250	300			PMBT3906	PMST3906	PMBT3906M	PMBT3906MB
	40	600	100	300	200	350	PZT4403	PXT4403	PMBT4403	PMST4403		
	40	600	100	300	200	365			PMBT2907			
	40	600	100	300	200	300				PMST2907A		
	60	600	100	300	200	365			BSR16			
							PZT2907A	PXT2907A	PMBT2907A			

## Switching transistors double

Package							SOT363 (SC-88)	SOT666	SOT457 (SC-74)
Size (mm)							2.0 x 1.25 x 0.95	1.6 x 1.2 x 0.55	2.9 x 1.5 x 1.0
P <sub>tot</sub> (mW)							300	300	750
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)	t <sub>off</sub> (ns)			
NPN	40	200	100	300	300	250	PMBT3904YS	PMBT3904VS	
	40	600	100	300	250	250	PMBT4401YS		
					300	250	PMBT2222AYS		
PNP	40	200	100	300	250	300	PMBT3906YS	PMBT3906VS	
	40	600	100	300	200	350	PMBT4403YS		
	60	600	100	300	200	365	PMBT2907AYS		
NPN / PNP	40	200	100	300	300 / 250	250 / 300	PMBT3946YPN	PMBT3946VPN	
					300 / 200	250 / 365			
									NMB2227A



## Medium power transistors

Package						SOT223 (SC-73)	SOT89 (SC-62)	DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)
Size (mm)						6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62
P <sub>tot</sub> (mW)						1700	1300	1300	1300
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)				
NPN	20	2	85 - 160	375	40	BCP68 / -25	BC868 / -25	BC68PA / BC68-25PA	BC68PAS / BC68-25PAS
	45	1	63 - 100	160 - 250	100	BCP54 / -10 / -16	BCX54 / -10 / -16	BC54PA / BC54-10PA / BC54-16PA	BC54PAS / BC54-10PAS / BC54-16PAS
	60	1	63 - 100	160 - 250	100	BCP55 / -10 / -16	BCX55 / -10 / -16	BC55PA / BC55-10PA / BC55-16PA	BC55PAS / BC55-10PAS / BC55-16PAS
			100	300	100	BSP41	BSR41		
	80	1	63 - 100	160 - 250	100	BCP56 / -10 / -16	BCX56 / -10 / -16	BC56PA / BC56-10PA / BC56-16PA	BC56PAS / BC56-10PAS / BC56-16PAS
			40 - 100	120 - 300	100	BSP43	BSR43		
PNP	20	2	85 - 160	250 - 375	40	BCP69 / -16 / -25	BC869 / -16 / -25	BC69PA / BC69-16PA / BC69-25PA	BC69PAS / BC69-16PAS / BC69-25PAS
	45	1	63 - 100	160 - 250	115 <sup>1)</sup> - 145 <sup>1)</sup>	BCP51 / -10 / -16	BCX51 / -10 / -16	BC51PA / BC51-10PA / BC51-16PA	BC51PAS / BC51-10PAS / BC51-16PAS
	60	1	63 - 100	160 - 250	100	BCP52 / -10 / -16	BCX52 / -10 / -16	BC52PA / BC52-10PA / BC52-16PA	BC52PAS / BC52-10PAS / BC52-16PAS
			40 - 100	120 - 300	100	BSP31	BSR30 / 31		
	80	1	63 - 100	160 - 250	115 <sup>1)</sup> - 145 <sup>1)</sup>	BCP53 / -10 / -16	BCX53 / -10 / -16	BC53PA / BC53-10PA / BC53-16PA	BC53PAS / BC53-10PAS / BC53-16PAS
			40 - 100	120 - 300	100	BSP32 / 33	BSR33		

1) Typical value

## Medium power transistors high performance (175 °C capable)

Types in **bold** represent new products

Package							SOT223 (SC-73)
Size (mm)							6.5 x 3.5 x 1.65
P <sub>tot</sub> (mW)							1700
Polarity	V <sub>CEO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min(MHz)	
NPN	80	7	1	63	250	100	<b>BCP56H</b>
					160	100	<b>BCP56-10H</b>
					100	100	<b>BCP56-16H</b>
PNP	80	7	1	63	250	100	<b>BCP53H</b>
					100	100	<b>BCP53-10H</b>
					100	100	<b>BCP53-16H</b>

## High performance transistors (175°C capable & superior power dissipation)

Types in **bold** represent new products

Package							SOT23
Size (mm)							2.9 x 1.3 x 1.0
P <sub>tot</sub> (mW)							950
Polarity	V <sub>CEO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min(MHz)	
NPN	45	7	0.5	100	250	100	<b>BC817K-16H</b>
				160	400	100	<b>BC817K-25H</b>
				250	600	100	<b>BC817K-40H</b>

## High voltage transistors


Package						SOT223 (SC-73)	SOT89 (SC-62)	SOT457 (SC-74)	SOT23	SOT323 (SC-70)
Size (mm)						6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
P <sub>tot</sub> (mW)						1700	1300	750	250	200
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>r</sub> min (MHz)					
NPN	140	300	60	250	100				PMBT5550	PMST5550
	160	300	80	250	100				PMBT5551 / BSR19A	PMST5551
	250	100	50	-	60	BF722	BF622		BF822	
	300	100	50	-	60	BF720	BF620		BF820	BF820W
			40	-	50	PZTA42	PXTA42		PMBTA42	PMSTA42
	350	100	40	-	70	BSP19	BST39			
400	300	50	200	20	PZTA44			PMBTA44		
PNP	100	100	30	-	50				BSS63	
			50	-	60	BF723				
	250	100	50	-	60		BF623		BF823	
			50	-	60		BF621		BF821	
			40	-	50	PZTA92	PXTA92		PMBTA92	PMSTA92
300	100	40	-	50						
2 x NPN	300	100	40	-	50			PMBTA42DS		

For high-voltage transistors with increased performance please refer to our high-voltage low VCEsat (BISS) transistor portfolio on page 19.

## LED driver

Package		SOT457	SOT23
Size (mm)		2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0
P <sub>tot</sub> (mW)		750	480
V <sub>S</sub> supply voltage [V]	LED drive current [mA] @ V <sub>S</sub> =10V		
18	10		NCR401T
	20		NCR402T
40	10	NCR401U	
	20	NCR402U	
	50	NCR405U	

## Constant current source

Package					
SOT353 (SC-88A)					
					
Size (mm)					
2.0 x 1.25 x 0.95					
P <sub>tot</sub> (mW)					
335					
Type					
PSSI2021SAY					
Description	Maximum supply voltage	Maximum supply current	Typical stabilized output current	Minimum stabilized output current	Maximum stabilized output current
Parameter	V <sub>S</sub> max (V)	I <sub>S</sub> max (mA)	I <sub>out</sub> typ (µA)	I <sub>out</sub> min (mA)	I <sub>out</sub> max (mA)
Value	75	2.2	15	0.015	50

## Darlington transistors

Package					SOT223 (SC-73)	SOT89 (SC-62)	SOT23
Size (mm)					6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.3 x 1.0
P <sub>tot</sub> (mW)					1700	1300	250
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	f <sub>T</sub> min (MHz)			
NPN	30	500	10000	125			PMBTA13
			20000		PZTA14	PXTA14	PMBTA14
	45	1000	2000	200		BCV29	BCV27
			10000			BCV49	BCV47
	80	1000	2000	200	BSP51	BST51	
			BSP52		BST52		
PNP	30	500	20000	125			PMBTA64
			2000	200		BCV28	BCV26
	45	1000	10000	220	BSP60	BST60	
			2000		200		BCV48
	80	1000	2000	200	BSP61	BST61	
			BSP62		BST62		

## Schmitt triggers

Package							SOT143B
Size (mm)							2.9 x 1.3 x 1.0
P <sub>tot</sub> (mW)							250
Polarity	V <sub>CEO</sub> (V) TR1	V <sub>CEO</sub> (V) TR2	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	V <sub>CEsat</sub> typ (mV)	
NPN	30	6	100	110	800	250	BCV63 / B
PNP	30	6	100	220	475	250	BCV64B

## Low noise transistors

Package							SOT23	SOT323 (SC-70)
Size (mm)							2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
P <sub>tot</sub> (mW)							250	200
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Noise figure max (dB)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)		
NPN	30	100	4	200	450	100	BC849B	BC849BW
				420	800	100	BC849C	BC849CW
	45	100	4	200	450	100	BC850B	BC850BW
				420	800	100	BC850C	BC850CW
PNP	30	100	4	220	475	100	BC859B	BC859BW
				420	800	100	BC859C	BC859CW
	45	100	4	220	475	100	BC860B	BC860BW
				420	800	100	BC860C	BC860CW

## Matched pair transistors - part 1

Types in **bold** represent new products

Package							SOT143B	SOT457 (SC-74)	LFPAK56D (SOT1205)	
Size (mm)							2.9 x 1.3 x 1.0	2.9 x 1.5 x 1.0	5 x 6 x 1.1	
P <sub>tot</sub> (mW)							250	750	1250	
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	h <sub>FE1</sub> /h <sub>FE2</sub>	V <sub>BE1</sub> - V <sub>BE2</sub> (mV)				
NPN	30	100	110	800	0.7 <sup>1)</sup>	n.a.	BCV61/A/B/C			
	45	100	200	450	0.9 <sup>1)</sup>	n.a.	BCM61B			
	80	100	63	250	0.95	n.a.		<b>BCM56DS</b>	BCM847DS	
	100	3000	150	-	0.95	n.a.			PHPT610035NK	
	Configuration									
PNP	30	100	100	800	0.7 <sup>1)</sup>	n.a.	BCV62/A/B/C			
	45	100	200	450	0.9 <sup>1)</sup>	n.a.	BCM62B			
	65	100	200	450	0.9	2			BCM857DS	
	80	100	63	250	0.95	n.a.		<b>BCM53DS</b>		
	100	3000	150	-	0.9	n.a.			PHPT610035PK	
	Configuration									

<sup>1)</sup> I<sub>C1</sub> / I<sub>E2</sub>

## Matched pair transistors - part 2

Types in **bold** represent new products


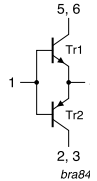

Package							SOT353 (SC-88A)	SOT363 (SC-88)	SOT666	SOT1216 (DFN1010B-6)		
Size (mm)							2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.6 x 1.2 x 0.55	1.1 x 1.0 x 0.37		
P <sub>tot</sub> (mW)							300	300	300	350		
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	h <sub>FE1</sub> /h <sub>FE2</sub>	V <sub>BE1</sub> - V <sub>BE2</sub> (mV)						
NPN	45	100	200	450	0.9 <sup>1)</sup>	2		BCM847BS		BCM847BV		
					0.95	2	PMP4501G		PMP4501Y	PMP4501V	<b>BCM847QAS</b>	<b>PMP4501QAS</b>
					0.98	2	PMP4201G		PMP4201Y	PMP4201V		
	65	100	200	450	0.9	2		BCM846BS				
Configuration												
PNP	45	100	200	450	0.9 <sup>1)</sup>	2		BCM857BS		BCM857BV		
					0.95	2	PMP5501G		PMP5501Y	PMP5501V	<b>BCM857QAS</b>	<b>PMP5501QAS</b>
					0.98	2	PMP5201G		PMP5201Y	PMP5201V		
	65	100	200	450	0.9	2		BCM856BS				
Configuration												

<sup>1)</sup> I<sub>C1</sub> / I<sub>E2</sub>





## MOSFET driver

Types in **bold** represent new products






$V_{CE0}$ (V)	$I_c$ (A)	$I_{cm}$ [A]	Type	Package	Remark	Configuration
30	0.1	0.2	BCV65	SOT143B 	General-purpose transistors	
40	0.6	1	PMD2001D	SOT457 	Switching transistors with reduced storage time	
	1	2	PMD3001D		LOW $V_{CEsat}$	

## Medium frequency transistors

						SOT23	SOT323 (SC-70)
Package							
Size (mm)						2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
$P_{tot}$ (mW)						250	200
Polarity	$V_{CE0}$ (V)	$I_c$ (mA)	$h_{FE}$ min	$h_{FE}$ max	$f_T$ typ (MHz)		
NPN	15	100	40	-	500	BF570	
	20	25		85	>275	BF520	BF520W
		30	65	225	260	BF519	
	40	25	67	220	380	BF840	
PNP	30	25	25	50	250	BF824	BF824W
	40		50	-	>325	BF550	

Low  $V_{CEsat}$  (BISS) transistors single NPN up to 2000 mW







Types in **bold** represent new products

Package							SOT223 (SC-73)	SOT89 (SC-62)	SOT457 (SC-74)	DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)
											
Size (mm)							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.5 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62
$P_{tot}$ (mW)							1700	1650	750	1300	1300
$V_{CE0}$ (V)	$I_C$ (A)	$I_{CM}$ (A)	$h_{FE}$ min/typ	@ $I_C$ (A)	@ $V_{CE}$ (V)	$V_{CEsat}$ typ (mV); $I_C = 0.5$ A; $I_B = 0.05$ A					
12	5.3	10.6	300/530	0.5	2	18		PBSS301NX			
	5.8	11.6	300/530	0.5	2	18	PBSS301NZ				
	6	7	280/440	0.5	2	20			PBSS4612PA		
20	3	5	220/390	0.5	2	40		PBSS4320X			
	4	15	300/450	0.5	2	30			PBSS301ND		
	5	10	300/450	0.5	2	35		PBSS4520X			
	5.3	10.6	300/570	0.5	2	20		PBSS302NX			
	5.8	10.2	300/570	0.5	2	20	PBSS302NZ				
	6	7	280/440	0.5	2	20				PBSS4620PA	
	7	15	300/550	0.5	2	12		PBSS4021NX			
	8	20	300/550	0.5	2	9	PBSS4021NZ				
30	3	5	300/490	0.5	2	45		PBSS4330X			
	3	5	300/465	0.5	2	40				PBSS4330PA	PBSS4330PAS
	3.5	6	300/500	0.5	2	70			PBSS4032ND <sup>3)</sup>		
	4.7	10	300/500	0.5	2	57		PBSS4032NX <sup>3)</sup>			
	5.1	10.2	300/480	0.5	2	20		PBSS303NX			
	5.4	10	300/500	0.5	2	57	PBSS4032NZ <sup>3)</sup>				
	5.5	11	300/480	0.5	2	20	PBSS303NZ				
	6	7	280/450	0.5	2	21				PBSS4630PA	
40	2	3	300/-	0.5	5	140		PBSS4240X			
	4	15	300/520	0.5	2	35			PBSS302ND		
		10	300/500	0.5	2	21		PBSS4540X			
	5	10	300/500	0.5	2	25	PBSS4540Z				
50	2	5	300/-	0.5	2	90 <sup>2)</sup>		PBSS4250X			
	3	5	200/280	0.5	2	65			PBSS4350D		
			300/460	0.5	2	50		PBSS4350X			
			200/280	0.5	2	60 <sup>1)</sup>	PBSS4350Z				
60	1	2	170/-	0.5	10	200 <sup>2)</sup>		<b>PBSS4160X</b>			
	3	6	200/360	0.5	5	45					PBSS4360PAS
			200/-	0.5	5	45	PBSS4360Z	<b>PBSS4360X</b>			
			345/570	0.5	2	40			PBSS303ND		
	4.7	9.4	300/520	0.5	2	25		PBSS304NX			
	5.2	10.4	300/520	0.5	2	25	PBSS304NZ				
	6	7	280/440	0.5	2	22				PBSS4560PA	
	6.2	15	300/500	0.5	2	17		PBSS4041NX			
7	15	300/500	0.5	2	13	PBSS4041NZ					
80	3	6	240/360	0.5	2	40			PBSS304ND		
	4	10	250/400	0.5	2	25		PBSS4480X			
	4.6	9.2	300/470	0.5	2	25		PBSS305NX			
	5.1	10.2	300/470	0.5	2	25	PBSS305NZ				
	5.6	7	270/425	0.5	2	25				PBSS4580PA	
100	1	3	150/290	0.25	10	75			PBSS8110D		
			150/290	0.25	10	73		PBSS8110X			
			150/290	0.25	10	73	PBSS8110Z				
	3	4	170/275	0.5	2	45			PBSS305ND		
	4.5	9	200/330	0.5	2	27		PBSS306NX			
	5.1	10.2	200/330	0.5	2	27	PBSS306NZ				
5.2	6	180/285	0.5	2	30				PBSS8510PA		

<sup>1)</sup>  $I_C/I_B = 20$  <sup>2)</sup>  $V_{CEsat}$  (max) <sup>3)</sup> Optimized for high-speed switching

Low  $V_{CEsat}$  (BISS) transistors single NPN up to 750 mW






Types in **bold** represent new products

Package								SOT23	SOT323 (SC-70)	SOT363 (SC-88)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)	DFN1010D-3 (SOT1215)
													
Size (mm)								2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.37
P <sub>tot</sub> (mW)								480	350	430	250	250	750
V <sub>CE0</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> (A)	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A							
15	0.5	1	200/325	0.01	2	-					PBSS2515M	PBSS2515MB	
20	1	3	350/470	0.1	2	110 <sup>2)</sup>	PBSS4120T						
	2	5	220/330	0.1	2	45	PBSS4320T						
	4.3	8	300/550	0.5	2	21	PBSS4021NT						
30	1	1.5	230/380	0.5	2	90						PBSS4130QA	
		3	300/450	0.5	2	120 <sup>2)</sup>	PBSS4130T						
	2	3	300/450	0.5	2	70	PBSS4230T						
		3	230/380	0.5	2	75						PBSS4230QA	
2.6	5	300/500	0.5	2	80	PBSS4032NT <sup>3)</sup>							
40	0.5	1	200/550	0.01	2	200 <sup>2)</sup>					PBSS2540M	PBSS2540MB	
		2	300/440	0.5	5	130		PBSS4140U					
			300/510	0.5	5	120	PMMT491A						
	3	300/420	0.5	5	130	PBSS4140T							
		350/470	0.1	2	70			PBSS4240Y					
2	3	300/450	0.5	2	70	PBSS4240T							
50	2	5	300/495	0.5	2	60	PBSS4350T						
60	1	1.5	150/240	0.5	2	90						PBSS4160QA	
		2	200/420	0.5	5	120		PBSS4160U					
			200/350	0.5	5	110	PBSS4160T						
	2	3	150/240	0.5	2	75						PBSS4260QA	
3.8	8	300/500	0.5	2	29	PBSS4041NT							
100	1	3	150/400	0.25	10	80				PBSS8110Y			
		3	150/300	0.25	10	70	PBSS8110T						

<sup>1)</sup> I<sub>C</sub>/I<sub>B</sub> = 20 <sup>2)</sup> V<sub>CEsat</sub> (max) <sup>3)</sup> Optimized for high-speed switching

Low  $V_{CEsat}$  (BISS) transistors single PNP up to 2000 mW







Types in **bold** represent new products

Package							SOT223 (SC-73)	SOT89 (SC-62)	SOT457 (SC-74)	DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)
											
Size (mm)							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.5 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62
P <sub>tot</sub> (mW)							1700	1650	750	1300	1300
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> (A)	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A					
12	5.3	10.6	250/400	0.5	2	20		PBSS301PX			
	5.7	11.4	250/400	0.5	2	20	PBSS301PZ				
	6	7	220/335	0.5	2	20			PBSS5612PA		
20	3	5	200/-	0.5	2	80 <sup>2)</sup>			PBSS5320D		
			220/450	0.5	2	50		PBSS5320X			
	4	15	250/400	0.5	2	35			PBSS301PD		
	5	10	300/430	0.5	2	45			PBSS5520X		
	5.1	10.2	250/370	0.5	2	25			PBSS302PX		
	5.5	11	250/370	0.5	2	25	PBSS302PZ				
	6	7	230/345	0.5	2	25				PBSS5620PA	
	6.2	15	250/400	0.5	2	18			PBSS4021PX		
30	2.7	5	200/350	0.5	2	87			PBSS4032PD <sup>3)</sup>		
			200/380	0.5	2	50		PBSS5330X			
			200/320	0.5	2	45				PBSS5330PA	PBSS5330PAS
	4.2	10	200/350	0.5	2	70			PBSS4032PX <sup>3)</sup>		
	4.4	10	200/350	0.5	2	70	PBSS4032PZ <sup>3)</sup>				
	5.1	10.2	250/400	0.5	2	25			PBSS303PX		
	5.3	10.6	250/400	0.5	2	25	PBSS303PZ				
	6	7	200/335	0.5	2	25				PBSS5630PA	
40	2	3	215/-	0.5	5	170			PBSS5240X		
	4	15	200/310	0.5	2	46				PBSS302PD	
			250/370	0.5	2	33		PBSS5540X			
	5	10	250/350	0.5	2	40 <sup>1)</sup>	PBSS5540Z				
50	2	5	200/-	0.5	2	90 <sup>2)</sup>			PBSS5250X		
	3	5	200/300	0.5	2	70				PBSS5350D	
			200/375	0.5	2	70			PBSS5350X		
			200/300	0.5	2	70	PBSS5350Z				
60	3	6	130/220	0.5	5	55					PBSS5360PAS
			130/-	0.5	5	55	PBSS5360Z	<b>PBSS5360X</b>			
			180/265	0.5	2	55			PBSS303PD		
	4.2	8.4	200/295	0.5	2	35			PBSS304PX		
	4.5	9	200/295	0.5	2	35	PBSS304PZ				
	5	6	170/260	0.5	2	35				PBSS560PA	
	5	15	200/300	0.5	2	30			PBSS4041PX		
5.7	200/300		0.5	2	22	PBSS4041PZ					
80	3	5	155/225	0.5	2	55				PBSS304PD	
			180/265	0.5	2	40				PBSS5580PA	
	4	10	200/300	0.5	2	35			PBSS5480X		
			200/280	0.5	2	36			PBSS305PX		
4.5	9	200/280	0.5	2	36	PBSS305PZ					
100	1	3	150/350	0.5	5	100				PBSS9110D	
			150/350	0.5	5	90			PBSS9110X		
			150/-	0.5	5	90	PBSS9110Z				
	2	3	175/275	0.5	2	65				PBSS305PD	
	2.7	4	180/295	0.5	2	45				PBSS9410PA	
	3.7	7.4	200/300	0.5	2	45			PBSS306PX		
4.1	8.2	200/300	0.5	5	45	PBSS306PZ					

<sup>1)</sup> I<sub>C</sub> / I<sub>B</sub> = 20 <sup>2)</sup> V<sub>CEsat</sub> (max) <sup>3)</sup> Optimized for high-speed switching






Low  $V_{CEsat}$  (BISS) transistors single PNP up to 750 mW

Types in **bold** represent new products

Package							SOT23	SOT323 (SC-70)	SOT363 (SC-88)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)	DFN1010D-3 (SOT1215)
												
Size (mm)							2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.37
P <sub>tot</sub> (mW)							480	350	430	250	250	750
V <sub>CE0</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> (A)	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A						
15	0.5	1	200/260	0.01	2	150				PBSS3515M	PBSS3515MB	
20	1	2	300/450	0.1	2	125 <sup>2)</sup>	PBSS5120T					
	2	3	225/-	0.5	2	80 <sup>2)</sup>	PBSS5220T					
		5	220/420	0.5	2	50	PBSS5320T					
	3.5	8	250/400	0.5	2	35	PBSS4021PT					
30	1	1.5	180/295	0.5	2	85						PBSS5130QA
			260/350	0.5	2	110	PBSS5130T					
	2	3	300/450	0.1	2	70	PBSS5230T					
			180/295	0.5	2	70						PBSS5230QA
	2.4	5	200/320	0.5	2	95	PBSS4032PT <sup>3)</sup>					
40	1	2	300/520	0.1	5	130		PBSS5140U				
			300/800	0.1	5	130	PMMT591A					
		300/510	0.1	5	130	PBSS5140T						
	2	3	300/-	0.1	2	110 <sup>2)</sup>			PBSS5240Y			
			300/450	0.1	2	70	PBSS5240T					
50	2	3	200/-	0.5	2	90 <sup>2)</sup>	PBSS5250T					
							<b>PBSS5250TH</b>					
	2	3	200/-	0.5	2	90 <sup>2)</sup>	<b>PBSS5350TH</b>					
5		200/360	0.5	2	55	PBSS5350T						
60	1	1.5	120/185	0.5	2	125						PBSS5160QA
			150/250	0.5	5	135		PBSS5160U				
		150/250	0.5	5	120	PBSS5160T						
	1.7	2.5	120/185	0.5	2	105					PBSS5260QA	
	2.7	8	200/300	0.5	2	49	PBSS4041PT					
100	1	3	150/-	0.25	5	93			PBSS9110Y			
			150/350	0.5	5	95	PBSS9110T					






<sup>1)</sup> IC / IB = 20 <sup>2)</sup> V<sub>CEsat</sub> (max) <sup>3)</sup> Optimized for high-speed switching

Low  $V_{CEsat}$  (BISS) transistors double

Package										SOT96 (SO8)	SOT457 (SC-74)	SOT666	DFN2020-6 (SOT1118)	DFN2020D-6 (SOT1118D)
														
Size (mm)										4.9 x 3.9 x 1.75	2.9 x 1.5 x 1.0	1.6 x 1.2 x 0.55	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62
$P_{tot}$ (mW)										2000 <sup>2)</sup>	750	500	1300	1300
$V_{CEO}$ (V)	$I_C$ (A)	Polarity	$h_{FE}$ min/typ	@ $I_C$ (A)	@ $V_{CE}$ (V)	$V_{CEsat}$ typ (mV); $I_C = 0.5$ A; $I_B = 0.05$ A	$V_{CEsat}$ max (mV)	@ $I_C$ (A)	@ $I_B$ (A)					
15	0.5	2 x NPN	200	0.01	2	170 <sup>1)</sup>	250	0.5	0.05			PBSS2515VS		
		2 x PNP	200	0.01	2	170 <sup>1)</sup>	250	0.5	0.05			PBSS3515VS		
		NPN / PNP	200	0.01	2	170 <sup>1)</sup>	250	0.5	0.05			PBSS2515VFN		
		NPN / PNP	200	0.01	2	170 <sup>1)</sup>	250	0.5	0.05					
20	2	NPN / NPN	230	0.5	2	60	90	0.5	0.05					PBSS4220PANS
	2	PNP / PNP	210	0.5	2	70	110	0.5	0.05					PBSS5220PAPS
	7.5	NPN / NPN	300	0.5	2	15	150	4	0.2	PBSS4021SN				
	6.3	PNP / PNP	250	0.5	2	24	225	4	0.2	PBSS4021SP				
	7.5 / 6.3	NPN / PNP	300 / 250	0.5	2	15 / 24	150 / 225	4	0.2	PBSS4021SPN				
30	1	NPN / NPN	210	0.5	2	75	100	0.5	0.05				PBSS4130PAN	
		PNP / PNP	170	0.5	2	85	140	0.5	0.05				PBSS5130PAP	
		NPN / PNP	210 / 170	0.5	2	75 / 85	100 / 140	0.5	0.05				PBSS4130PANP	
	2	NPN / NPN	230	0.5	2	60	80	0.5	0.05				PBSS4230PAN	
		PNP / PNP	210	0.5	2	75	110	0.5	0.05				PBSS5230PAP	
		NPN / PNP	230 / 210	0.5	2	60 / 75	80 / 100	0.5	0.05				PBSS4230PANP	
	5.7	NPN / NPN	300	0.5	2	57	250	4	0.4	PBSS4032SN <sup>3)</sup>				
	4.8	PNP / PNP	200	0.5	2	70	390	4	0.4	PBSS4032SP <sup>3)</sup>				
	5.7 / 4.8	NPN / PNP	300 / 200	0.5	2	57 / 70	250 / 390	4	0.4	PBSS4032SPN <sup>3)</sup>				
	40	1	NPN / PNP	300 / 250	0.5	5	130 / 150	500	1	0.1				PBSS4140DPN
2		NPN / PNP	300 / 250	0.5	5	80 / 100	400 / 530	2	0.2				PBSS4240DPN	
50	2.7	2 x NPN	300	0.5	2	50	340	2.7	0.27	PBSS4350SS				
		2 x PNP	200	0.5	2	60	370	2.7	0.27	PBSS5350SS				
		NPN / PNP	300 / 200	0.5	2	50 / 60	340 / 370	2.7	0.27	PBSS4350SPN				
60	1	2 x NPN	200	0.5	5	115	250	1	0.1				PBSS4160DS	
		2 x PNP	150	0.5	5	120	330	1	0.1				PBSS5160DS	
		NPN / PNP	200 / 150	0.5	5	115 / 120	250 / 330	1	0.1				PBSS4160DPN	
	1	NPN / NPN	150	0.5	2	90	120	0.5	0.05				PBSS4160PAN	PBSS4160PANS
		PNP / PNP	120	0.5	2	125	180	0.5	0.05				PBSS5160PAP	PBSS5160PAPS
		NPN / PNP	150 / 120	0.5	2	90 / 125	120 / 180	0.5	0.05				PBSS4160PANP	PBSS4160PANPS
	2	NPN / NPN	210	0.5	2	70	90	0.5	0.05				PBSS4260PAN	PBSS4260PANS
		PNP / PNP	140	0.5	2	100	140	0.5	0.05				PBSS5260PAP	PBSS5260PAPS
		NPN / PNP	210 / 140	0.5	2	70 / 100	90 / 140	0.5	0.05				PBSS4260PANP	PBSS4260PANPS
	6.7	NPN / NPN	300	0.5	2	20	190	4	0.2	PBSS4041SN				
	5.9	PNP / PNP	200	0.5	2	35	330	4	0.2	PBSS4041SP				
	6.7 / 5.9	NPN / PNP	300 / 200	0.5	2	20 / 35	190 / 330	4	0.2	PBSS4041SPN				
	120	1	NPN / NPN	240	0.1	2	90	120	0.5	0.05				PBSS4112PAN
PNP / PNP			190	0.1	2	150	220	0.5	0.05				PBSS5112PAP	
NPN / PNP			240 / 190	0.1	2	90 / 150	120 / 220	0.5	0.05				PBSS4112PANP	

<sup>1)</sup>  $I_C / I_B = 20$  <sup>2)</sup> Device mounted on a ceramic PCB, Al2O3, standard footprint <sup>3)</sup> Optimized for high-speed switching

## Low $V_{CEsat}$ (BISS) transistors load switches

Package				SOT457 (SC-74)	SOT363 (SC-88)	
						
Size (mm)				2.9 x 1.5 x 1.0		2.0 x 1.25 x 0.95
P <sub>tot</sub> (mW)				750 <sup>1)</sup>	600 <sup>1)</sup>	300 <sup>2)</sup>
V <sub>CE0</sub> (V)	I <sub>C</sub> (A)	V <sub>CEsat</sub> max (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A	R1, R2 (kΩ)			
15	0.5	250	2.2			PBLS1501Y
			4.7			PBLS1502Y
			10			PBLS1503Y
			22			PBLS1504Y
20	1	150	2.2		PBLS2001D	
			4.7		PBLS2002D	
			10		PBLS2003D	
			22		PBLS2004D	
	1.8	70	2.2	PBLS2021D		
			4.7	PBLS2022D		
			10	PBLS2023D		
			22	PBLS2024D		
40	0.5	350	2.2			PBLS4001Y
			4.7			PBLS4002Y
			10			PBLS4003Y
			22			PBLS4004Y
			47			PBLS4005Y
	1	170	2.2		PBLS4001D	
			4.7		PBLS4002D	
			10		PBLS4003D	
			22		PBLS4004D	
			47		PBLS4005D	
60	1	180	2.2		PBLS6001D	
			4.7		PBLS6002D	
			10		PBLS6003D	
			22		PBLS6004D	
			47		PBLS6005D	
	1.5	100	2.2	PBLS6021D		
			4.7	PBLS6022D		
			10	PBLS6023D		
			22	PBLS6024D		

<sup>1)</sup> Device mounted on a ceramic PCB, Al<sub>2</sub>O<sub>3</sub>, standard footprint

<sup>2)</sup> Device mounted on an FR4 PCB, single-sided copper, tin-plated, and standard footprint

## Low $V_{CEsat}$ (BISS) transistors

## Low $V_{CEsat}$ (BISS) high voltage transistors

Types in **bold** represent new products

Package				SOT223 (SC-73)	SOT89 (SC-62)	SOT1215	SOT23	
Size (mm)				6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	1.1 x 1.0 x 0.37	2.9 x 1.3 x 1.0	
P <sub>tot</sub> (mW)				1700	1300	750	250	
Polarity	V <sub>CEO</sub> [max] (V)	I <sub>c</sub> (A)	hFE [min]					
NPN	150	0.5	100			PBHV8515QA		
			70				PBHV8115TLH	
		1	100					PBHV8115T
						PBHV8115X		
				PBHV8115Z				
	180	1	100	PBHV8215Z				
								PBHV8118T
	400	0.5	100	PBHV8540Z	PBHV8540X		PBHV8540T	
				PBHV8140Z				
	500	0.15	50				PMBTA45	
600	0.1	70	PBHV2160Z					
			PBHV8560Z					
PNP	140	4	100	PBHV9414Z				
	150	0.5	100			PBHV9515QA		
								PBHV9115TLH
								PBHV9115T
		1	100			PBHV9115X		
				PBHV9115Z				
	400	0.25	100	PBHV9215Z				
							PBHV9040T	
						PBHV9040X		
	500	0.5	100	PBHV9540Z	<b>PBHV9540X</b>			
							PBHV9050T	
	600	0.15	100	PBHV9050Z				
600	0.1	70	PBHV3160Z					
	0.5	70	PBHV9560Z					

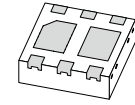
## Low $V_{CEsat}$ (BISS) RETs

Package					SOT23	
Size (mm)					2.9 x 1.3 x 1.0	
P <sub>tot</sub> (mW)					250	
V <sub>CEO</sub> (V)	I <sub>c</sub> (mA)		R1 (kΩ)	R2 (kΩ)	NPN	PNP
40	600	R1 = R2	1	1	PBRN113ET	PBRP113ET
			2.2	2.2	PBRN123ET	PBRP123ET
		R1 ≠ R2	1	10	PBRN113ZT	PBRP113ZT
			2.2	10	PBRN123YT	PBRP123YT



## Low $V_{CEsat}$ (BISS) transistors PNP - N-channel MOSFET combination

Package											DFN2020-6 (SOT1118)
Size (mm)											2.0 x 2.0 x 0.62
$P_{tot}$ (mW)											1300
$V_{CE0}$ (V)	$I_C$ (A)	$h_{FE}$ min	$h_{FE}$ max	@ $I_C$ (mA)	@ $V_{CE}$ (V)	$R_{CEsat}$ typ (m $\Omega$ )	$V_{DS}$ (V)	$V_{GS}$ (V)	$I_D$ (A)	$R_{Dson}$ typ (m $\Omega$ )	
40	2	300	800	100	5	240	30	0.7	0.66	390	PBSM5240PF
		100	-	100	5	240	30	0.7	0.66	390	PBSM5240PFH



## Low $V_{CEsat}$ (BISS) power transistors single

Types in **bold** represent new products

Package						LFLPAK56 (SOT669)
Size (mm)						5 x 6 x 1.1
$P_{tot}$ (mW)						1250
$V_{CE0}$ (V)	$I_C$ (A)	$h_{FE}$ min/typ	@ $I_C$ (A)	@ $V_{CE}$ (V)	Polarity	
40	6	200 / 400	0.5	2	NPN	PHPT60406NY
			0.5	2	PNP	PHPT60406PY
	10	200 / 400	0.5	2	NPN	PHPT60410NY
			0.5	2	PNP	PHPT60410PY
	15	200 / 400	0.5	2	NPN	PHPT60415NY
			0.5	2	PNP	PHPT60415PY
60	3	200 / 400	0.5	2	NPN	PHPT60603NY
			0.5	2	PNP	PHPT60603PY
	6	200 / 400	0.5	2	NPN	PHPT60606NY
			0.5	2	PNP	PHPT60606PY
	10	200 / 400	0.5	2	NPN	PHPT60610NY
			0.5	2	PNP	PHPT60610PY
100	2	150 / 250	0.5	10	NPN	PHPT61002NYC
			0.5	10	PNP	PHPT61002PYC
			0.5	10	NPN	<b>PHPT61002NYCLH</b>
			0.5	10	PNP	<b>PHPT61002PYCLH</b>
	3	150 / 250	0.5	10	NPN	PHPT61003NY
			0.5	10	PNP	PHPT61003PY
	6	150 / 250	0.5	10	NPN	PHPT61006NY
			0.5	10	PNP	PHPT61006PY
	10	150 / 250	0.5	10	NPN	PHPT61010NY
			0.5	10	PNP	PHPT61010PY





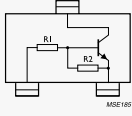
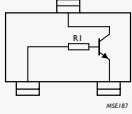
## Low $V_{CEsat}$ (BISS) power transistors double

Package											LFLPAK56D (SOT1205)	
Size (mm)											5 x 6 x 1.1	
$P_{tot}$ (mW)											1250	
$V_{CE0}$ (V)	$I_C$ (A)	$I_{CM}$ (A)	$h_{FE}$ typ	@ $I_C$ (A)	@ $V_{CE}$ (V)	$V_{CEsat}$ typ (mV); $I_C = 0.5$ A; $I_B = 0.05$ A	$V_{CEsat}$ max (mV)	@ $I_C$ (A)	@ $I_B$ (A)	Polarity	$h_{FE1}/h_{FE2}$	
100	3	6	150	0.5	10	50	300	3	0.2	2XNPN	-	PHPT610030NK
						70	400	3	0.2	2XPNP	-	PHPT610030PK
						50 / 70	300 / 400	3	0.2	NPN/PNP	-	PHPT610030NPK
						50	300	3	0.2	2XNPN	0.95	PHPT610035NK
						70	400	3	0.2	2XPNP	0.9	PHPT610035PK




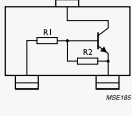
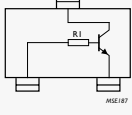


## Resistor equipped transistors (RETs)

### RETs 100 mA single - part 1





Package					SOT23		SOT323 (SC-70)		
									
Size (mm)					2.9 x 1.3 x 1.0		2.0 x 1.25 x 0.95		
P <sub>tot</sub> (mW)					250		200		
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN	PNP	NPN	PNP	
50	100		1	1		PDTA113ET		PDTA113EU	
			2.2	2.2	PDTC123ET	PDTA123ET	PDTC123EU	PDTA123EU	
			4.7	4.7	PDTC143ET	PDTA143ET	PDTC143EU	PDTA143EU	
			10	10	PDTC114ET	PDTA114ET	PDTC114EU	PDTA114EU	
			22	22	PDTC124ET	PDTA124ET	PDTC124EU	PDTA124EU	
			47	47	PDTC144ET	PDTA144ET	PDTC144EU	PDTA144EU	
			100	100	PDTC115ET	PDTA115ET	PDTC115EU	PDTA115EU	
			1	10		PDTA113ZT		PDTA113ZU	
			2.2	10	PDTC123YT	PDTA123YT	PDTC123YU	PDTA123YU	
			2.2	47	PDTC123JT	PDTA123JT	PDTC123JU	PDTA123JU	
			4.7	10	PDTC143XT	PDTA143XT	PDTC143XU	PDTA143XU	
			4.7	47	PDTC143ZT	PDTA143ZT	PDTC143ZU	PDTA143ZU	
			10	47	PDTC114YT	PDTA114YT	PDTC114YU	PDTA114YU	
			22	47	PDTC124XT	PDTA124XT	PDTC124XU	PDTA124XU	
		47	10	PDTC144VT	PDTA144VT	PDTC144VU	PDTA144VU		
		47	22	PDTC144WT	PDTA144WT	PDTC144WU	PDTA144WU		
			2.2	-	PDTC123TT	PDTA123TT	PDTC123TU	PDTA123TU	
			4.7	-	PDTC143TT	PDTA143TT	PDTC143TU	PDTA143TU	
			10	-	PDTC114TT	PDTA114TT	PDTC114TU	PDTA114TU	
			22	-	PDTC124TT	PDTA124TT	PDTC124TU	PDTA124TU	
			47	-	PDTC144TT	PDTA144TT	PDTC144TU	PDTA144TU	
			100	-	PDTC115TT	PDTA115TT	PDTC115TU	PDTA115TU	

### RETs 100 mA single - part 2





Package					DFN1006-3 (SOT883)		DFN1006B-3 (SOT883B)		SOT1215	
										
Size (mm)					1.0 x 0.6 x 0.48		1.0 x 0.6 x 0.37		1.1 x 1.0 x 0.37	
P <sub>tot</sub> (mW)					250		250		750	
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN	PNP	NPN	PNP	NPN	PNP
50	100		1	1		PDTA113EM		PDTA113EMB		
			2.2	2.2	PDTC123EM	PDTA123EM	PDTC123EMB	PDTA123EMB		
			4.7	4.7	PDTC143EM	PDTA143EM	PDTC143EMB	PDTA143EMB	PDTC143EQA	PDTA143EQA
			10	10	PDTC114EM	PDTA114EM	PDTC114EMB	PDTA114EMB	PDTC114EQA	PDTA114EQA
			22	22	PDTC124EM	PDTA124EM	PDTC124EMB	PDTA124EMB	PDTC124EQA	PDTA124EQA
			47	47	PDTC144EM	PDTA144EM	PDTC144EMB	PDTA144EMB	PDTC144EQA	PDTA144EQA
			100	100	PDTC115EM	PDTA115EM	PDTC115EMB	PDTA115EMB		
			1	10		PDTA113ZM		PDTA113ZMB		
			2.2	10	PDTC123YM	PDTA123YM	PDTC123YMB	PDTA123YMB		
			2.2	47	PDTC123JM	PDTA123JM	PDTC123JMB	PDTA123JMB	PDTC123XQA	PDTA123XQA
			4.7	10	PDTC143XM	PDTA143XM	PDTC143XMB	PDTA143XMB	PDTC143XQA	PDTA143XQA
			4.7	47	PDTC143ZM	PDTA143ZM	PDTC143ZMB	PDTA143ZMB	PDTC143ZQA	PDTA143ZQA
			10	47	PDTC114YM	PDTA114YM	PDTC114YMB	PDTA114YMB	PDTC114YQA	PDTA114YQA
			22	47	PDTC124XM	PDTA124XM	PDTC124XMB	PDTA124XMB		
		47	10	PDTC144VM	PDTA144VM	PDTC144VMB	PDTA144VMB			
		47	22	PDTC144WM	PDTA144WM	PDTC144WMB	PDTA144WMB			
			2.2	-	PDTC123TM	PDTA123TM	PDTC123TMB	PDTA123TMB		
			4.7	-	PDTC143TM	PDTA143TM	PDTC143TMB	PDTA143TMB		
			10	-	PDTC114TM	PDTA114TM	PDTC114TMB	PDTA114TMB		
			22	-	PDTC124TM	PDTA124TM	PDTC124TMB	PDTA124TMB		
			47	-	PDTC144TM	PDTA144TM	PDTC144TMB	PDTA144TMB		
			100	-	PDTC115TM	PDTA115TM	PDTC115TMB	PDTA115TMB		

## RETs 100 mA double



Types in **bold** represent new products

Package					DFN1010B-6 (SOT1216)			DFN1412-6 (SOT1268)			SOT363 (SC-88)			SOT666				
																		
Size (mm)					1.1 x 1.0 x 0.37			1.4 X 1.2 X 0.5			2.0 x 1.25 x 0.95			1.6 x 1.2 x 0.55				
P <sub>tot</sub> (mW)					350			480			300			300				
V <sub>CE0</sub> (V)	I <sub>c</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN / NPN	NPN / PNP	PNP / PNP	NPN / NPN	NPN / PNP	PNP / PNP	NPN / NPN	NPN / PNP	PNP / PNP	NPN / NPN	NPN / PNP	PNP / PNP		
50	100	R1 = R2	2.2	2.2								PUMH20	PUMD20	PUMB20	PEMH20	PEMD20	PEMB20	
			4.7	4.7									PUMH15	PUMD15	PUMB15	PEMH15	PEMD15	PEMB15
			10	10	PQMH11	PQMD3	PQMB11	<b>PRMH11</b>	<b>PRMD3</b>	<b>PRMB11</b>			PUMH11	PUMD3	PUMB11	PEMH11	PEMD3	PEMB11
			22	22		PQMD2			<b>PRMD2</b>				PUMH1	PUMD2	PUMB1	PEMH1	PEMD2	PEMB1
			47	47	PQMH2	PQMD12		<b>PRMH2</b>	<b>PRMD12</b>				PUMH2	PUMD12	PUMB2	PEMH2	PEMD12	PEMB2
			100	100									PUMH24	PUMD24	PUMB24	PEMH24	PEMD24	PEMB24
		R1 ≠ R2	2.2	47	PQMH10	PQMD10		<b>PRMH10</b>	<b>PRMD10</b>				PUMH10	PUMD10	PUMB10	PEMH10	PEMD10	PEMB10
			4.7	10									PUMH18	PUMD18	PUMB18	PEMH18	PEMD18	PEMB18
			4.7	47	PQMH13	PQMD13		<b>PRMH13</b>	<b>PRMD13</b>				PUMH13	PUMD13	PUMB13	PEMH13	PEMD13	PEMB13
			10	47	PQMH9			<b>PRMH9</b>					PUMH9	PUMD9	PUMB9	PEMH9	PEMD9	PEMB9
			22	47		PQMD16			<b>PRMD16</b>				PUMH16	PUMD16	PUMB16	PEMH16	PEMD16	PEMB16
			47	22									PUMH17	PUMD17	PUMB17	PEMH17	PEMD17	PEMB17
		47 / 2.2	47 / 47										PUMD48			PEMD48		
		Only R1	2.2	-									PUMH30	PUMD30	PUMB30	PEMH30	PEMD30	PEMB30
			4.7	-									PUMH7	PUMD6	PUMB3	PEMH7	PEMD6	PEMB3
			10	-									PUMH4	PUMD4	PUMB4	PEMH4	PEMD4	PEMB4
			22	-									PUMH19	PUMD19	PUMB19	PEMH19	PEMD19	PEMB19
			47	-									PUMH14	PUMD14	PUMB14	PEMH14	PEMD14	PEMB14

## RETs 500mA single / double

Package					SOT457 (SC-74)		SOT23		SOT323 (SC-70)		SOT1215	
												
Size (mm)					2.9 x 1.5 x 1.0		2.9 x 1.3 x 1.0		2.0 x 1.25 x 0.95		1.1 x 1.0 x 0.37	
P <sub>tot</sub> (mW)					750		250		200		750	
V <sub>CE0</sub> (V)	I <sub>c</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN / NPN	NPN / PNP	NPN	PNP	NPN	PNP	NPN	PNP
50	500	R1 = R2	1	1			PDTD113ET	PDTB113ET	PDTD113EU	PDTB113EU	PDTD113EQA	PDTB113EQA
			2.2	2.2			PDTD123ET	PDTB123ET	PDTD123EU	PDTB123EU	PDTD123EQA	PDTB123EQA
			4.7	4.7			PDTD143ET	PDTB143ET	PDTD143EU	PDTB143EU	PDTD143EQA	PDTB143EQA
			10	10			PDTD114ET	PDTB114ET	PDTD114EU	PDTB114EU	PDTD114EQA	PDTB114EQA
		R1 ≠ R2	1	10	PIMN31	PIMC31	PDTD113ZT	PDTB113ZT	PDTD113ZU	PDTB113ZU	PDTD113ZQA	PDTB113ZQA
			2.2	10			PDTD123YT	PDTB123YT	PDTD123YU	PDTB123YU	PDTD123YQA	PDTB123YQA
			4.7	10			PDTD143XT	PDTB143XT	PDTD143XU	PDTB143XU	PDTD143XQA	PDTB143XQA
		Only R1	2.2	-			PDTD123TT	PDTB123TT				

### 3-terminal adjustable shunt regulators

Type name	Pinning configuration	Tamb(C°)	Vref		Package	Size(mm)	Ptot(mW)	VKA(V)	IK(mA)	
<b>TLVH431NCDBZR</b>	Normal pinning	0 to 70	1.5%	1,24		2.9 x 1.3 x 1.0	480	20	80	
<b>TLVH431NIDBZR</b>	Normal pinning	-40 to 85								
<b>TLVH431NQDBZR</b>	Normal pinning	-40 to 125								
<b>TLVH431NMQDBZR</b>	Mirrored pinning									
<b>TLVH431NACDBZR</b>	Normal pinning	0 to 70	1%							
<b>TLVH431NAIDBZR</b>	Normal pinning	-40 to 85								
<b>TLVH431NAQDBZR</b>	Normal pinning	-40 to 125								
<b>TLVH431NAMQDBZR</b>	Mirrored pinning									
TL431CDBZR	Normal pinning	0 to 70	2%	2,495				580	36	100
TL431IDBZR	Normal pinning	-40 to 85								
TL431QDBZR	Normal pinning	-40 to 125								
TL431FDT	Normal pinning									
TL431MFDT	Mirrored pinning									
TL431ACDBZR	Normal pinning	0 to 70	1%							
TL431AIDBZR	Normal pinning	-40 to 85								
TL431AQDBZR	Normal pinning	-40 to 125								
TL431AFDT	Normal pinning									
TL431AMFDT	Mirrored pinning									
TL431BCDBZR	Normal pinning	0 to 70	0.5%							
TL431BIDBZR	Normal pinning	-40 to 85								
TL431BQDBZR	Normal pinning	-40 to 125								
TL431BFDT	Normal pinning									
TL431BMFDT	Mirrored pinning									







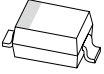






Products in **bold red** are under development





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## General purpose Zener diodes

$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_Z$ nom (V)	$V_Z$ tolerance	Note	Configuration	Series	Package	Size (mm)	$P_{tot}$ (mW)		
500	-	3.3~24	C	Europe	Single		1N47xxA series	SOD66 (DO-41)		4.8 x 2.6 x 0.81	1000
	60	3.6~75					BZV85 series				
250	-	2.1~36	About 2%	Special	Single		NZX series	SOD27 (DO-35)		4.25 x 1.85 x 0.56	400
	40	2.4~75	B, C	Europe			BZX79 series				
400	40	2.4~75	C	Europe	Single		BZV90 series	SOT223 (SC-73)		6.5 x 3.5 x 1.65	1500
250	40	2.4~75	C	Europe	Single		BZV49 series	SOT89 (SC-62)		4.5 x 2.5 x 1.5	1000
250	40	2.4~75	B, C	Europe	Single		BZV55 series	SOD80C (MiniMelf)		3.5 x 1.5 x 1.5	400
200	40	2.4~75	B, C	Europe	Dual c.a.		BZB84 series	SOT23		2.9 x 1.3 x 1.0	250
			A, B, C		Single		BZX84 series				
250	30	5~6.8	0.2 V	Ave	Single		PLVA600A series				
250	40	2.4~75	B, C	Europe	Single		BZT52 series	SOD123		2.7 x 1.6 x 1.2	550
200		2.4~36	B	Japan			PDZ-GW series				
250	-	3.0~30	About 2.5%	Special	Single		NZH series	SOD123F		2.6 x 1.6 x 1.1	830
	40	2.4~75	B, C	Europe			BZT52H series				
200	40	10	B2	Japan	Dual isolated		PZU10DB2 series	SOT353 (SC-88A)		2.0 x 1.25 x 0.95	300
200	40	2.4~15	C	Europe	Dual c.a.		BZB784 series	SOT323 (SC-70)		2.0 x 1.25 x 0.95	350
200	30	100	C	Europe	Back-to-back		BZB100A	SOD323 (SC-76)		1.7 x 1.25 x 0.95	300
	40	2.4~36	B2	Japan	Single		PDZ-B series				
250	40	2.4~75	B, C	Europe			BZX384 series				
200	40	2.4~36	B, B1, B2, B3	Japan			PZUxBA series				
200	60	100	C	Europe	Single		BZX100A	SOD323F (SC-90)		1.7 x 1.25 x 0.7	550
200	40	2.4~36	B, B1, B2, B3	Japan			PZUxB series				
250	40	2.4~75	B, C	Europe			BZX84J series				
200	40	2.4~15	C	Europe	Dual c.a.		BZB984 series	SOT663		1.6 x 1.2 x 0.55	350
200	40	2.4~75	B, C	Europe	Single		BZX585 series	SOD523 (SC-79)		1.2 x 0.8 x 0.6	300
200	40	2.4~75	B, C	Europe	Single		BZX884 series	DFN1006-2 (SOD882)		1.0 x 0.6 x 0.48	250
		2.4~36	B, B2	Japan			PZUxBL series				
250	40	2.4~30	B	Europe	Single		TDZxJ series	SOD323F		1.7 x 1.25 x 0.7	500

Notes:

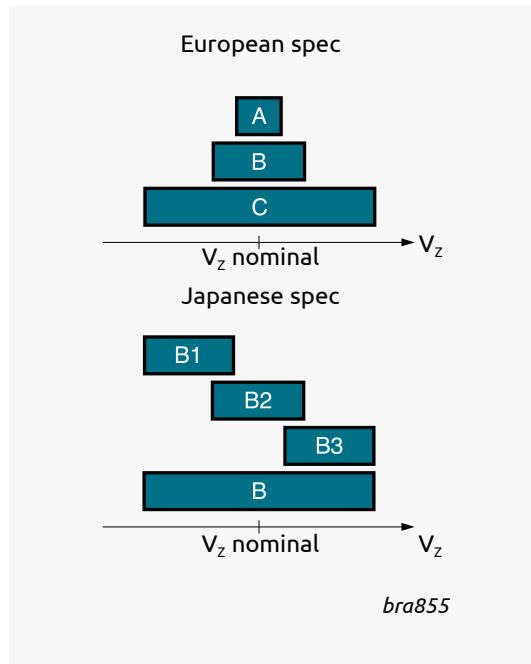
Japan: B selection: app. 5%  $V_Z$  tolerance, B1, B2, B3 selections: app. 2%  $V_Z$  tolerance in sequential intervals  
 Europe: A selection: app. 1%  $V_Z$  tolerance, B selection: app. 2%  $V_Z$  tolerance, C selection: app. 5%  $V_Z$  tolerance;  
 the selections are in overlapping intervals

Ave: low-voltage avalanche regulator diodes  
 Dual c.a.: dual common anode



# Zener diodes specifications

## Differences in Zener specifications



## Japanese spec (PZU, PDZ)

y =	B-series	B1-series	B2-series	B3-series
	± 5%	± 2%	± 2%	± 2%
	Vz (V)	Vz (V)	Vz (V)	Vz (V)
PZU2.4y	2.3 - 2.6	-	-	-
PZU2.7y	2.5 - 2.9	2.5 - 2.75	2.65 - 2.9	-
PZU3.0y	2.8 - 3.2	2.8 - 3.05	2.95 - 3.2	-
PZU3.3y	3.1 - 3.5	3.1 - 3.35	3.25 - 3.5	-
PZU3.6y	3.4 - 3.8	3.4 - 3.65	3.55 - 3.8	-
PZU3.9y	3.7 - 4.1	3.7 - 3.97	3.87 - 4.1	-
PZU4.3y	4.01 - 4.48	4.01 - 4.21	4.15 - 4.34	4.28 - 4.48
PZU4.7y	4.42 - 4.9	4.42 - 4.61	4.55 - 4.75	4.69 - 4.9
PZU5.1y	4.84 - 5.37	4.84 - 5.04	4.98 - 5.2	5.14 - 5.37
PZU5.6y	5.31 - 5.92	5.31 - 5.55	5.49 - 5.73	5.67 - 5.92
PZU6.2y	5.86 - 6.53	5.86 - 6.12	6.06 - 6.33	6.26 - 6.53
PZU6.8y	6.47 - 7.14	6.47 - 6.73	6.65 - 6.93	6.86 - 7.14
PZU7.5y	7.06 - 7.84	7.06 - 7.36	7.28 - 7.6	7.52 - 7.84
PZU8.2y	7.76 - 8.64	7.76 - 8.1	8.02 - 8.36	8.28 - 8.64
PZU9.1y	8.56 - 9.55	8.56 - 8.93	8.85 - 9.23	9.15 - 9.55
PZU10y	9.45 - 10.55	9.45 - 9.87	9.77 - 10.21	10.11 - 10.55
PZU11y	10.44 - 11.56	10.44 - 10.88	10.76 - 11.22	11.1 - 11.56
PZU12y	11.42 - 12.6	11.42 - 11.9	11.74 - 12.24	12.08 - 12.6
PZU13y	12.47 - 13.96	12.47 - 13.03	12.91 - 13.49	13.37 - 13.96
PZU14y	-	-	13.7 - 14.3	-
PZU15y	13.84 - 15.52	13.84 - 14.46	14.34 - 14.98	14.85 - 15.52
PZU16y	15.37 - 17.09	15.37 - 16.01	15.85 - 16.51	16.35 - 17.09
PZU18y	16.94 - 19.03	16.94 - 17.7	17.56 - 18.35	18.21 - 19.03
PZU20y	18.86 - 21.08	18.86 - 19.7	19.52 - 20.39	20.21 - 21.08
PZU22y	20.88 - 23.17	20.88 - 21.77	21.54 - 22.47	22.23 - 23.17
PZU24y	22.93 - 25.57	22.93 - 23.96	23.72 - 24.78	24.54 - 25.57
PZU27y	25.1 - 28.9	-	-	-
PZU30y	28 - 32	-	-	-
PZU33y	31 - 35	-	-	-
PZU36y	34 - 38	-	-	-

Diodes

## European spec (BZV, BZX, BZB, 1N47)





















y =	C-series	B-series	A-series
	±5%	±2%	±1%
	Vz (V)	Vz (V)	Vz (V)
BZX84-y2V4	2.2 - 2.6	2.35 - 2.45	2.37 - 2.43
BZX84-y2V7	2.5 - 2.9	2.65 - 2.75	2.67 - 2.73
BZX84-y3V0	2.8 - 3.2	2.94 - 3.06	2.97 - 3.03
BZX84-y3V3	3.1 - 3.5	3.23 - 3.37	3.26 - 3.34
BZX84-y3V6	3.4 - 3.8	3.53 - 3.67	3.56 - 3.64
BZX84-y3V9	3.7 - 4.1	3.82 - 3.98	3.86 - 3.94
BZX84-y4V3	4 - 4.6	4.21 - 4.39	4.25 - 4.35
BZX84-y4V7	4.4 - 5	4.61 - 4.79	4.65 - 4.75
BZX84-y5V1	4.8 - 5.4	5 - 5.2	5.04 - 5.16
BZX84-y5V6	5.2 - 6	5.49 - 5.71	5.54 - 5.66
BZX84-y6V2	5.8 - 6.6	6.08 - 6.32	6.13 - 6.27
BZX84-y6V8	6.4 - 7.2	6.66 - 6.94	6.73 - 6.87
BZX84-y7V5	7 - 7.9	7.35 - 7.65	7.42 - 7.58
BZX84-y8V2	7.7 - 8.7	8.04 - 8.36	8.11 - 8.29
BZX84-y9V1	8.5 - 9.6	8.92 - 9.28	9 - 9.2
BZX84-y10	9.4 - 10.6	9.8 - 10.2	9.9 - 10.1
BZX84-y11	10.4 - 11.6	10.8 - 11.2	10.8 - 11.11
BZX84-y12	11.4 - 12.7	11.8 - 12.2	11.88 - 12.12
BZX84-y13	12.4 - 14.1	12.7 - 13.3	12.87 - 13.13
BZX84-y15	13.8 - 15.6	14.7 - 15.3	14.85 - 15.15
BZX84-y16	15.3 - 17.1	15.7 - 16.3	15.84 - 16.16
BZX84-y18	16.8 - 19.1	17.6 - 18.4	17.82 - 18.18
BZX84-y20	18.8 - 21.2	19.6 - 20.4	19.8 - 20.2
BZX84-y22	20.8 - 23.3	21.6 - 22.4	21.78 - 22.22
BZX84-y24	22.8 - 25.6	23.5 - 24.5	23.76 - 24.24
BZX84-y27	25.1 - 28.9	26.5 - 27.5	26.73 - 27.27
BZX84-y30	28 - 32	29.4 - 30.6	29.70 - 30.30
BZX84-y33	31 - 35	32.3 - 33.7	32.67 - 33.33
BZX84-y36	34 - 38	35.3 - 36.7	35.64 - 36.36
BZX84-y39	37 - 41	38.2 - 39.8	38.61 - 39.39
BZX84-y43	40 - 46	42.1 - 43.9	42.57 - 43.43
BZX84-y47	44 - 50	46.1 - 47.9	-
BZX84-y51	48 - 54	50 - 52	50.49 - 51.51
BZX84-y56	52 - 60	54.9 - 57.1	-
BZX84-y62	58 - 66	60.8 - 63.2	-
BZX84-y68	64 - 72	66.6 - 69.4	-
BZX84-y75	70 - 79	73.5 - 76.5	74.25 - 75.75

## NZX-series in SOD27





















	Vz (V)		Vz (V)		Vz (V)
NZX2V1A	2.0 - 2.2	NZX6V2D	6.1 - 6.4	NZX14C	13.8 - 14.3
NZX2V4A	2.3 - 2.5	NZX6V2E	6.3 - 6.6	NZX15A	14.1 - 14.7
NZX2V4B	2.4 - 2.6	NZX6V8A	6.4 - 6.7	NZX15B	14.5 - 15.1
NZX2V7A	2.5 - 2.7	NZX6V8B	6.6 - 6.9	NZX15C	14.9 - 15.5
NZX2V7B	2.6 - 2.8	NZX6V8C	6.7 - 7	NZX15X	14.35 - 15.09
NZX2V7C	2.7 - 2.9	NZX6V8D	6.9 - 7.2	NZX16A	15.3 - 15.9
NZX3V0A	2.8 - 3	NZX7V5A	7 - 7.3	NZX16B	15.7 - 16.5
NZX3V0B	2.9 - 3.1	NZX7V5B	7.2 - 7.6	NZX16C	16.3 - 17.1
NZX3V0C	3 - 3.2	NZX7V5C	7.3 - 7.7	NZX18A	16.9 - 17.7
NZX3V3A	3.1 - 3.3	NZX7V5D	7.5 - 7.9	NZX18B	17.5 - 18.3
NZX3V3B	3.2 - 3.4	NZX7V5X	7.07 - 7.45	NZX18C	18.1 - 19
NZX3V3C	3.3 - 3.5	NZX8V2A	7.7 - 8.1	NZX20A	18.8 - 19.7
NZX3V6A	3.4 - 3.6	NZX8V2B	7.9 - 8.3	NZX20B	19.5 - 20.4
NZX3V6B	3.5 - 3.7	NZX8V2C	8.1 - 8.5	NZX20C	20.2 - 21.2
NZX3V6C	3.6 - 3.8	NZX8V2D	8.3 - 8.7	NZX22A	20.9 - 21.9
NZX3V9A	3.7 - 3.9	NZX9V1A	8.5 - 8.9	NZX22B	21.6 - 22.6
NZX3V9B	3.8 - 4	NZX9V1B	8.7 - 9.1	NZX22C	22.3 - 23.3
NZX3V9C	3.9 - 4.1	NZX9V1C	8.9 - 9.3	NZX24A	22.9 - 24
NZX4V3A	4 - 4.2	NZX9V1D	9.1 - 9.5	NZX24B	23.6 - 24.7
NZX4V3B	4.1 - 4.3	NZX9V1E	9.3 - 9.7	NZX24C	24.3 - 25.5
NZX4V3C	4.2 - 4.4	NZX10A	9.5 - 9.9	NZX24X	22.61 - 23.77
NZX4V3D	4.3 - 4.5	NZX10B	9.7 - 10.1	NZX27A	25.2 - 26.6
NZX4V7A	4.4 - 4.6	NZX10C	9.9 - 10.3	NZX27B	26.2 - 27.6
NZX4V7B	4.5 - 4.7	NZX10D	10.2 - 10.6	NZX27C	27.2 - 28.6
NZX4V7C	4.6 - 4.8	NZX11A	10.4 - 10.8	NZX27X	26.99 - 28.39
NZX4V7D	4.7 - 4.9	NZX11B	10.7 - 11.1	NZX30A	28.2 - 29.6
NZX5V1A	4.8 - 5	NZX11C	10.9 - 11.3	NZX30B	29.2 - 30.6
NZX5V1B	4.9 - 5.1	NZX11D	11.1 - 11.6	NZX30C	30.2 - 31.6
NZX5V1C	5 - 5.2	NZX12A	11.4 - 11.9	NZX30X	29.02 - 30.51
NZX5V1D	5.1 - 5.3	NZX12B	11.6 - 12.1	NZX33A	31.2 - 32.6
NZX5V6A	5.2 - 5.5	NZX12C	11.9 - 12.4	NZX33B	32.2 - 33.6
NZX5V6B	5.3 - 5.6	NZX12D	12.2 - 12.7	NZX33C	33.2 - 34.5
NZX5V6C	5.4 - 5.7	NZX12X	11.44 - 12.03	NZX36A	34.2 - 35.7
NZX5V6D	5.5 - 5.8	NZX13A	12.4 - 12.9	NZX36B	35.3 - 36.8
NZX5V6E	5.6 - 5.9	NZX13B	12.6 - 13.1	NZX36C	36.4 - 38
NZX6V2A	5.7 - 6	NZX13C	12.9 - 13.4	NZX36X	35.36 - 37.19
NZX6V2B	5.8 - 6.1	NZX14A	13.2 - 13.7		
NZX6V2C	6 - 6.3	NZX14B	13.5 - 14		

## Switching diodes

### General purpose, high speed switching diodes <= 90V

$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_R$ max (nA)	@ $V_R$ (V)	$t_{rr}$ max (ns)	Package	SOD80C (MiniMelf)	SOT23	SOT143B	SOT323 (SC-70)	SOT363 (SC-88)	DFN1412-6 (SOT1268)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)		
																
							Size (mm)	3.5 x 1.5 x 1.5	2.9 x 1.3 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.4 x 1.2 x 0.5	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	
$P_{tot}$ (mW)	400	250	250	200	350	480	325	250								
50	1	50	100	50	4			BAL74								
								BAV74								
70	1	50	1000	70	4			BAL99								
																
75	1	50	1000	75	4				BAS28							
							BAS32L									
80	1	50	500	80	4					1PS300						
										1PS301						
										1PS302						
90	1	50	500	80	4			BAW56		BAW56W			BAW56QA	BAW56M		
											BAW56S	BAW56SRA				
											BAW756S					

### General purpose, high speed switching diodes 100V

$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_R$ max (nA)	@ $V_R$ (V)	$t_{rr}$ max (ns)	Package	SOT23	SOD123	SOD123F	SOT323 (SC-70)	SOT363 (SC-88)	SOD323 (SC-76)	SOD323F (SC-90)	SOT666	DFN1412-6 (SOT1268)	SOD523 (SC-79)	DFN1010D-3 (SOT1215)	DFN1006-2 (SOD882)	DFN1006-3 (SOT883)	DFN1006D-2 (SOD882D)				
																								
							Size (mm)	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.95	1.7 x 1.25 x 0.7	1.6 x 1.2 x 0.55	1.4 x 1.2 x 0.5	1.2 x 0.8 x 0.6	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37			
$P_{tot}$ (mW)	250	380	375	200	300	300	300	180	480	250	325	250	250	250										
100	1	50	500	80	4			BAS16GW	BAS16H			BAS316	BAS16J			BAS516		BAS16L		BAS16LD				
							BAS16			BAS16W							BAS16QA							
											BAS-16VY			BAS-16VV										
							BAV70			BAV70W									BAV70QA			BAV70M		
											BAV70S				BAV70SRA									
							BAV99			BAV99W									BAV99QA					
									BAV99S															

General purpose, switching diodes  $\geq 100V$







Types in **bold** represent new products

$V_R$ max (V)	$V_F$ max (V)	$I_F$ (mA)	$I_R$ max (mA)	$V_{RRM}$ (V)	$t_{rr}$ max (ns)	Package	SOD80C (MiniMelf)	SOT457 (SC-74)	SOT23	SOT143B	SOD123	SOD123F	SOT323 (SC-70)	SOT353 (SC-88A)	SOT363 (SC-88)	SOD323 (SC-76)	SOD323F (SC-90)	SOD523 (SC-79)	DFN1006D-2 (SOD882(D))						
						Size (mm)	3.5 x 1.5 x 1.5	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.95	1.7 x 1.25 x 0.7	1.2 x 0.8 x 0.6	1.0 x 0.6 x 0.48 (1.0 x 0.6 x 0.37)						
						$P_{tot}$ (mW)	<b>400</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>380</b>	<b>375</b>	<b>200</b>	<b>255</b>	<b>300</b>	<b>300</b>	<b>300</b>	<b>250</b>	<b>250</b>						
100	1	100	100	100	50				BAS19																
150	1	100	100	150	50		BAV102																		
								BAS20																	
$\geq 200$	1	100	100	200	50		BAV103				BAS21GW	BAS21H					BAS321	<b>BAS321J</b>		BAS21L(D)					
								BAS21			BAS21W														
									BAV23																
																	BAS21PG								
									BAV23A							BAS21AW									
									BAV23C																
									BAV23S							BAS21SW									
									BA-S21AVD																
									BAS21VD																
						300	1.1	100	150	250	50													BAS21J	BAS521
		BAS101																							
		BAS101S																							
			BAW101																						
																			BAW101S						


















Diodes

## Switching diodes

### Controlled avalanche switching diodes



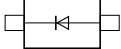
$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_R$ max (nA) @ $V_R$ max	$I_{FSM}$ max (A)	$I_{FRM}$ max (mA)	$C_d$ max (pF)	$t_{rr}$ max (ns)	Package	SOT23	SOT143B	
											
									Size (mm)	2.9 x 1.3 x 1.0	2.9 x 1.3 x 1.0
									$P_{tot}$ (mW)	250	250
60	1	200	100	9	600	2.5	6			BAS56	
90	1	200	100	10	600	35	50		BAS29		
									BAS31		
									BAS35		

### Low leakage current switching diodes

$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_R$ max (nA) @ $V_R$ max	$t_{rr}$ max (µs)	Package	SOD80C (MiniMelf)	SOD68 (DO-34)	SOT23	SOD123	SOD123F	SOT323 (SC-70)	SOD323 (SC-76)	SOD523 (SC-79)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)	DFN1006-2 (SOD882)					
																					
						Size (mm)	3.5 x 1.5 x 1.5	3.04 x 1.6 x 0.55	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.95	1.2 x 0.8 x 0.6	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.48				
						$P_{tot}$ (mW)	400	300	250	380	375	250	250	250	305	250	250				
75	1	10	5	3					BAS116GW	BAS116H		BAS416	BAS716				BAS116L				
								BAS116						BAS116QA							
								BAV199			BAV199W										
								BAW156													
								BAV170										BAV170QA	BAV170M		
125	1	100	1	1.5 typ		BAS45AL	BAS45A														



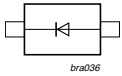
### PN rectifiers

Types in **bold** represent new products

$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (A)	$I_R$ max (µA)	@ $V_R$ (V)	$t_{rr}$ max (ns)	Package	CFP5 (SOD128)	CFP3 (SOD123W)	
									
							Size (mm)	3.8 x 2.5 x 1.0	2.6 x 1.7 x 1.0
							$P_{tot}$ (mW) @ 1cm <sup>2</sup>	1050	950
200	0.875	1	0.2	200	25	 bra036		<b>ES1DVR</b>	
	0.93	1	0.2	200	25			<b>ES1DR</b>	
	0.95	2	0.2	200	25			<b>ES2DVR</b>	
	0.98	2	0.2	200	25			<b>ES2DR</b>	
	0.95	2	0.2	200	25		<b>ES2DP</b>		
	0.98	3	0.2	200	30		<b>ES3DP</b>		
	1.1	1	3	200	3000		<b>S1DR</b>		
400	1.25	1	0.4	400	25		<b>ES1GR</b>		

## PN rectifiers - Automotive qualified

Types in **bold** represent new products

V <sub>r</sub> max (V)	V <sub>f</sub> max (V)	I <sub>F</sub> (A)	I <sub>r</sub> max (µA)	V <sub>r</sub> (V)	t <sub>rr</sub> max (ns)	Package	CFP5 (SOD128)	CFP3 (SOD123W)
								
Size (mm)							3.8 x 2.5 x 1.0	2.6 x 1.7 x 1.0
P <sub>tot</sub> (mW) @ 1cm <sup>2</sup>							1050	950
200	0.93	1	0.2	200	25			<b>PNE20010ER</b>
	0.98	2	0.2	200	25			<b>PNE20020ER</b>
	0.95	2	0.2	200	25		<b>PNE20020EP</b>	
	0.98	3	0.2	200	30		<b>PNE20030EP</b>	
400	1.1	1	1	400	1800			PNS40010ER

Diodes

## Nomenclature pn-rectifier consumer grade types

**ES 1 D V R**

**Recovery time indicator:**

- ES** - hyperfast recovery time
- US – ultrafast recovery time
- S - standard recovery time

**Cont. forward current in A:**

- 1 = 1 A
- 2 = 2 A
- 3 = 3 A

**Max. reverse voltage:**

- D** = 200 V
- G = 400 V
- J = 600 V

**Package indicator:**

- R** = CFP3 (SOD123W)
- P = CFP5 (SOD128)

**Variant letter (optional):**

- V** = lowV level

## Nomenclature pn-rectifier automotive grade types

**PNE 200 10 E R**

**Recovery time indicator:**

- PNE** - hyperfast recovery time
- PNU – ultrafast recovery time
- PNS - standard recovery time

**Max. reverse voltage:**

- 200** = 200 V
- 400 = 400 V
- 600 = 600 V

**Cont. Forward current:**

- 10** = 1.0 A
- 20 = 2.0 A
- 30 = 3.0 A






**Package indicator:**

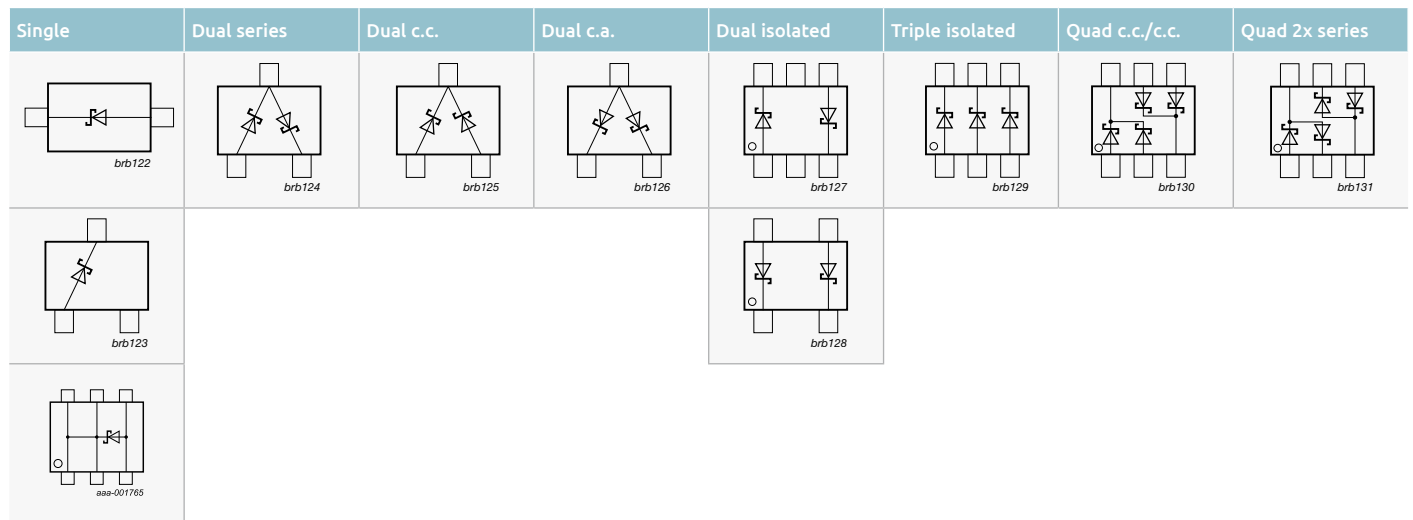
- R** = CFP3 (SOD123W)
- P = CFP5 (SOD128)









**configuration:**

- E** = single die








General purpose schottky diodes <= 250 mA

IF max (mA)	VR max (V)	VF max (mV)	@ IF (mA)	IR max (µA)	@ VR (V)	Package	SOD80C (MiniMelf)	SOD68 (DO-34)	SOT23	SOT143B	SOD123			
														
							Size (mm)	3.5 x 1.5 x 1.5	3.04 x 1.6 x 0.55	2.9 x 1.3 x 1.0	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2		
P <sub>tot</sub> (mW)	300	500	250	250	357									
70	70	750	10	0.1	50	Single			BAS70					
						Dual series			BAS70-04					
						Dual c.c.			BAS70-05					
						Dual c.a.			BAS70-06					
						Dual isolated				BAS70-07				
						Triple isolated								
120	40	370	1	0.5	30	Single								
						Dual series			BAS40					
						Dual c.c.			BAS40-04					
						Dual c.a.			BAS40-05					
						Dual isolated			BAS40-06					
						Triple isolated				BAS40-07				
200	30	300	10	30	10	Single								
						Dual series			BAT754					
						Dual c.c.			BAT754S					
						Dual c.a.			BAT754C					
						Dual c.a.			BAT754A					
						Triple isolated								
	40	300	10	15	30	30	Single							
							Dual series			BAT85	BAT85	BAT54		BAT54GW
							Dual c.c.					BAT54S		
							Dual c.c.					BAT54C		
							Dual c.a.					BAT54A		
							Triple isolated						BAT74	
	50	40	450	10	5	40	Single							
							Dual series							
							Dual c.c.							
							Dual c.a.							
							Dual c.c.							
							Dual c.a.							
250	100	850	250	4	75	Single								
						Single								
						Single								
						Dual series								
						Dual c.c.								
						Dual c.a.								
200	30	400	10	2	25	Single	BAS85	BAT85	BAT54		BAT54GW			
						Dual series								
						Dual c.c.								
						Dual c.a.								
						Dual isolated								
						Triple isolated								
200	40	360	10	0.5	25	Single								
						Dual series								
						Dual c.c.								
						Dual c.a.								
						Dual c.c.								
						Dual c.a.								
200	40	420	30	0.5	25	Single								
						Dual series								
						Dual c.c.								
						Dual c.a.								
						Dual c.c.								
						Dual c.a.								
250	100	850	250	4	75	Single	BAS86	BAT86						
						Single								
						Single								
						Dual series								
						Dual c.c.								
						Dual c.a.								






SOD123F	SOT323 (SC-70)	SOT363 (SC-88)	SOD323F (SC-90)	SOD323 (SC-76)	SOT666	SOD523 (SC-79)	DFN1006-2 (SOD882)/ DFN1006-3 (SOT883)
							
2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.7	1.7 x 1.25 x 0.95	1.6 x 1.2 x 0.55	1.2 x 0.8 x 0.6	1.0 x 0.6 x 0.48
375	250	300	385	400	300	275	250
BAS70H	BAS70W BAS70-04W BAS70-05W BAS70-06W	BAS70-07S BAS70XY		1PS76SB70		1PS79SB70	BAS70L
				RB751V40 1PS76SB40		RB751S40 1PS79SB40	RB751CS40 BAS40L
BAS40H	BAS40W BAS40-04W BAS40-05W BAS40-06W						
		1PS88SB48 BAS40XY				BAS40-07V BAS40-05V	
						1PS79SB31	
		BAT754L					
BAT54H	BAT54W BAT54SW BAT54CW BAT54AW		BAT54J	1PS76SB10		1PS79SB10	BAT54L BAT54CM
		BAT74S BAT54XY				BAT74V BAT54VV BAT54CV	
						RB521S30 RB520S30	RB521CS30L RB520CS30L
				1PS76SB21			
						1PS79SB30	
	BAT854W BAT854SW BAT854CW BAT854AW						
BAT46WH				BAT46WJ			

## Low capacitance schottky diodes

I <sub>F</sub> max (mA)	V <sub>r</sub> max (V)	V <sub>F</sub> max (mV) @ I <sub>F</sub> (mA)	C <sub>j</sub> max (pF) @ V <sub>r</sub> = 0 V	Package	SOT23	SOT323 (SC-70)	SOT363 (SC-88)	SOD323 (SC-76)	SOT666	SOD523 (SC-79)	DFN1006-2 (SOD882)	
												
30	4	450	1	Size (mm)	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.95	1.6 x 1.2 x 0.55	1.2 x 0.8 x 0.6	1.0 x 0.6 x 0.48	
				P <sub>tot</sub> (mW)	250	250	300	400	300	500	250	
				Single	BAT17			1PS76SB17		1PS79SB17		
				Triple isolated					1PS66SB17			
				Dual series	PMBD353 PMBD354 <sup>1)</sup>							
	15	340	1	1	Single		1PS70SB82					1PS10SB82
					Triple isolated			1PS88SB82		1PS66SB82		
					Dual series		1PS70SB84					
					Dual c.c.		1PS70SB85					
					Dual c.a.		1PS70SB86					

<sup>1)</sup>Diodes have matched capacitance




Medium power low VF schottky rectifiers single  $\geq 200$  mA - leadless DSN / DFN packages

$I_F$ max (A)	$V_R$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Package	DSN0603-2 (SOD962)	DSN0603B-2 (SOD962B)	DSN1006-2 (SOD993)		
									
					0.6 x 0.3 x 0.3	0.6 x 0.3 x 0.2	1.0 x 0.6 x 0.28		
					525	525	1.000		
					Optimization				
0.2	20	420	0.045	Low $V_F$	PMEG2002AESF	PMEG2002AESFB			
		490	0.0035	Low $I_R$	PMEG2002ESF				
	30	470	0.08	Low $V_F$	PMEG3002AESF				
		480	0.05	low $V_F$					
		535	0.009	Low $I_R$	PMEG3002ESF				
	40	525	0.08	Low $V_F$	PMEG4002AESF				
		600	0.0065	Low $I_R$	PMEG4002ESF				
		600	0.01	low $I_R$					
		600	0.1	low $V_F$					
	0.5	20	390	0.2	low $V_F$				
410			0.3	low $V_F$					
440			1.5	low $V_F$					
500			0.03	low $I_R$					
550			0.045	Low $V_F$	PMEG2005AESF				
620			0.0035	Low $I_R$	PMEG2005ESF				
30		500	0.5	low $V_F$					
		630	0.08	Low $V_F$	PMEG3005AESF				
		720	0.009	Low $I_R$	PMEG3005ESF				
40		590	0.01	low $I_R$					
		820	0.08	Low $V_F$	PMEG4005AESF				
		880	0.0065	Low $I_R$	PMEG4005ESF				
1		20	375	1.9	low $V_F$				
			415	0.6	low $V_F$				
	490		0.2	low $V_F$					
	30	480	1.25	Low $V_F$			PMEG3010AESB		
		565	0.045	Low $I_R$			PMEG3010ESB		
	40	505	0.115	Low $V_F$			PMEG4010AESB		
		600	0.02	low $I_R$					
		610	0.04	Low $I_R$			PMEG4010ESB		
	60	625	0.65	Low $V_F$			PMEG6010AESB		
		730	0.03	Low $I_R$			PMEG6010ESB		
1.5	20	420	0.9	low $V_F$					
	40	610	0.03	low $I_R$					
2	20	420	1.9	low $V_F$					
		450	0.9	low $V_F$					
	30	470	2.5	low $V_F$					
	40	535	0.1	low $V_F$					
	60	530	0.2	low $V_F$					
		575	0.25	low $V_F$					






Medium power low VF schottky rectifiers single  $\geq 200$  mATypes in **bold** represent new products






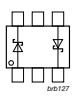
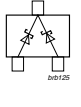










$I_F$ max (A)	$V_F$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Package	CFP15 (SOT1289)	CFP5 (SOD128)	CFP3 (SOD123W)	
								
					Size (mm)	5.8 x 4.3 x 0.78	3.8 x 2.5 x 1.0	2.6 x 1.7 x 1.0
					$P_{tot}$ (mW) @ 1 cm <sup>2</sup>	2150	1050	950
					Optimization			
1	20	340	1	Low $V_F$			PMEG2010ER	
		450	0.05	Low $I_R$			PMEG2010BER	
	30	360	1.5	Low $V_F$		PMEG3010EP	PMEG3010ER	
		450	0.05	Low $I_R$		PMEG3010BEP	PMEG3010BER	
	40	490	0.05	Low $V_F$		PMEG4010EP	PMEG4010ER	
				Low $V_F$		PMEG4010ETP	PMEG4010ETR	
		460	0.022	Low $V_F$ /Low $I_R$			<b>PMEG40T10ER<sup>1)</sup></b>	
	60	530	0.06	Low $V_F$		PMEG6010EP	PMEG6010ER	
				Low $V_F$			PMEG6010ETR	
		660	0.0003	Low $I_R$			PMEG6010ELR	
100	770	0.00015	Low $I_R$			PMEG10010ELR		
2	30	360	3	Low $V_F$		PMEG3020EP		
		420	1.5	Low $V_F$		PMEG3020CEP	PMEG3020ER	
		450	0.1	Low $I_R$		PMEG3020BEP		
		520	0.05	Low $I_R$		PMEG3020DEP	PMEG3020BER	
	40	490	0.1	Low $V_F$		PMEG4020EP	PMEG4020ER	
				Low $V_F$		PMEG4020ETP	PMEG4020ETR	
		515	0.022	Low $V_F$ /Low $I_R$		<b>PMEG40T20EP<sup>1)</sup></b>	<b>PMEG40T20ER<sup>1)</sup></b>	
	60	530	0.2	Low $V_F$		PMEG6020EP	PMEG6020ER	
				Low $V_F$		PMEG6020ETP	PMEG6020ETR	
		620	0.0012	Low $V_F$ /Low $I_R$			<b>PMEG60T20ELR<sup>1)</sup></b>	
		680	0.0007	Low $I_R$		PMEG6020AELP	PMEG6020AELR	
	100	760	0.0003	Low $I_R$			PMEG6020ELR	
		770	0.0003	Low $I_R$		PMEG10020AELP	PMEG10020AELR	
		830	0.00015	Low $I_R$			PMEG10020ELR	
3	30	360	5	Low $V_F$		PMEG3030EP		
		450	0.15	Low $I_R$	PMEG030V030EPD	PMEG3030BEP		
	40	490	0.12	Low $V_F$	PMEG040V030EPD			
				Low $V_F$		PMEG4030EP		
				Low $V_F$		PMEG4030ETP		
		525	0.028	Low $V_F$ /Low $I_R$		<b>PMEG40T30EP<sup>1)</sup></b>	<b>PMEG40T30ER<sup>1)</sup></b>	
		540	0.1	Low $I_R$			PMEG4030ER	
	45	480	0.044	Low $V_F$ /Low $I_R$	<b>PMEG045T030EPD<sup>1)</sup></b>			
	50	530	0.1	Low $V_F$	PMEG050V030EPD			
		475	0.4	Low $V_F$		PMEG6030EVP		
				Low $V_F$	PMEG060V030EPD	PMEG6030EP		
	60			Low $V_F$		PMEG6030ETP		
690		0.001	Low $I_R$		PMEG6030ELP			
770		0.00045	Low $I_R$		PMEG10030ELP			
4.5	60	530	0.4	Low $V_F$		PMEG6045ETP		
5	30	360	8	Low $V_F$		PMEG3050EP		
		450	0.25	Low $I_R$		PMEG3050BEP		
		500	0.15	Low $V_F$	PMEG030V050EPD			
	40	490	0.3	Low $V_F$		PMEG4050EP		
				Low $V_F$		PMEG4050ETP		
		520	0.12	Low $V_F$	PMEG040V050EPD			
		525	0.041	Low $V_F$ /Low $I_R$		<b>PMEG40T50EP<sup>1)</sup></b>		
	45	490	0.3	Low $V_F$	PMEG045V050EPD			
		525	0.044	Low $V_F$ /Low $I_R$	<b>PMEG045T050EPD<sup>1)</sup></b>			
		560	0.4	Low $V_F$	PMEG060V050EPD			
6	100	840	0.00045	Low $I_R$	PMEG100V060ELPD			
8	100	850	0.0005	Low $I_R$	PMEG100V080ELPD			
10	45	490	0.6	Low $V_F$	PMEG045V100EPD			
		540	0.5	Low $V_F$	PMEG45A10EPD			
		545	0.08	Low $V_F$ /Low $I_R$	<b>PMEG045T100EPD<sup>1)</sup></b>			
	60	560	0.7	Low $V_F$	PMEG060V100EPD			
100	850	0.0008	Low $I_R$	PMEG100V100ELPD				
15	45	490	1	Low $V_F$	PMEG045V150EPD			
		550	0.1	Low $V_F$ /Low $I_R$	PMEG045T150EPD <sup>1)</sup>			
		580		Low $V_F$ /Low $I_R$	PMEG45T15EPD <sup>1)</sup>			
		570	0.098	Low $V_F$ /Low $I_R$	<b>PMEG045T150EIPD<sup>1)</sup></b>			
	50	500	1	Low $V_F$	PMEG050V150EPD			
	550	0.1	Low $I_R$	PMEG050T150EPD <sup>1)</sup>				

<sup>1)</sup> Trench process

Medium power low VF schottky rectifiers single  $\geq 200$  mA - leaded packages

$I_F$ max (A)	$V_R$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Package	SOT457 (SC-74)	SOT23	SOD123	SOD123F	SOT323 (SC-70)	SOD323F (SC-90)	SOD323 (SC-76)	SOT666	SOD523 (SC-79)	
														
					Size (mm)	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.7	1.7 x 1.25 x 0.95	1.6 x 1.2 x 0.55	1.2 x 0.8 x 0.6
					$P_{tot}$ (mW) @ 1 cm <sup>2</sup>	540	420	660	830	400	830	570	570	500
Optimization														
0.2	30	480	0.05	Low $V_F$							PMEG3002EJ		PMEG3002AEB	
	40	600	0.01	Low $I_r$							PMEG4002EJ		PMEG4002EB	
	60	600	0.1	Low $V_F$							PMEG6002EJ		PMEG6002EB	
0.5	20	390	0.2	Low $V_F$		PMEG2005ET	PMEG2005EGW	PMEG2005EH		PMEG2005EJ	PMEG2005AEA	PMEG2005AEV		
		480	0.03	Low $I_r$									PMEG2005EB	
	30	430	0.15	Low $V_F$		PMEG3005ET	PMEG3005EGW	PMEG3005EH		PMEG3005EJ	PMEG3005AEA	PMEG3005AEV		
		500	0.5	Low $V_F$										PMEG3005EB
	40	470	0.1	Low $V_F$		PMEG4005ET	PMEG4005EGW	PMEG4005EH		PMEG4005EJ	PMEG4005AEA	PMEG4005AEV		
		550	1.1	Low $V_F$		BAT720			1PS70SB20					
640	0.008	Low $I_r$							PMEG4005CEJ	PMEG4005CEA				
0.75	40	740	0.008	Low $I_r$							BAT165A			
1	20	430	0.2	Low $V_F$		PMEG2010AET		PMEG2010AEH						
		500	0.2	Low $V_F$		PMEG2010ET		PMEG2010EH		PMEG2010EJ	PMEG2010BEA	PMEG2010BEV		
		550	0.07	Low $I_r$						PMEG2010AEJ	PMEG2010BEA BAT760	PMEG2010BEV BAT960		
		620	1.5	Low $V_F$									PMEG2010AEB	
	30	450	1	Low $V_F$	1PS74SB23									
		520	0.1	Low $I_r$				PMEG3010CEH		PMEG3010CEJ				
		560	0.15	Low $V_F$		PMEG3010ET	PMEG3010EGW	PMEG3010EH		PMEG3010EJ	PMEG3010BEA	PMEG3010BEV		
		680	0.5	Low $V_F$									PMEG3010EB	
	40	570	0.05	Low $I_r$			PMEG4010CEGW	PMEG4010CEH		PMEG4010CEJ				
		640	0.05	Low $V_F$		PMEG4010ET	PMEG4010EGW	PMEG4010EH		PMEG4010EJ	PMEG4010BEA	PMEG4010BEV		
		840	0.008	Low $I_r$							PMEG4010CEA			
		60	660	0.05	Low $I_r$			PMEG6010CEGW	PMEG6010CEH		PMEG6010CEJ			
1.5	20	660	0.2	Low $I_r$			PMEG2015EH		PMEG2015EJ	PMEG2015EA	PMEG2015EV			
	30	500	1	Low $V_F$			PMEG3015EH		PMEG3015EJ		PMEG3015EV			
2	10	460	3	Low $V_F$			PMEG1020EH		PMEG1020EJ	PMEG1020EA	PMEG1020EV			
	20	525	0.2	Low $V_F$			PMEG2020EH		PMEG2020EJ	PMEG2020AEA				
	30	620	1	Low $V_F$			PMEG3020EGW	PMEG3020EH		PMEG3020EJ				
3	10	530	3	Low $V_F$			PMEG1030EH		PMEG1030EJ					

Medium power low VF schottky rectifiers dual  $\geq 200$  mA

$I_F$ max (A)	$V_R$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Optimization	Package	SOT223 (SC-73)	SOT23	DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)	SOT666	
											
					Size (mm)	6.5 x 3.5 x 1.65	2.9 x 1.3 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.63	1.6 x 1.2 x 0.55	
					$P_{tot}$ (mW) @ 1 cm <sup>2</sup>	1500	400	1000	1000	400	
0.2	30	480	0.03	Low $V_F$						PMEG3002TV	
	60	600	0.1	Low $V_F$							PMEG6002TV
0.5	20	390	0.2	Low $V_F$			PMEG2005CT				
	30	430	0.15	Low $V_F$			PMEG3005CT				
	40	470	0.1	Low $V_F$			PMEG4005CT				
1.0	25	450	1.0	Low $V_F$		BAT120S					
				Low $V_F$		BAT120C					
				Low $V_F$		BAT120A					
	40	500	0.05	Low $V_F$				PMEG4010CPA	PMEG4010CPAS		
	60	540	0.06	Low $V_F$				PMEG6010CPA	PMEG6010CPAS		
		650	0.35	Low $V_F$		BAT160S					
				Low $V_F$		BAT160C					
				Low $V_F$		BAT160A					
2.0	20	420	1.0	Low $V_F$				PMEG2020CPA	PMEG2020CPAS		
	30	440	2.0	Low $V_F$				PMEG3020CPA	PMEG3020CPAS		

## Nomenclature of automotive grade Schottky rectifier in medium-power packages

**PMEG 40 10 A E T P**

**NEXPERIA MEGA**  
Schottky rectifier

Max. reverse voltage in V  
e.g. 40 = 40 V

Cont. forward current in A  
e.g. 10 = 1.0 A

Variant number (optional)

**Package indicator:**

A	SOD323
B	SOD523
D	SOT457
GW	SOD123
H	SOD123F
L	SOD882
LD	SOD882D
ML	SOD923
<b>P</b>	<b>SOD128</b>
PA	SOT1061
PD	SOT1289
PK	SOD1608
R	SOD123W
T	SOT23
V	SOT666

**Variant letter (optional):**  
**T = high temperature**

**Internal configuration:**

- A = CA
- B = CC
- E = single**
- P = double, parallel
- R = tripple, antiparallel
- S = series
- V = tripple
- W = CA and CC
- X = 2 x series
- Y = 2 x CC
- Z = 2 x CA

Diodes

## Nomenclature of automotive grade Schottky rectifier in CFP15 (SOT1289) power package

**PMEG 100 V 080 E L PD**

**NEXPERIA MEGA**  
Schottky rectifier

Max. reverse voltage in V  
e.g. 100 = 100 V

Variant letter (design)  
**V = planar design**  
**T = trench design**

Cont. forward current in A  
e.g. 080 = 8.0 A

**Package indicator:**  
**PD = SOT1289**

**Variant letter (optional):**  
**L = low leakage current**

**International configuration:**  
**E = single die**



# ESD protection, TVS, filtering and signal conditioning

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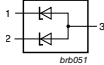




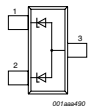










## Low capacitance ESD protection for high-speed interfaces

Number of protected lines		$V_{RWM}$ (V)	$C_{line}$ typ (pF)	$C_{line}$ max (pF)	ESD rating max (kV) <sup>[1]</sup>	Surge robustness 8/20 $\mu$ s (A)	Configuration	Type	Package	Size (mm)			
Unidirectional	Bidirectional												
1	0	5	0.45	0.5	20	9		PESD5V0C1USF	DSN0603-2 (SOD962)	0.6 x 0.3 x 0.3			
		<b>6.5</b>	<b>0.45</b>	<b>0.5</b>	<b>20</b>	<b>9</b>		<b>PESD6V5C1USF</b>					
		5	0.6	0.75	10			PESD5V0F1USF					
		5	0.95	1.15	8				PESD5V0X1ULD	DFN1006D-2 (SOD882D)	1.0 x 0.6 x 0.37		
			1.55	1.75	15				PESD5V0X1UALD				
		16	0.83	0.98	8				PESD16VX1UL	DFN1006-2 (SOD882)	1.0 x 0.6 x 0.48		
		5	0.95	1.15	8				PESD5V0X1UB	SOD523 (SC-79)	1.2 x 0.8 x 0.6		
			1.55	1.75	15				PESD5V0X1UAB				
		3.3	0.6	1.5	30				5	PESD3V3U1UT	SOT23	2.9 x 1.3 x 1.0	
		5	0.6	1.5	30				5	PESD5V0U1UT			
		12	0.6	1.5	30				5	PESD12VU1UT			
		15	0.6	1.5	30	5		PESD15VU1UT					
		24	0.6	1.5	23	5		PESD24VU1UT					
		0	1	5	0.2	0.3		8		PESD5V0F1BSH	DSN0402-2 (SOD992)	0.4 x 0.2 x 0.12	
				3.3	0.2	0.25		20		9	PESD3V3C1BSF	DSN0603-2 (SOD962)	0.6 x 0.3 x 0.3
0.28	0.35				20	9.5	PESD3V3Z1BSF						
<b>0.45</b>	<b>0.6</b>				<b>25</b>	<b>15</b>	<b>PESD3V3W1BSF</b>						
<b>4.0</b>	<b>0.45</b>			<b>0.6</b>	<b>25</b>	<b>15</b>	<b>PESD4V0W1BSF</b>						
	0.1			0.15	10	4.5	PESD5V0R1BSF						
	0.15			0.19	15	7	PESD5V0H1BSF						
5	0.2			0.25	20	9	PESD5V0C1BSF						
	<b>0.1</b>			<b>0.15</b>	<b>10</b>	<b>4.5</b>	<b>PESD7V0R1BSF</b>						
	<b>0.15</b>			<b>0.19</b>	<b>15</b>	<b>7</b>	<b>PESD7V0H1BSF</b>						
<b>7</b>	<b>0.2</b>			<b>0.25</b>	<b>20</b>	<b>9</b>	<b>PESD7V0C1BSF</b>						
	0.25			0.3	10		PESD5V0F1BSF						
	3.3			-	1.1	20	9	PESD5V0F1BRSF					
5.0	-			1.1	PESD3V3X1BCSF								
18	0.28			0.45	PESD5V0X1BCSF								
24	0.25			0.4	PESD18VF1BSF								
5	1			5	0.4	0.55	10			PESD24VF1BSF	DSN0603-2 (SOD962)	0.6 x 0.3 x 0.3	
										PESD5V0F1BLD			
				3.3	1.3	1.6	9				PESD5V0F1BRLD	DFN1006D-2 (SOD882D)	1.0 x 0.6 x 0.37
											PESD3V3X1BL		
				5.5	0.4	0.55	10				PESD5V0F1BL	DFN1006-2 (SOD882)	1.0 x 0.6 x 0.48
											PESD5V0X1BCL		
				5	0.49	0.6	8	PESD5V0X1BCAL					
					0.85	0.95	15	PESD5V0X1BL					
		0.9	1.3		9	PESD18VF1BL							
		18	0.35		0.5	10	PESD24VF1BL						
		24	0.3	0.45	10								

<sup>[1]</sup> according to IEC 61000-4-2 (contact discharge)

Products in **bold red** are under development

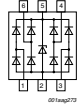
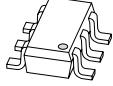
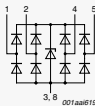


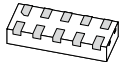
## Low capacitance ESD protection for high-speed interfaces

Number of protected lines		$V_{RWM}$ (V)	$C_{line\ typ}$ (pF)	$C_{line\ max}$ (pF)	ESD rating max (kV) <sup>[1]</sup>	Configuration	Type	Package	Size (mm)	
Unidirectional	Bidirectional									
2	1	5	0.5	0.65	10		PESD5V0X2UMB	DFN1006B-3 (SOT883B) 	1.0 x 0.6 x 0.37	
							PESD5V0X2UM	DFN1006-3 (SOT883) 	1.0 x 0.6 x 0.48	
			PESD5V0X2UAMB	DFN1006B-3 (SOT883B) 	1.0 x 0.6 x 0.37					
			PESD5V0X2UAM	DFN1006-3 (SOT883) 	1.0 x 0.6 x 0.48					
				0.9	1.3	9		PESD5V0X1BQ	SOT663 	1.6 x 1.2 x 0.55
								PESD5V0X1BT	SOT23 	2.9 x 1.3 x 1.0
	0	80	0.6	0.75	30		NUP1301U	SOT323 	2.0 x 1.25 x 0.95	
							NUP1301	SOT23 	2.9 x 1.3 x 1.0	
							NUP1301QA	SOT1215 	1.0 x 1.0 x 0.4	
	3	0	5.5	1	1.5	8		PRTR5V0U2X	SOT143B 	2.9 x 1.3 x 1.0
1.8				-	12	PRTR5V0U2AX				
1				1.5	8		PRTR5V0U2F	DFN1410-6 (SOT886) 	1.45 x 1.0 x 0.48	

ESD protection, TVS, filtering and signal conditioning

<sup>[1]</sup> according to IEC 61000-4-5 (contact discharge)

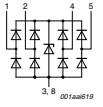
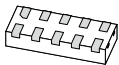
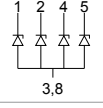
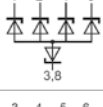
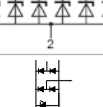
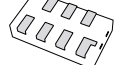

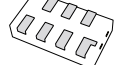

## Low capacitance ESD protection for high-speed interfaces

Number of protected lines		$V_{RWM}$ (V)	$C_{line\ typ}$ (pF)	$C_{line\ max}$ (pF)	ESD rating max (kV) <sup>[1]</sup>	Configuration	Type	Package	Size (mm)
Unidirectional	Bidirectional								
4	0	5.5	1	-	8		IP4220CZ6	SOT457 (SC-74) 	2.9 x 1.5 x 1.0
						PRTR5V0U4D			
	0	5.5	0.7	0.85	12		PUSB2X4D	SOT457 (SC-74) 	2.9 x 1.5 x 1.0
						PUSB2X4Y	SOT363 (SC-88) 	2.0 x 1.25 x 0.95	
						IP4283CZ10-TBR	DFN2510A-10 (SOT1176) 	2.5 x 1.0 x 0.48	

<sup>[1]</sup> according to IEC 61000-4-5 (contact discharge)

# Low capacitance ESD protection for high-speed interfaces - HDMI2.0, DisplayPort

Types in **bold** represent new products

Number of protected lines		$V_{RWM}$ (V)	$C_{line\ typ}$ (pF)	$C_{line\ max}$ (pF)	ESD rating <sup>[1]</sup> max (kV)	$I_R\ max$ (µA) @ $V_{RWM}$	Configuration	Type	Package	Size (mm)
Unidirectional	Bidirectional									
4	0	5.5	0.5	0.6	10	-		IP4294CZ10-TBR PUSB3F96 PHDMI2F4	DFN2510A-10 (SOT1176) 	2.5 x 1.0 x 0.48
		3.3	0.27	0.34	15	0.1		PUSB3FR4 <b>PHDMI2FR4</b>		
0	4	3.3	0.17	0.2			15	0.1		PUSB3AB4 <b>PHDMI2AB4</b>
6	0	3.3	0.35	0.4	-				PUSB3FR6	DFN2111-7 (SOT1358) 
0	6	5.5	0.27	0.35	10	0.1		PUSB3TB6	DFN2111-7 (SOT1358) 	
		3.3	0.15	0.2	15			PUSB3AB6		

<sup>[1]</sup> according to IEC 61000-4-2 (contact discharge)

## TrEOS protection devices

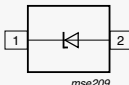
Unique combination of low capacitance, low clamping and high robustness for very fast, sensitive data lines

Type	device	$V_{RWM}$ (V)	Uni- or bidirectional	$C_s\ typ$ (pF)	ESD rating max (kV) (Ω)	$R_{dyn}\ TLP$ (Ω)	Number of protected lines	Package	Size (mm)
PUSB3FR4	ESD protection	3.3	uni	0.29	15	0.27	4	DFN2510A-10	2.5 x 1.0 x 0.48
PUSB3FR6				0.35	15	0.29	6	DFN2111-7	2.1 x 1.1 x 0.48
PUSB3AB4			bi	0.17	15	0.4	4	DFN2510A-10	2.5 x 1.0 x 0.48
PUSB3AB6				0.15	15	0.4	6	DFN2111-7	2.1 x 1.1 x 0.48
PCMF1USB3S	Common Mode Filter with ESD protection	5	uni	0.3	15	0.14	2	WLCSP5	0.8 x 1.2 x 0.5
PCMF2USB3S							4	WLCSP10	1.6 x 1.2 x 0.5
PCMF3USB3S							6	WLCSP15	2.4 x 1.2 x 0.5
PESD1USB3S	ESD protection in PCMF footprint	5	uni	0.45	15	0.14	2	WLCSP5	0.8 x 1.2 x 0.5
PESD2USB3S							4	WLCSP10	1.6 x 1.2 x 0.5
PESD3USB3S							6	WLCSP15	2.4 x 1.2 x 0.5
PESD3V3Z1BSF	ESD protection	3.3	bi	0.28	20	0.19	1	DSN0603-2	0.6 x 0.3 x 0.3
<b>PESD3V3W1BSF</b>				<b>0.45</b>	<b>25</b>	<b>0.11</b>			
PESD3V3C1BSF				0.2	20	0.23			
<b>PESD4V0W1BSF</b>		<b>0.45</b>		<b>25</b>	<b>0.11</b>				
PESD5V0R1BSF		4.0		0.1	10	0.45			
PESD5V0H1BSF				0.15	15	0.25			
PESD5V0C1BSF			5	0.2	20	0.23			
PESD5V0C1USF				uni	0.45	20			

Products in **bold red** are under development

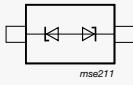

ESD protection, TVS, filtering and signal conditioning

General purpose ESD protection protection devices

Number of protected lines		V <sub>RWM</sub> (V)	C <sub>line typ</sub> (pF)	C <sub>line max</sub> (pF)	P <sub>pp</sub> max (W) [1]	ESD rating max (kV) [2]	I <sub>f</sub> max (μA) @ V <sub>RWM</sub>	Configuration	Type	Package	Size (mm)
Unidirectional	Bidirectional										
1	0	5	35	42	40	30	0.1		PESD5V0S1USF	DSN0603-2 (SOD962)	0.6 x 0.3 x 0.3
		5.5	12	15.4	10	30	0.1		PESD5V0L1USF		
		3.3	2.6	3.1	-	9	0.1 (@ 3 V)		PESD3V3U1UL		
			34	40	45	30	0.3		PESD3V3L1UL		
			207	300	150	30	2		PESD3V3S1UL		
		5	2	2.6	-	9	0.1		PESD5V0U1UL		
			25	30	42	26	0.1		PESD5V0L1UL		
		5	152	200	150	30	1		PESD5V0S1UL		
		12	38	75	150	30	0.05		PESD12VS1UL		
		15	32	70	150	30	0.05		PESD15VS1UL		
		24	23	50	150	23	0.05		PESD24VS1UL		
		36	18	30	150	30	0.01		PESD36VS1UL		
		5	25	30	42	26	0.1		PESD5V0L1ULD		
			152	200	150	30	1		PESD5V0S1ULD		
		12	38	75	150	30	0.05		PESD12VS1ULD		
		15	32	70	150	30	0.05		PESD15VS1ULD		
		24	23	50	150	23	0.05		PESD24VS1ULD		
		2.5	229	300	260	30	6		PESD5Z2.5		
		3.3	2.6	3.1	-	9	0.1 (@ 3 V)		PESD3V3U1UB		
			34	40	45	30	0.3		PESD3V3L1UB		
			172	200	260	30	0.05		PESD5Z3.3		
			207	300	330	30	2		PESD3V3S1UB		
		5	2	2.6	-	9	0.1		PESD5V0U1UB		
			25	30	42	26	0.1		PESD5V0L1UB		
			89	150	180	30	0.05		PESD5Z5.0		
		152	200	260	30	1	PESD5V0S1UB				
		6	78	150	180	30	0.01		PESD5Z6.0		
		7	69	150	180	30	0.01		PESD5Z7.0		
		12	35	75	200	30	0.01		PESD5Z12		
			38	75	180	30	0.05		PESD12VS1UB		
		15	32	70	160	30	0.05		PESD15VS1UB		
		24	23	50	160	23	0.05		PESD24VS1UB		
		3.3	2.6	3.1	-	9	0.1 (@ 3 V)		PESD3V3U1UA		
		5	2	2.6	-	9	0.1		PESD5V0U1UA		
			25	30	42	26	0.1		PESD5V0L1UA		
		480	530	890	30	4	PESD5V0S1UA				
		12	160	180	600	30	0.1		PESD12VS1UA		
		24	23	50	160	23	0.05		PESD24VS1UA		
		5	480	530	890	30	4		PESD5V0S1UJ		
		12	160	180	600	30	0.1		PESD12VS1UJ		
		36	18	30	150	30	0.01		PESD36VS1UJ		

[1] 8 / 20 μs exponential decay waveform according to IEC 61000-4-5 [2] according to IEC 61000-4-5 (contact discharge)

## General purpose ESD protection devices

Number of protected lines		V <sub>RWM</sub> (V)	C <sub>line typ</sub> (pF)	C <sub>line max</sub> (pF)	P <sub>PP</sub> max (W) [1]	ESD rating max (kV) [2]	I <sub>R</sub> max (μA) @ V <sub>RWM</sub>	Configuration	Type	Package	Size (mm)									
Unidirectional	Bidirectional																			
0	1	3.3	5.5	6	-	20	0.1		PESD3V3U1BCSF		0.6 x 0.3 x 0.3									
			8.5	10	-	30	0.1		PESD3V3V1BCSF											
		5.5	5.3	6	5.5	20	20		0.1			PESD5V0V1BCSF								
					20	20	0.1		PESD5V0V1BDSF											
			12	15.4	35	30	0.1		PESD5V0V1BSF											
									PESD5V0L1BSF											
									PESD5V0S1BSF											
									PESD5V0S1BSF											
		3.3	101	-	500	30	2		PESD3V3L1BA											
									PESD5V0L1BA											
									PESD12VL1BA											
									PESD15VL1BA											
									PESD24VL1BA											
									PESD3V3T1BL											
	5	1	75	-	500	30	1	PESD5V0L1BA												
								PESD12VL1BA												
								PESD15VL1BA												
								PESD24VL1BA												
								12	19	-	200	30	0.05	PESD3V3T1BL						
														PTVS4V5D1BL						
														4.5	65	78	-	30	0.05	PESD5V0V1BL
																				PESD5V0S1BL
		5	11	13	45	30	0.01	PESD12VV1BL												
								PESD5V0V1BLD												
								PESD5V0S1BLD												
								11	13	45	30	0.01	PESD5V0V1BB							
													PESD5V0S1BB							
								35	45	130	30	0.1	PESD5V0V1BA							
													PESD5V0S1BA							
								5	2.9	3.5	-	10	0.1	PESD5V0U1BL						
PESD5V0U1BLD																				
PESD5V0U1BB																				
PESD5V0U1BA																				
11	13	45	30	0.01	PESD5V0V1BA															
					PESD5V0S1BA															

ESD protection, TVS, filtering and signal conditioning

[1] 8 / 20 μs exponential decay waveform according to IEC 61000-4-5

[2] according to IEC 61000-4-5 (contact discharge)

General purpose ESD protection devices

Number of protected lines		$V_{RWM}$ (V)	$C_{line}$ typ (pF)	$C_{line}$ max (pF)	$P_{PP}$ max (W) <sup>[1]</sup>	ESD rating max (kV) <sup>[2]</sup>	$I_R$ max (μA) @ $V_{RWM}$	Configuration	Type	Package	Size (mm)		
Unidirectional	Bidirectional												
2	1	3.3	22	28	30	15	0.3		PESD3V3L2UM	DFN1006-3 (SOT883)	1.0 x 0.6 x 0.5		
					30	15	0.025		PESD5V0L2UM				
		5	16	19	-	15	0.025		PESD5V0L2UMB	DFN1006B-3 (SOT883B)		1 x 0.6 x 0.37	
			3.3	200	275	150	30	3		PESD3V3S2UQ	SOT663	1.6 x 1.2 x 0.55	
			5	150	215	150	30	0.3		PESD5V0S2UQ			
			12	38	100	150	30	0.03		PESD12VS2UQ			
			15	32	70	150	30	0.05		PESD15VS2UQ			
			24	23	50	150	23	0.05		PESD24VS2UQ			
			3.3	207	300	330	30	2			PESD3V3S2UT	SOT23	2.9 x 1.3 x 1
			5.2	152	200	260	30	1			PESD5V2S2UT		
			12	38	75	180	30	1			PESD12VS2UT		
			15	32	70	160	30	1			PESD15VS2UT		
		24	23	50	160	23	1	PESD24VS2UT					
		36	17	35	160	30	1 (@ 30 V)	PESD36VS2UT					
		3.3	207	300	330	30	2				PESD3V3S2UAT		
		5	152	200	260	30	1		PESD5V0S2UAT				
		15	32	70	160	30	0.05		PESD15VS2UAT				
		24	23	50	160	23	0.05		PESD24VS2UAT				
		5	38	46	70	30	0.09 (@ 4 V)		PESD5V0L2UU	SOT323 (SC-70)	2 x 1.25 x 0.95		
		6	34	40	60	30	0.018 (@ 4.3 V)		PESD6V0L2UU				
	0	2	3.3	101	-	350	30	2		PESD3V3L2BT	SOT23	2.9 x 1.3 x 1	
			5	75	-		30	1		PESD5V0L2BT			
			12	19	-		30	0.05		PESD12VL2BT			
			15	16	-	200	30	0.05		PESD15VL2BT			
24			11	-	23		0.05	PESD24VL2BT					
			35	45	130	30	0.1	PESD5V0S2BT					
			2.9	3.5	-	10	0.1	PESD5V0U2BT					
			18	20	110	30	0.01	PESD5V0U2BM		DFN1006-3 (SOT883)	1.0 x 0.6 x 0.5		
			2.9	3.5	-	10	0.1	PESD5V0U2BMB		DFN1006B-3 (SOT883B)			
			18	20	110	30	0.01	PESD5V0V2BMB			1 x 0.6 x 0.37		
		35	45	130	30	0.1	PESD5V0S2BQA	DFN1010D-3 (SOT1215)		1.1 x 1.0 x 0.37			

<sup>[1]</sup> 8 / 20 μs exponential decay waveform according to IEC 61000-4-5

<sup>[2]</sup> according to IEC 61000-4-2 (contact discharge)

## General purpose ESD protection devices

Number of protected lines		$V_{RWM}$ (V)	$C_{line}$ typ (pF)	$C_{line}$ max (pF)	$P_{PP}$ max (W) [1]	ESD rating max (kV) [2]	$I_R$ max (μA) @ $V_{RWM}$	Configuration	Type	Package	Size (mm)			
Unidirectional	Bidirectional													
4	3	3.3	22	28	30	20	0.3	<p>006aaa156</p>	PESD3V3L4UF	DFN1410-6 (SOT886)	<p>1.45 x 1 x 0.5</p>			
			110	300	110	30	1 (@ 3 V)		PESD3V3S4UF					
		5	16	19	30	20	0.025		<p>msd215</p>			PESD5V0L4UF	SOT665	<p>1.6 x 1.2 x 0.55</p>
			85	220	110	30	0.1 (@ 4.3 V)					PESD5V0S4UF		
		3.3	22	28	30	20	0.3	<p>msd215</p>	PESD3V3L4UW	SOT353 (SC-88A)	<p>2 x 1.25 x 0.95</p>			
		5	16	19	30	20	0.025		PESD5V0L4UW					
		3.3	15	18	16	12	0.3		PESD3V3V4UW					
		5	12	15	16	12	0.025		PESD5V0V4UW					
		3	200	240	-	8	2	<p>msd214</p>	BZA856A	SOT457 (SC-74)	<p>2.9 x 1.5 x 1</p>			
		3.3	22	28	30	20	0.3		PESD3V3L4UG					
		5	16	19	30	20	0.025		PESD5V0L4UG					
		3	200	240	-	8	2		BZA456A					
		3.3	215	300	200	30	0.8		PESD3V3S4UD	SOT457 (SC-74)	<p>2.9 x 1.5 x 1</p>			
		5	165	220	200	30	0.2		PESD5V0S4UD					
		15	37	48	-	8	0.1		BZA420A					
		24	40	70	200	23	0.01		PESD24VS4UD					
0	4	5	2.9	3.5	-	10	0.1	<p>dis159</p>	PESD5V0U4BF	DFN1410-6 (SOT886)	<p>1.45 x 1 x 0.5</p>			
			45	75	-	15	0.1	<p>msd159</p>	BZA408B	SOT457 (SC-74)	<p>2.9 x 1.5 x 1.0</p>			
			2.9	3.5	-	10	0.1	<p>dis155</p>	PESD5V0U4BW	SOT665	<p>1.6 x 1.2 x 0.55</p>			
5	4	3.3	20	24	28	15	2	<p>006aaa159</p>	PESD3V3L5UK	DFN1010-6 (SOT891)	<p>1 x 1 x 0.5</p>			
			5	18.5	22	30	20		0.5			PESD5V0L5UK		
		3.3	22	28	25	20	0.3		<p>msd17</p>	PESD3V3L5UF	DFN1410-6 (SOT886)	<p>1.45 x 1 x 0.5</p>		
		5	16	19	25	20	0.025			PESD5V0L5UF				
		3.3	22	28	25	20	0.3	<p>msd17</p>	PESD3V3L5UV	SOT666	<p>1.6 x 1.2 x 0.55</p>			
		5	16	19	25	20	0.025		PESD5V0L5UV					
		3.3	22	28	25	20	0.3		PESD3V3L5UY	SOT363 (SC-88)		<p>2 x 1.25 x 0.95</p>		
		5	16	19	25	20	0.025		PESD5V0L5UY					
		3.3	215	300	200	30	0.8		PESD3V3S5UD	SOT457 (SC-74)	<p>2.9 x 1.5 x 1.0</p>			
		5	165	220	200	30	0.2		PESD5V0S5UD					
24	45	70	200	23	0.015	PESD24VS5UD								
0	5	5	2.9	3.5	-	10	0.1	<p>dis160</p>	PESD5V0U5BF	DFN1410-6 (SOT886)	<p>1.45 x 1 x 0.5</p>			
								<p>dis153</p>	PESD5V0U5BV	SOT666	<p>1.6 x 1.2 x 0.55</p>			

ESD protection, TVS, filtering and signal conditioning

[1] 8 / 20 μs exponential decay waveform according to IEC 61000-4-5 [2] according to IEC 61000-4-5 (contact discharge)



## Audio interface protection

Types in **bold** represent new products

Lines	$V_{RWM}(V)$	$V_{BR\ min}(V)$	$V_{BR\ max}(V)$	$C_D\ typ\ (pF)$	$C_D\ max\ (pF)$	$I_{ppM}\ 8/20\mu s\ (A)$	$V_{CL}\ 8/20\mu s\ @\ I_{ppM}\ (V)$	$V_{ESP}\ (hV)$	Configuration	Type	Package	
1	3.3	4.7		22	30	-	-	30		<b>PESD3V3T1BL</b>	DFN1006-2 (SOD882) 	
	4.5	4.7		65	78	34	13.2	30		PTVS4V5D1BL		
	5	5.5	9.5	35	45	12	14	30		PESD5V0S1BL	DFN1010D-3 (SOT1215) 	
				70	90	28	11.5	30		PESD5V0S2BQA	DFN1006D-2 (SOD882D) 	
				35	45	12	14	30		PESD5V0S1BLD	DFN1006-2 (SOD882) 	
		5.8	7.8	11	13	4.8	12.5	30		PESD5V0V1BL	DFN1006D-2 (SOD882D) 	
				11	13	4.8	12.5	30		PESD5V0V1BLD	DFN1006-2 (SOD882D) 	
		12	14.6	16.8	17	25	7.8	38	30		PESD12VV1BL	DFN1006-3 (SOD882) 
	2	5	5.8	7.8	18	20	9	12.5	30		PESD5V0V2BM	DFN1006-3 (SOT883) 
					18	20	9	12.5	30		PESD5V0V2BMB	DFN1006B-3 (SOT883B) 

## Automotive high-speed network protection

Number of protected lines	$V_{RWM}$ (V)	$C_{line}$ typ (pF)	$I_{RM}$ max (μA)	ESD rating max (kV) [1]	Configuration	Type	Package	Size (mm)
2	5	1	0.1	8		PESD2ETH-X	SOT143B 	2.9 x 1.3 x 1.0
		1.8	0.1	12		PESD2ETH-AX		
2	5	1.3	0.1	8		PESD2ETH-D	SOT457 	2.9 x 1.5 x 1.0
		2	0.1	12		PESD2ETH-AD		
4	5.5	0.6	1 @ 3 V	8		PESD1LVDS	DFN2510-10 (SOT1165) 	2.5 x 1.0 x 0.48
		0.6	1 @ 3 V	8		PRTR5V0U4D	SOT457 	2.9 x 1.5 x 1.0

[1] according to IEC 61000-4-2 (contact discharge)

## Automotive in-vehicle network bus line protection







Number of protected lines bidirectional	$V_{RWM}$ (V)	$C_{line}$ typ (pF)	$C_{line}$ max (pF)	$I_{PPM}$ 8/20μs (A)	$V_{CL}$ 8/20μs @ $I_{PPM}$ (V)	ESD rating max (kV) [2]	$I_r$ max [μA] @ $V_{RWM}$	Configuration	Type	Package	Size (mm)
1	24	14	17	3.5	42	30	0.05		PESD1IVN24-A	SOD323 (SC-76) 	1.7 x 1.25 x 0.95
	27	14	17	3	45	30	0.05		PESD1IVN27-A		
2	24	14	17	3.5	42	30	0.05		PESD2IVN24-T	SOT23 	2.0 x 1.25 x 0.95
	27	14	17	3	45	30	0.05		PESD2IVN27-T		
1	27	14	17	3	45	30	0.05		PESD1IVN27-U	SOT323	2.0 x 1.25 x 0.95
2	24	14	17	3.5	42	30	0.05		PESD2IVN24-U		
	27	14	17	3	45	30	0.05		PESD2IVN27-U		
1	15 (diode 1) 24 (diode 2)	13	17	3 (diode 1) 5 (diode 2)	70 (diode 1) 44 (diode 2)	23	0.05		PESD1LIN	SOD323 (SC-76) 	1.7 x 1.25 x 0.95
2	24	11	17	3	70	23	0.05		PESD1CAN	SOT23	2.9 x 1.3 x 1.0
		25	30	5	41	30	0.01		PESD2CAN		
		11	17	3	70	23	0.05		PESD1FLEX	SOT323	2.0 x 1.25 x 0.95
		9.3	12	3	50	23	0.05		PESD1CAN-U		
1	26.5	8.5	11	3	53	23	0.05		PESD1IVN-U	SOT323	2.0 x 1.25 x 0.95
2									PESD2IVN-U		

[1] 8 / 20 μs surge pulse according to IEC 61000-4-5





[2] according to IEC 61000-4-2 (contact discharge)

ESD protection, TVS, filtering and signal conditioning

## Battery and charger port protection

Number of protected lines	C <sub>line</sub> (pF)	V <sub>RWM</sub> (V)	I <sub>PPM</sub> 8/20μs (A)	Type	Package	Size (mm)
1 x bi	65	4.5	34	PTVS4V5D1BL	DFN1006-2 	1.0 x 0.6 x 0.48
1 x uni	160	12	22.5	PESD12VS1UJ	SOD323F (SC-90) 	1.7 x 1.25 x 0.7
	480	5	22.5	PESD5V0S1UJ		
	160	12	47	PESD12VS1UA	SOD323 (SC-76) 	1.7 x 1.25 x 0.95
	480	5	47	PESD5V0S1UA		
2 x bi	18	5	9	PESD5V0V2BM	DFN1006-3 (SOT883) 	1.0 x 0.6 x 0.48
	18	5	9	PESD5V0V2BMB	DFN1006-3 (SOT883) 	1.0 x 0.6 x 0.37
	35	5	15	PESD5V0S2BQA	DFN1010D-3 (SOT1215) 	1.1 x 1.0 x 0.37

## HDMI and display port protection

Interface	Number of protected lines	C <sub>line</sub> (pF)	Remark	Type	Package	Size (mm)
Display port	4	0.6	ESD protection for ultra high-speed interfaces	IP4283CZ10-TBR	DFN2510A-10 (SOT1176) 	2.5 x 1.0 x 0.48
		0.55	ESD protection for ultra high-speed interfaces	IP4292CZ10-TBR		
		0.5	ESD protection for ultra high-speed interfaces	IP4294CZ10-TBR		
			ESD protection for ultra high-speed interfaces	PHDMI2F4		
		0.27	ESD protection for ultra high-speed interfaces	PHDMI2FR4		
		0.17	ESD protection for ultra high-speed interfaces	PHDMI2AB4		
HDMI	4	0.6	ESD protection for ultra high-speed interfaces	IP4283CZ10-TBR	DFN2510A-10 (SOT1176) 	2.5 x 1.0 x 0.48
		0.55	ESD protection for ultra high-speed interfaces	IP4292CZ10-TBR		
		0.5	ESD protection for HDMI 2.0	PHDMI2F4		
			ESD protection for ultra high-speed interfaces	IP4294CZ10-TBR		
		0.27	ESD protection for ultra high-speed interfaces	PHDMI2FR4		
		0.17	ESD protection for ultra high-speed interfaces	PHDMI2AB4		
LVDS	4	0.8	Very low clamp ESD protection with 12 kV IEC ruggedness	PUSB2X4D	SOT457 (SC-74) 	2.9 x 1.5 x 1.0
		0.8	Very low clamp ESD protection with 12 kV IEC ruggedness	PUSB2X4Y	SOT363 (SC-88) 	2.0 x 1.25 x 0.95

## Antenna protection (NFC, WiFi,...)

Number of protected lines (Bidirectional)	$V_{RWM}$ [V]	$C_{line typ}$ [pF]	$C_{line max}$ [pF]	ESD rating <sup>(1)</sup> max [kV]	Configuration	Type	Package	Size
1	18	0.28	0.45	10		PESD18VF1BSF	DSN0603-2 (SOD962)	0.6 x 0.3 x 0.3
						PESD1NFC-SF		
		0.35	0.5	10		PESD18VF1BL	DFN1006-2 (SOD882)	1.0 x 0.6 x 0.48
						PESD1NFC-L		
	24	0.25	0.4	10		PESD24VF1BSF	DSN0603-2 (SOD962)	0.6 x 0.3 x 0.3
						PESD2NFC-SF		
		0.3	0.45	10		PESD24VF1BL	DFN1006-2 (SOD882)	1.0 x 0.6 x 0.48
						PESD2NFC-L		


<sup>(1)</sup> according to IEC 61000-4-2 (contact discharge)

## USB and SATA protection

Interface	Number of protected lines	$R_{line}$	$C_{line}$ (pF)	Remark	Type	Package	Size (mm)
USB2.0 (Plastic package)	2	-	1.0	ESD protection for up to 2 ultra high-speed datalines	PRTR5V0U2X	SOT143B	2.9 x 1.3 x 1.0
			1.8	ESD protection for up to 2 ultra high-speed datalines with 12 kV ESD robustness	PRTR5V0U2AX		
				ESD protection for up to 2 ultra high-speed datalines	PRTR5V0U2F	DFN1410-6 (SOT886)	1.45 x 1.0 x 0.48
				USB protection for USB OTG with 5.5 V Vbat protection	PUSBM5V5X4-TL	DFN1616-6 (SOT1189)	1.6 x 1.6 x 0.48
			USB protection for USB OTG with 12 V Vbat protection	PUSBM12VX4-TL			
	4		0.8	Very low clamp ESD protection for USB2.0 high-speed with 12 kV IEC ESD protection	PUSB2X4Y	SOT363 (SC-88)	2.0 x 1.25 x 0.95
			1	Very low clamp ESD protection for USB2.0 high-speed with 12 kV IEC ESD protection	PUSB2X4D	SOT457 (SC-74)	2.9 x 1.5 x 1.0
				Dual ESD protection for USB2.0 high-speed, SD-card, SIM card	IP4220CZ6		
				Dual ESD protection for USB2.0 high-speed, SD-card, SIM card	PRTR5V0U4D		







ESD protection, TVS, filtering and signal conditioning

## Common mode filter for USB 2.0

Interface	Number of protected lines	$C_{line}$ (pF)	ESD rating max (kV) <sup>[1]</sup>	Remark	Type	Package	Size (mm)
USB2.0	2	1.5	15	Common Mode filter with ESD protection for high-speed interfaces such as USB 2.0	IP3319CX6	WLCSP6 	1.34 x 0.95 x 0.57




<sup>[1]</sup> according to IEC 61000-4-2 (contact discharge)

## Common mode filter for USB 3.x

Interface	Number of protected line pairs	Type	Differential Mode 3dB Frequency	Common Mode rejection 800 MHz - 10 GHz	$C_d$ typical	$V_{RWM}$	ESD rating	Channel series resistance	Package	Size (mm)
USB3.x	1	PCMF1USB3S	6 GHz	>12	0.3	5	15	3	WLCSP5 	0.8 x 1.2 x 0.5
	2	PCMF2USB3S							WLCSP10 	1.6 x 1.2 x 0.5
	3	PCMF3USB3S							WLCSP15 	2.4 x 1.2 x 0.5
	1	PESD1USB3S	17 GHz	ESD protection only	0.5				WLCSP5 	0.8 x 1.2 x 0.5
	2	PESD2USB3S							WLCSP10 	1.6 x 1.2 x 0.5
	3	PESD3USB3S							WLCSP15 	2.4 x 1.2 x 0.5

<sup>[1]</sup> according to IEC 61000-4-2 (contact discharge)

## Common mode filter for HDMI and MIPI

Interface	Number of protected line pairs unidirectional	Type	Differential Mode 3 dB frequency (typ.)	$C_d$ pF typical	$V_{RWM}$	ESD rating <sup>[1]</sup> max (kV)	Channel series resistance	Package	Size (mm)
HDMI2.0	1	<b>PCMF1HDMI2S</b>	>6 GHz	0.3	5	15	3 Ω	WLCSP5 	0.8 x 1.2 x 0.5
	2	<b>PCMF2HDMI2S</b>						WLCSP10 	1.6 x 1.2 x 0.5
	3	<b>PCMF3HDMI2S</b>						WLCSP15 	2.4 x 1.2 x 0.5

<sup>[1]</sup> according to IEC 61000-4-2 (contact discharge)

## HDMI signal conditioning



Interface	Number of protected lines	Buffer	Level shifter	$C_{line}$ (pF)	Resistor ( $\Omega$ )	LDO	Remark	Type	Package	Size (mm)
HDMI2.0 Tx	13	yes	yes	100 $\Omega$ differential impedance	integrated	-	Fully integrated HDMI source solution with current limiter, buffer, and level shifter for DDC, CEC, and Hot Plug	IP4786CZ32	DFN5050-32 (SOT617)	5.0 x 5.0 x 0.85
							Fully integrated HDMI source solution with enhanced ESD protection, current limiter, buffer, and level shifter for DDC, CEC, and Hot Plug	IP4788CZ32		
SD3.0	6	yes	yes	-	internal	LDO	SD 3.0-compliant memory card with integrated dual voltage-level translator with EMI filter and ESD protection	IP4856CX25/C	WLCSP25	2.4 x 2.4 x 0.4

## LCD and camera RC filter with integrated protection

Number of protected lines	Line small-signal equivalents			Digital interface clock speed (MHz)	Insertion loss S21 ~ -3 dB (MHz)	Type	Package	Size (mm)
	$R_{line}$ ( $\Omega$ )	$C_{line}$ (pF)	$L_{line}$ (nH)					
4	40	18	-	~100	300	IP4252CZ8-4-TTL	DFN1714-8 (SOT1166)	1.7 x 1.35 x 0.52
	100	45	-	~40	130	IP4254CZ8-4-TTL		
8	40	18	-	~100	300	IP4252CZ16-8-TTL	DFN3314-16 (SOT1168)	3.3 x 1.35 x 0.53
	100	45	-	~40	130	IP4254CZ16-8-TTL		
		15	-	~110	330	IP4251CZ16-8-TTL		





## Memory and SIM card filter with integrated protection

Types in **bold** represent new products

Interface	Number of protected lines	Line small-signal equivalents		Digital interface clock speed (MHz)	Remark	Type	Package	Size (mm)	
		$R_{line}$	$C_{line}$ (pF)						
SIM card	3	47 $\Omega$ / 100 $\Omega$	20	~20	Integrated SIM-card EMI filter and ESD protection	IP4264CZ8-20-TTL	DFN1714-8 (SOT1166) 	1.7 x 1.35 x 0.52	
SD 3.0	6	-	0.27	5000	6-line bidirectional ESD protection for ultra high-speed interfaces	<b>PUSB3TB6</b>	DFN2111-7 (SOT1358) 	2.1 x 1.1 x 0.5	
			0.35						<b>PUSB3FR6</b>
			0.15						

## USB 3.x and eSATA protection and filtering for high-speed and super-speed lines

Types in **bold** represent new products

Baseband interface	Number of protected lines	$C_i$ (pF)	ESD rating max (kV)	$R_{sym}$ ( $\Omega$ )	Remark	Type	Package	Size (mm)	
USB3.0 - 5 Gbps	4	0.55	8	0.3 / 0.4	ESD Protection for high-speed interfaces	IP4292CZ10-TBR	DFN2510A-10 (SOT1176) 	2.5 x 1.0 x 0.48	
		0.5	10			IP4294CZ10-TBR			
		0.5	10			PUSB3F96			
		0.5	10			<b>PUSB3F97</b>			
		0.5	10			<b>PUSB3F99</b>			
		0.5	10			<b>PUSB3FA0</b>			
USB3.1 - 10 Gbps	6	0.29	15	0.27	TrEOS Protection	PUSB3FR4	DFN2111-7 (SOT1358) 	2.1 x 1.1 x 0.48	
		0.17	15	0.4		PUSB3AB4			
		0.29	15	0.27		PUSB3FR6			
		0.27	15	0.5		PUSB3TB6			
	1	1	0.15	15	0.4	TrEOS Protection	PUSB3AB6	DSN0603-2 (SOD962) 	0.6 x 0.3 x 0.3
			0.1	10	0.45		PESD5V0R1BSF		
			0.15	15	0.25		PESD5V0H1BSF		
			0.2	20	0.23		PESD5V0C1BSF		
			0.2	20	0.23		PESD3V3C1BSF		
			0.28	20	0.19		PESD5V0C1USF		
			0.45	25	0.11		<b>PESD3V3W1BSF</b>		
			0.45	25	0.11		<b>PESD4V0W1BSF</b>		
			0.45	20	0.1		PESD3V3Z1BSF		
			0.1	10	0.45		<b>PESD7V0R1BSF</b>		
			0.15	15	0.25		<b>PESD7V0H1BSF</b>		
			0.2	20	0.23		<b>PESD7V0C1BSF</b>		
	0.45	20	0.1	<b>PESD6V5C1USF</b>					
	2	2	0.25	15	0.16	Common Mode Filter with TrEOS Protection for ultra high-speed interfaces	PESD1USB3S	WLCSP5 	1.2 x 0.8 x 0.6
			0.25	15	0.14		PCMF1USB3S		

## TVS diodes for mobile applications

Types in **bold** represent new products

$P_{RWM}$ 10/1000µs	$V_{RWM}$	$V_{BR}$ min	$V_{BR}$ max	$I_{PPM}$ 8/20µs	$V_{CL}$ 8/20µs	$I_{PPM}$ 10/1000µs	$V_{CL}$ 10/1000µs	Type	Package	Size
300	4.5	4.7	-	34	13.2	-	-	<b>PTVS4V5D1BL</b>	DFN1006-2 (SOD882)	1.0 x 0.6 x 0.48
	7.5	8.33	9.21	178	19.7	23.3	12.9	PTVS7V5U1UPA	DFN2020-3 (SOT1061)	2.0 x 2.0 x 0.62
	10	11.1	12.3	148	23	17.6	17	PTVS10VU1UPA		
	12	13.3	14.7	131	25.2	15.1	19.9	PTVS12VU1UPA		
	15	16.7	18.5	111	28.8	12.3	24.4	PTVS15VU1UPA		
	18	20	22.1	97	32	10.3	29.2	PTVS18VU1UPA		
	20	22.2	24.5	98.5	38.7	9.2	32.5	<b>PTVS20VU1UPA</b>		
	22	24.4	26.9	88.5	41	8.4	35.5	<b>PTVS22VU1UPA</b>		
	24	26.7	29.5	79	44.2	7.7	38.8	<b>PTVS24VU1UPA</b>		
26	28.9	31.9	69	43.5	7	43	PTVS26VU1UPA			

## TVS diodes for mobile applications

Types in **bold** represent new products

$V_{RWM}$ (V)	$V_{BR}$ min (V)	$V_{BR}$ max (V)	8/20µs pulse		10/1000µs pulse		$I_{RM}$ typ @ $V_{RWM}$ (nA)	$I_{RM}$ max @ $V_{RWM}$ (nA)	$R_{dyn}$ (TLp) - 8/20µs	Type	Package	Size
			$V_{CL}$ @ $I_{PPM}$ 8/20µs (V) max	$I_{PPM}$ 8/20µs (A)	$V_{CL}$ @ $I_{PPM}$ 10/1000µs (V) max	$I_{PPM}$ 10/1000µs (A)						
5	6.4	7.8	19.4	100	12	20	25	1000	0.1	<b>PTVS5V0Z1USKP</b>	DSN1608-2 (SOD964)	1.6 x 0.8 x 0.27
			18	80	12	20	25	1000	0.06	PTVS5V0Z1USK		
7.5	8.33	9.65	22	100	13.5	17	1	200	0.08	PTVS7V5Z1USK		
10	11.1	12.9	27	75	18.2	12.5	0.1	200	0.11	PTVS10VZ1USK		
12	13.3	15.4	29	65	21.8	10.5	0.1	200	0.11	PTVS12VZ1USK		
15	16.7	19.4	36	52	27.4	7.5	0.1	200	0.13	PTVS15VZ1USK		
18	20	23.2	44	41	32.8	6.4	0.1	200	0.17	PTVS18VZ1USK		
20	22.2	25.4	48.3	41	36.9	6	1	200	0.2	PTVS20VZ1USK		
22	24.4	26.9	51	39	40	5	0.1	200	0.2	PTVS22VZ1USK		
26	28.9	33.4	57.5	32	46	4.5	0.1	200	0.15	PTVS26VZ1USK		

ESD protection, TVS, filtering and signal conditioning

## TVS diodes, 24 W/40 W (automotive)


Types in **bold** represent new products

Power (W) / 1000 µs waveform [1]	$V_{RWM}$ (V)	$V_{BR}$ min (V) @ $I_R$	$V_{BR}$ Typ (V) @ $I_R$	$V_{BR}$ max (V) @ $I_R$	$I_R$ (mA)	ESD rating max (kV) [1]	$C_{line}$ Typ (pF)	$V_{CL}$ max (V) @ $I_{PP}$ [1]	$I_{PP}$ (A) [1]	$I_{RM}$ max (µA) @ $V_{RWM}$	Configuration	Type	Package	Size (mm)			
24	3	5.32	5.6	5.88	20	30	210	8	3	5		MMBZ5V6AL	SOT23	2.9 x 1.3 x 1.0			
		5.89	6.2	6.51	1	30	175	8.7	2.76	0.2		MMBZ6V2AL					
	4.5	6.48	6.8	7.14	1	30	150	9.6	2.5	0.3		MMBZ6V8AL					
	6	8.65	9.1	9.56	1	30	155	14	1.7	0.1		MMBZ9V1AL					
	6.5	9.5	10	10.5	1	30	130	14.2	1.7	0.02		MMBZ10VAL					
40	8.5	11.4	12	12.6	1	30	110	17	2.35	0.005					MMBZ12VAL		
		12	14.25	15	15.75	1	30	85	21	1.9					0.005		MMBZ15VAL
		13	15.2	16	16.8	1	30	76	23	1.9					0.005		<b>MMBZ16VAL</b>
	13	15.68	16	16.32	1	30	76	23	1.9	0.005					<b>MMBZ16VTAL</b>		
	14.5	17.1	18	18.9	1	30	70	25	1.6	0.005					MMBZ18VAL		
	17	19	20	21	1	30	65	28	1.4	0.005	MMBZ20VAL						
	22	25.65	27	28.35	1	30	48	40	1	0.005	MMBZ27VAL						
	26	31.35	33	34.65	1	30	45	46	0.87	0.005	MMBZ33VAL						
	8.5	11.4	12	12.6	1	30	110	17	2.35	0.005	MMBZ12VDL						
			12.8	14.3	15	15.8	1	30	85	21.2	1.9		0.005	MMBZ15VDL			
		14.5	17.1	18	18.9	1	30	70	25	1.6	0.005		MMBZ18VCL				
		17	19	20	21	1	30	65	28	1.4	0.005		MMBZ20VCL				
		22	25.65	27	28.35	1	30	48	38	1	0.005		MMBZ27VCL				
		26	31.35	33	34.65	1	30	45	46	0.87	0.005		MMBZ33VCL				



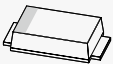
# Transient voltage surge suppressor (TVS)

## TVS diodes, 400 W

Power (W) (10/1000 µs waveform) <sup>[1]</sup>	V <sub>RWM</sub> (V)	V <sub>BR</sub> min (V) @ I <sub>R</sub>	V <sub>BR</sub> typ (V) @ I <sub>R</sub>	V <sub>BR</sub> max (V) @ I <sub>R</sub>	I <sub>R</sub> (mA)	V <sub>CL</sub> max (V) @ I <sub>PP</sub> <sup>[1]</sup>	I <sub>PP</sub> (A) <sup>[1]</sup>	I <sub>RM</sub> typ (µA) @ V <sub>RWM</sub>	I <sub>RM</sub> max (µA) @ V <sub>RWM</sub>	Type (T <sub>J</sub> max = 150 °C)	Type (T <sub>J</sub> max = 185 °C)	Package	Size (mm)
350	3.5	5.20	5.60	6.00	10	8.0	43.8	5	600	PTVS3V3S1UR	PTVS3V3S1UTR		
400	5.0	6.40	6.70	7.00	10	9.2	43.5	5	400	PTVS5V0S1UR	PTVS5V0S1UTR		
	6.0	6.67	7.02	7.37	10	10.3	38.8	5	400	PTVS6V0S1UR	PTVS6V0S1UTR		
	6.5	7.22	7.60	7.98	10	11.2	35.7	5	250	PTVS6V5S1UR	PTVS6V5S1UTR		
	7.0	7.78	8.20	8.60	10	12.0	33.3	3	100	PTVS7V0S1UR	PTVS7V0S1UTR		
	7.5	8.33	8.77	9.21	1	12.9	31.0	0.2	50	PTVS7V5S1UR	PTVS7V5S1UTR		
	8.0	8.89	9.36	9.83	1	13.6	29.4	0.03	25	PTVS8V0S1UR	PTVS8V0S1UTR		
	8.5	9.44	9.92	10.40	1	14.4	27.8	0.01	10	PTVS8V5S1UR	PTVS8V5S1UTR		
	9.0	10.00	10.55	11.10	1	15.4	26.0	0.005	5	PTVS9V0S1UR	PTVS9V0S1UTR		
	10	11.10	11.70	12.30	1	17.0	23.5	0.005	2.5	PTVS10VS1UR	PTVS10VS1UTR		
	11	12.20	12.85	13.50	1	18.2	22.0	0.005	2.5	PTVS11VS1UR	PTVS11VS1UTR		
	12	13.30	14.00	14.70	1	19.9	20.1	0.005	2.5	PTVS12VS1UR	PTVS12VS1UTR		
	13	14.40	15.15	15.90	1	21.5	18.6	0.001	0.1	PTVS13VS1UR	PTVS13VS1UTR		
	14	15.60	16.40	17.20	1	23.2	17.2	0.001	0.1	PTVS14VS1UR	PTVS14VS1UTR		
	15	16.70	17.60	18.50	1	24.4	16.4	0.001	0.1	PTVS15VS1UR	PTVS15VS1UTR		
	16	17.80	18.75	19.70	1	26.0	15.4	0.001	0.1	PTVS16VS1UR	PTVS16VS1UTR		
	17	18.90	19.90	20.90	1	27.6	14.5	0.001	0.1	PTVS17VS1UR	PTVS17VS1UTR		
	18	20.00	21.00	22.10	1	29.2	13.7	0.001	0.1	PTVS18VS1UR	PTVS18VS1UTR	SOD123W	2.6 x 1.7 x 1.0
	20	22.20	23.35	24.50	1	32.4	12.3	0.001	0.1	PTVS20VS1UR	PTVS20VS1UTR		
	22	24.40	25.60	26.90	1	35.5	11.3	0.001	0.1	PTVS22VS1UR	PTVS22VS1UTR		
	24	26.70	28.10	29.50	1	38.9	10.3	0.001	0.1	PTVS24VS1UR	PTVS24VS1UTR		
	26	28.90	30.40	31.90	1	42.1	9.5	0.001	0.1	PTVS26VS1UR	PTVS26VS1UTR		
	28	31.10	32.80	34.40	1	45.4	8.8	0.001	0.1	PTVS28VS1UR	PTVS28VS1UTR		
	30	33.30	35.10	36.80	1	48.4	8.3	0.001	0.1	PTVS30VS1UR	PTVS30VS1UTR		
	33	36.70	38.70	40.60	1	53.3	7.5	0.001	0.1	PTVS33VS1UR	PTVS33VS1UTR		
36	40.00	42.10	44.20	1	58.1	6.9	0.001	0.1	PTVS36VS1UR	PTVS36VS1UTR			
40	44.40	46.80	49.10	1	64.5	6.2	0.001	0.1	PTVS40VS1UR	PTVS40VS1UTR			
43	47.80	50.30	52.80	1	69.4	5.8	0.001	0.1	PTVS43VS1UR	PTVS43VS1UTR			
45	50.00	52.65	55.30	1	72.7	5.5	0.001	0.1	PTVS45VS1UR	PTVS45VS1UTR			
48	53.30	56.10	58.90	1	77.4	5.2	0.001	0.1	PTVS48VS1UR	PTVS48VS1UTR			
51	56.70	59.70	62.70	1	82.4	4.9	0.001	0.1	PTVS51VS1UR	PTVS51VS1UTR			
54	60.00	63.15	66.30	1	87.1	4.6	0.001	0.1	PTVS54VS1UR	PTVS54VS1UTR			
58	64.40	67.80	71.20	1	93.6	4.3	0.001	0.1	PTVS58VS1UR	PTVS58VS1UTR			
60	66.70	70.20	73.70	1	96.8	4.1	0.001	0.1	PTVS60VS1UR	PTVS60VS1UTR			
64	71.10	74.85	78.60	1	103.0	3.9	0.001	0.1	PTVS64VS1UR	PTVS64VS1UTR			

<sup>[1]</sup> 10 / 1000 µs according to IEC 61643-321

TVS diodes, 600W

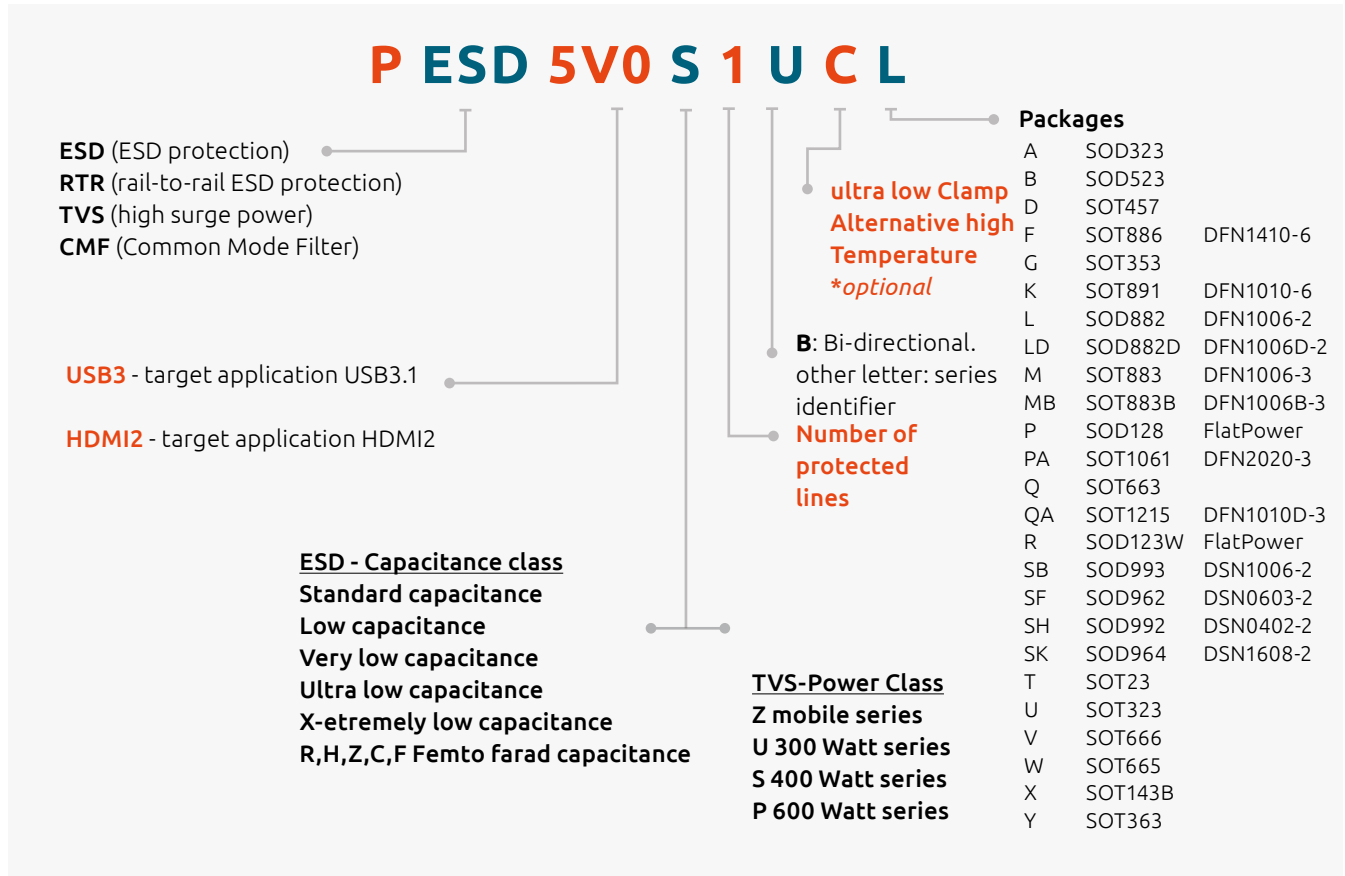
Power (W) (10 / 1000 µs waveform) <sup>(1)</sup>	V <sub>RWM</sub> (V)	V <sub>BR</sub> min (V) @ I <sub>R</sub>	V <sub>BR</sub> typ (V) @ I <sub>R</sub>	V <sub>BR</sub> max (V) @ I <sub>R</sub>	I <sub>R</sub> (mA)	V <sub>CL</sub> max (V) @ I <sub>PP</sub> <sup>(1)</sup>	I <sub>PP</sub> (A) <sup>(1)</sup>	I <sub>RM</sub> typ (µA) @ V <sub>RWM</sub>	I <sub>RM</sub> max (µA) @ V <sub>RWM</sub>	Type (T <sub>J</sub> max = 150 °C)	Type (T <sub>J</sub> max = 185 °C)	Package	Size (mm)
600	3.5	5.20	5.60	6.00	10	8	75	5	600	PTVS3V3P1UP	PTVS3V3P1UTP		3.8 x 2.6 x 1.0
	5	6.40	6.70	7.00	10	9.2	65.2	5	400	PTVS5V0P1UP	PTVS5V0P1UTP		
	6	6.67	7.02	7.37	10	10.3	58.3	5	400	PTVS6V0P1UP	PTVS6V0P1UTP		
	6.5	7.22	7.60	7.98	10	11.2	53.6	5	250	PTVS6V5P1UP	PTVS6V5P1UTP		
	7	7.78	8.20	8.60	10	12	50	3	100	PTVS7V0P1UP	PTVS7V0P1UTP		
	7.5	8.33	8.77	9.21	1	12.9	46.5	0.2	50	PTVS7V5P1UP	PTVS7V5P1UTP		
	8	8.89	9.36	9.83	1	13.6	44.1	0.03	25	PTVS8V0P1UP	PTVS8V0P1UTP		
	8.5	9.44	9.92	10.40	1	14.4	41.7	0.01	10	PTVS8V5P1UP	PTVS8V5P1UTP		
	9	10.00	10.55	11.10	1	15.4	39	0.005	5	PTVS9V0P1UP	PTVS9V0P1UTP		
	10	11.10	11.70	12.30	1	17	35.3	0.005	2.5	PTVS10VP1UP	PTVS10VP1UTP		
	11	12.20	12.85	13.50	1	18.2	33	0.005	2.5	PTVS11VP1UP	PTVS11VP1UTP		
	12	13.30	14.00	14.70	1	19.9	30.2	0.005	2.5	PTVS12VP1UP	PTVS12VP1UTP		
	13	14.40	15.15	15.90	1	21.5	27.9	0.001	0.1	PTVS13VP1UP	PTVS13VP1UTP		
	14	15.60	16.40	17.20	1	23.2	25.9	0.001	0.1	PTVS14VP1UP	PTVS14VP1UTP		
	15	16.70	17.60	18.50	1	24.4	24.6	0.001	0.1	PTVS15VP1UP	PTVS15VP1UTP		
	16	17.80	18.75	19.70	1	26	23.1	0.001	0.1	PTVS16VP1UP	PTVS16VP1UTP		
	17	18.90	19.90	20.90	1	27.6	21.7	0.001	0.1	PTVS17VP1UP	PTVS17VP1UTP		
	18	20.00	21.00	22.10	1	29.2	20.5	0.001	0.1	PTVS18VP1UP	PTVS18VP1UTP		
	20	22.20	23.35	24.50	1	32.4	18.5	0.001	0.1	PTVS20VP1UP	PTVS20VP1UTP		
	22	24.40	25.60	26.90	1	35.5	16.9	0.001	0.1	PTVS22VP1UP	PTVS22VP1UTP		
	24	26.70	28.10	29.50	1	38.9	15.4	0.001	0.1	PTVS24VP1UP	PTVS24VP1UTP		
	26	28.90	30.40	31.90	1	42.1	14.2	0.001	0.1	PTVS26VP1UP	PTVS26VP1UTP		
	28	31.10	32.80	34.40	1	45.4	13.2	0.001	0.1	PTVS28VP1UP	PTVS28VP1UTP		
	30	33.30	35.10	36.80	1	48.4	12.4	0.001	0.1	PTVS30VP1UP	PTVS30VP1UTP		
33	36.70	38.70	40.60	1	53.3	11.3	0.001	0.1	PTVS33VP1UP	PTVS33VP1UTP			
36	40.00	42.10	44.20	1	58.1	10.3	0.001	0.1	PTVS36VP1UP	PTVS36VP1UTP			
40	44.40	46.80	49.10	1	64.5	9.3	0.001	0.1	PTVS40VP1UP	PTVS40VP1UTP			
43	47.80	50.30	52.80	1	69.4	8.6	0.001	0.1	PTVS43VP1UP	PTVS43VP1UTP			
45	50.00	52.65	55.30	1	72.7	8.3	0.001	0.1	PTVS45VP1UP	PTVS45VP1UTP			
48	53.30	56.10	58.90	1	77.4	7.8	0.001	0.1	PTVS48VP1UP	PTVS48VP1UTP			
51	56.70	59.70	62.70	1	82.4	7.3	0.001	0.1	PTVS51VP1UP	PTVS51VP1UTP			
54	60.00	63.15	66.30	1	87.1	6.9	0.001	0.1	PTVS54VP1UP	PTVS54VP1UTP			
58	64.40	67.80	71.20	1	93.6	6.4	0.001	0.1	PTVS58VP1UP	PTVS58VP1UTP			
60	66.70	70.20	73.70	1	96.8	6.2	0.001	0.1	PTVS60VP1UP	PTVS60VP1UTP			
64	71.10	74.85	78.60	1	103	5.8	0.001	0.1	PTVS64VP1UP	PTVS64VP1UTP			

ESD protection, TVS, filtering and signal conditioning

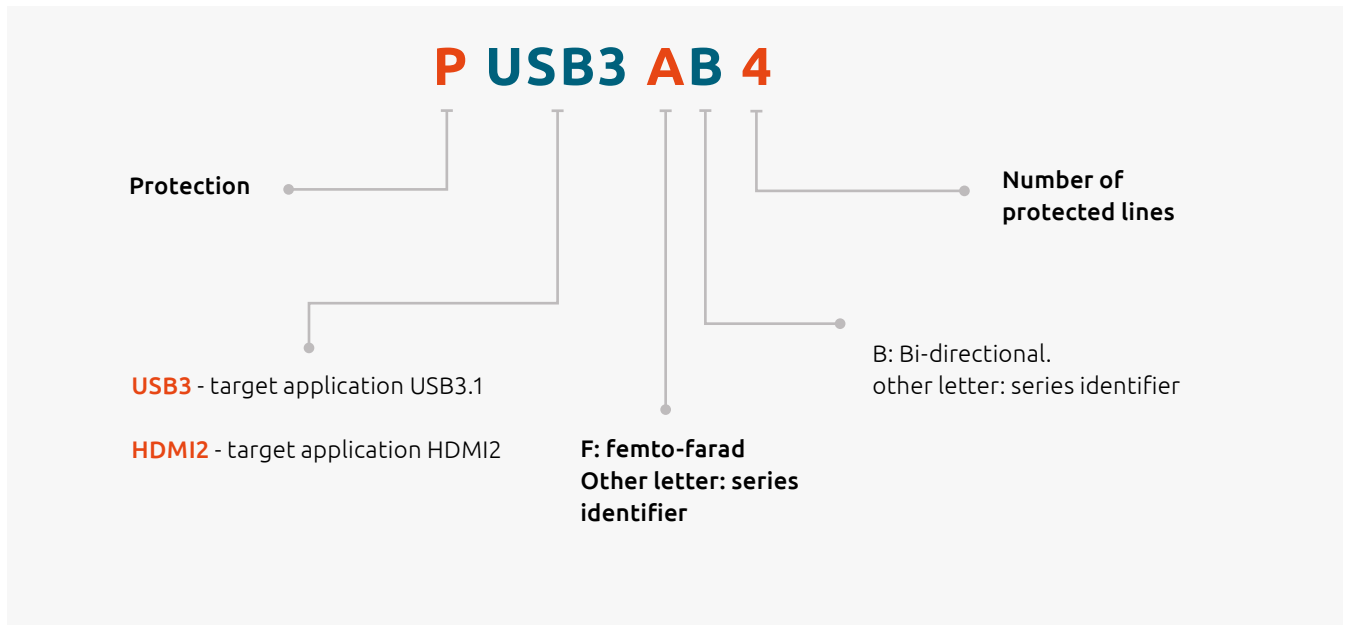
<sup>(1)</sup> 10 / 1000 µs according to IEC 61643-321

## Nomenclatures

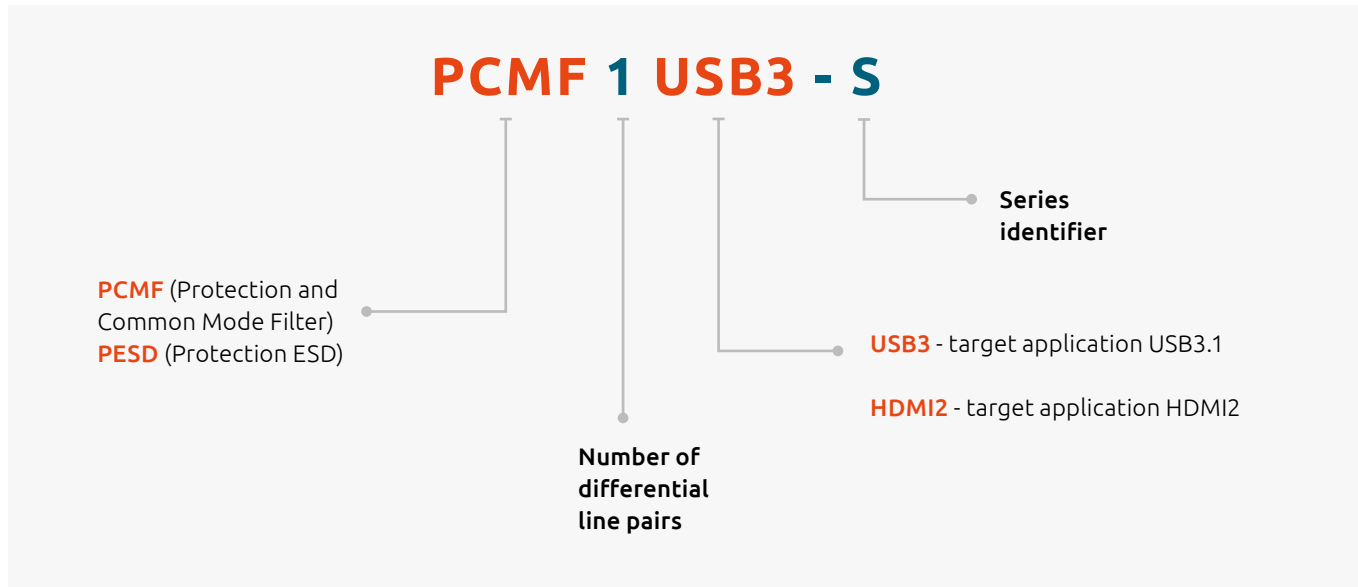
### Nomenclature - protection devices



### Nomenclature - application specific ESD protection



## Nomenclature - common mode filter with ESD protection

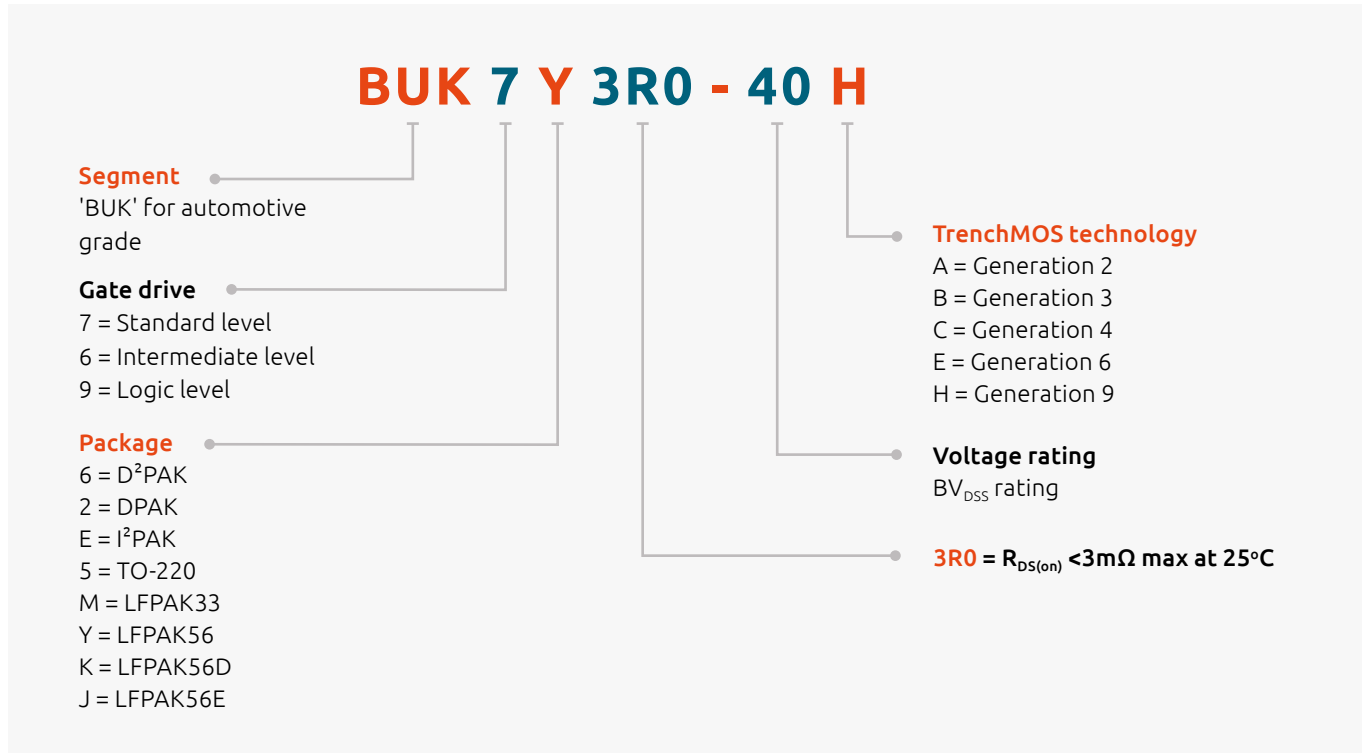


ESD protection, TVS, filtering and signal conditioning



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## Automotive grade MOSFETs nomenclature










## N-channel 30V automotive power MOSFETs

Package name	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ 5 V (mΩ)	I <sub>D</sub> [max] @ 25 °C (A)	R <sub>th(j-mb)</sub> [max] (K/W)
D <sup>2</sup> PAK (SOT404)	BUK962R8-30B	30	2.4	2.8	75	0.5
	BUK762R7-30B	30	2.7		75	0.5
	BUK763R4-30B	30	3.4		75	0.59
	BUK9607-30B	30	5	7	75	0.95
	BUK7607-30B	30	7		75	0.95
LFPAK56; Power-SO8 (SOT669)	BUK9Y07-30B	30	6	7	75	1.42
	BUK7Y07-30B	30	7		75	1.42
	BUK9Y11-30B	30	9	11	59	2
	BUK7Y10-30B	30	10		67	1.76
	BUK9Y22-30B	30	19	22	37.7	2.53
	BUK7Y20-30B	30	20		39.5	2.53
LFPAK56D (SOT1205)	BUK9K5R1-30E	30	4.4	5.3	40	2.21
	BUK9K5R6-30E	30	4.7	5.8	40	2.36
	BUK7K5R1-30E	30	5.1		40	2.21
	BUK7K5R6-30E	30	5.6		40	2.36
LFPAK33 (SOT1210)	BUK9M5R2-30E	30	4.1	5.2	70	1.89
	BUK9M6R6-30E	30	5.3	6.6	70	2
	BUK9M10-30E	30	7.8	10	54	2.75
	BUK9M17-30E	30	14	17	37	3.4

## N-channel 40V automotive power MOSFETs

Types in **bold** represent new products

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)	
TO-220AB (SOT78)		BUK751R8-40E	40	1.8		120	0.43
		BUK752R3-40E	40	2.3		120	0.51
		BUK753R1-40E	40	3.1		100	0.64
		BUK758R3-40E	40	7.4		75	1.56
D <sup>2</sup> PAK (SOT404)		BUK961R6-40E	40	1.4	1.6	120	0.43
		BUK761R6-40E	40	1.6		120	0.43
		BUK761R7-40E	40	1.6		120	0.46
		BUK762R0-40E	40	2		120	0.51
		BUK962R6-40E	40	2.4	2.8	100	0.57
		BUK762R6-40E	40	2.6		100	0.57
		BUK963R1-40E	40	2.7	3.1	100	0.64
		BUK762R9-40E	40	2.9		100	0.64
		BUK964R1-40E	40	3.5	4.1	75	0.82
		BUK764R0-40E	40	4		75	0.82
		BUK965R4-40E	40	4.4	5.4	75	1.09
		BUK765R3-40E	40	4.9		75	1.09
DPAK (SOT428)		BUK9209-40B	40	7	9	75	0.95
		BUK7208-40B	40	8		75	0.95
I <sup>2</sup> PAK (SOT226)		BUK7E1R8-40E	40	1.8		120	0.43
		BUK7E1R9-40E	40	1.9		120	0.46
		BUK7E2R3-40E	40	2.3		120	0.51
		BUK7E3R1-40E	40	3.1		100	0.64
		BUK7E8R3-40E	40	7.4		75	1.56
LFP56E (SOT1023)		<b>BUK7J1R4-40H</b>	40	1.4		120	0.38
LFP56; Power-SO8 (SOT669)		<b>BUK7Y1R7-40H</b>	40	1.7		120	0.51
		<b>BUK7Y2R0-40H</b>	40	2		120	0.69
		<b>BUK7Y2R5-40H</b>	40	2.5		120	0.79
		<b>BUK7Y3R0-40H</b>	40	3		120	0.87
		BUK9Y3R0-40E	40	2.5	3	100	0.77
		BUK7Y3R5-40E	40	3.5		100	0.9
		BUK9Y3R5-40E	40	3.6	3.8	100	0.9
		BUK9Y4R4-40E	40	3.7	4.4	100	1.02
		BUK7Y4R4-40E	40	4.4		100	1.02
		BUK9Y7R6-40E	40	6	7.6	79	1.58
		BUK7Y7R6-40E	40	7.6		79	1.58
		BUK9Y12-40E	40	10	12	52	2.31
		BUK7Y12-40E	40	12		52	2.31
		BUK9Y21-40E	40	17	21	33	3.33
		BUK7Y21-40E	40	21		33	3.33
		BUK9Y29-40E	40	25	29	25	4.03
		BUK7Y29-40E	40	29		26	4.03
LFP56D (SOT1205)		BUK7K6R2-40E	40	5.8		40	2.21
		BUK9K6R2-40E	40	6	6.2	40	2.21
		BUK9K6R8-40E	40	6.1	7.2	40	2.36
		BUK7K6R8-40E	40	6.8			2.36
		BUK9K8R7-40E	40	8	9.4	30	2.84
		BUK7K8R7-40E	40	8.5			2.84
		BUK9K18-40E	40	16	20	30	3.96
		BUK7K18-40E	40	19		24.2	3.96
		BUK9K25-40E	40	24	29	18.2	4.68
		BUK7K25-40E	40	25			4.68



## N-channel 40V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
LFPAK33 (SOT1210)	BUK7M6R3-40E	40	6.3		70	1.89
	BUK7M8R0-40E	40	8		69	2
	BUK7M10-40E	40	10		56	2.43
	BUK7M12-40E	40	12		48	2.75
	BUK7M21-40E	40	21		33	3.4
	BUK7M45-40E	40	45		19	4.8
	BUK9M14-40E	40	11	14	44	2.75
	BUK9M24-40E	40	20	24	30	3.4
	BUK9M52-40E	40	40	52	17.6	4.8
	BUK9M7R2-40E	40	5.8	7.2	70	1.89
	BUK9M9R1-40E	40	7.3	9.1	64	2
	BUK9M11-40E	40	9	11	53	2.43

## N-channel 55V-60V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
TO-220AB (SOT78)	BUK953R5-60E	60	3.4	3.7	120	0.51
	BUK954R8-60E	60	4.5	4.9	100	0.64
D2PAK (SOT404)	BUK7610-55AL	55	10		75	0.5
	BUK9620-55A	55	18	20	54	1.2
	BUK7620-55A	55	20		54	1.2
	BUK9624-55A	55	22	24	46	1.4
	BUK7624-55A	55	24		47	1.4
	BUK9628-55A	55	25	28	42	1.5
	BUK7628-55A	55	28		42	1.5
	BUK9635-55A	55	32	35	34	1.8
	BUK7635-55A	55	35		35	1.7
	BUK9675-55A	55	68	75	20	2.4
	BUK7675-55A	55	75		20.3	2.4
D <sup>2</sup> PAK (SOT404)	BUK962R5-60E	60	2.3	2.5	120	0.43
	BUK762R4-60E	60	2.4		120	0.43
	BUK962R8-60E	60	2.5	2.8	120	0.46
	BUK762R6-60E	60	2.6		120	0.46
	BUK963R3-60E	60	3	3.3	120	0.51
	BUK763R1-60E	60	3.1		120	0.51
	BUK964R2-60E	60	3.9	4.2	100	0.57
	BUK763R9-60E	60	3.9		100	0.57
	BUK964R8-60E	60	4.4	4.8	100	0.64
	BUK764R4-60E	60	4.5		100	0.64
	BUK966R5-60E	60	5.9	6.5	75	0.82
	BUK766R0-60E	60	6		75	0.82
	BUK969R0-60E	60	8	9	75	1.09
	BUK768R3-60E	60	8.3		75	1.09
	BUK9614-60E	60	13	14	56	1.56
BUK7613-60E	60	13		58	1.56	

## N-channel 55V-60V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
DPAK (SOT428)	BUK9212-55B	55	10	12	75	0.95
	BUK7210-55B	55	10		75	0.95
	BUK7212-55B	55	12		75	0.95
	BUK9215-55A	55	14	15	62	1.3
	BUK7215-55A	55	15		62	1.3
	BUK9219-55A	55	18	19	55	1.3
	BUK7219-55A	55	19		55	1.3
	BUK9222-55A	55	20	22	48	1.5
	BUK9225-55A	55	22	25	43	1.6
DPAK (SOT428)	BUK7222-55A	55	22		48	1.5
	BUK7225-55A	55	25		43	1.6
	BUK9230-55A	55	27	30	38	1.7
	BUK7230-55A	55	30		38	1.7
	BUK9237-55A	55	33	37	32	1.94
	BUK7237-55A	55	37		32.3	1.9
	BUK9245-55A	55	40	45	28	2.1
	BUK9277-55A	55	69	77	18	2.93
	BUK7277-55A	55	77		18	2.9
	BUK92150-55A	55	125	140	11	4.1
	BUK72150-55A	55	150		11	4.1
	IPAK (SOT226)	BUK7E2R6-60E	60	2.6		120
BUK7E3R5-60E		60	3.5		120	0.51
BUK7E4R6-60E		60	4.6		100	0.64
BUK7E13-60E		60	13		58	1.56
LFPAK56; Power-SO8 (SOT669)	BUK9Y4R8-60E	60	4.1	4.8	100	0.63
	BUK7Y4R8-60E	60	4.8		100	0.63
	BUK9Y6R0-60E	60	5.2	6	100	0.77
	BUK9Y7R2-60E	60	5.6	7.2	100	0.9
	BUK7Y6R0-60E	60	6		100	0.77
	BUK7Y7R2-60E	60	7.2		100	0.9
	BUK9Y8R7-60E	60	7.5	8.7	86	1.02
	BUK7Y8R7-60E	60	8.7		87	1.02
	BUK9Y15-60E	60	13	15	53	1.58
	BUK7Y15-60E	60	15		53	1.59
	BUK9Y25-60E	60	22	25	34	2.31
	BUK7Y25-60E	60	25		34	2.31
	BUK9Y43-60E	60	38	43	22	3.33
	BUK7Y43-60E	60	43		22	3.33
	BUK9Y59-60E	60	52	59	16.7	4.03
	BUK7Y59-60E	60	59		17	4.03






## N-channel 55V-60V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
LFPAK56D (SOT1205)	BUK7K12-60E	60	9.3			2.21
	BUK7K13-60E	60	10		40	2.36
	BUK9K12-60E	60	11	12	35	2.21
	BUK9K13-60E	60	12	13	40	2.36
	BUK7K17-60E	60	14		30	2.84
	BUK9K17-60E	60	16	17	26	2.84
	BUK7K35-60E	60	30		20.7	3.96
	BUK9K35-60E	60	32	35	22	3.96
	BUK7K52-60E	60	45		15.4	4.68
	BUK9K52-60E	60	49	55	16	4.68
LFPAK33 (SOT1210)	BUK7M9R9-60E	60	9.9		60	1.89
	BUK9M12-60E	60	11	12	54	1.89
	BUK7M12-60E	60	12		53	2
	BUK9M15-60E	60	13	15	47	2
	BUK7M15-60E	60	15		43	2.43
	BUK9M19-60E	60	17	19	38	2.43
	BUK7M19-60E	60	19		36	2.75
	BUK9M24-60E	60	21	24	32	2.75
	BUK7M33-60E	60	33			3.4
	BUK9M42-60E	60	37	42	22	3.4
	BUK7M42-60E	60	42		20	4.17
	BUK9M53-60E	60	46	53	17	4.17
	BUK7M67-60E	60	67		14	4.8
	BUK9M85-60E	60	73	85	12.8	4.8
SOT223	BUK9832-55A/CU	55	29	32		
	BUK9880-55A/CU	55	73	80		
	BUK7880-55A/CU	55	80			
	BUK98150-55A/CU	55	137	150		
	BUK78150-55A/CU	55	150			

## N-channel 75V-80V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
TO-220AB (SOT78)	BUK753R8-80E	80	4		120	0.43
D <sup>2</sup> PAK (SOT404)	BUK7613-75B	75	13		75	0.95
	BUK9616-75B	75	14	16	67	0.95
	BUK7623-75A	75	23		53	1.1
	BUK763R8-80E	80	3.8		120	0.43
	BUK964R2-80E	80	4	4.2	120	0.43
	BUK764R2-80E	80	4.2		120	0.46
	BUK964R7-80E	80	4.5	4.7	120	0.46
	BUK769R6-80E	80	9.6		75	0.82
DPAK (SOT428)	BUK9611-80E	80	10	11	75	0.82
	BUK7214-75B	75	14		69	0.95
	BUK9217-75B	75	15	17	64	0.95
	BUK9226-75A	75	25	26	45	1.3
LFPAK56; Power-SO8 (SOT669)	BUK7226-75A	75	26		45	1
	BUK7Y7R8-80E	80	7.8		100	0.63
	BUK9Y8R5-80E	80	8	8.5	100	0.63
	BUK7Y9R9-80E	80	9.9		89	0.77
	BUK9Y11-80E	80	10	11	84	0.77
	BUK9Y14-80E	80	14	15	62	1.02
	BUK7Y14-80E	80	14		65	1.02
	BUK9Y25-80E	80	25	27	37	1.58
	BUK7Y25-80E	80	25		39	1.58
	BUK9Y41-80E	80	41	45	24	2.33
	BUK7Y41-80E	80	41		25	2.31
	BUK9Y72-80E	80	72	78	15	3.33
	BUK7Y72-80E	80	72		16	3.33
	BUK9Y107-80E	80	98	107	11.8	4.03
LFPAK56D (SOT1205)	BUK7Y98-80E	80	98		12.3	4.03
	BUK7K15-80E	80	15		23	2.21
	BUK7K17-80E	80	17		21	2.36
	BUK7K23-80E	80	23		17	2.21
	BUK9K20-80E	80	17	19	23	2.84
	BUK9K22-80E	80	19	22	21	2.36
LFPAK33 (SOT1210)	BUK9K30-80E	80	26	30	17	2.84
	BUK7M17-80E	80	17		43	1.89
	BUK9M23-80E	80	20	23	37	1.89
	BUK7M22-80E	80	22		37	2
	BUK7M27-80E	80	27		30	2.43
	BUK9M28-80E	80	28	28	33	2
	BUK9M35-80E	80	35	35	26	2.43

## N-channel 100V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)	
TO-220AB (SOT78)		BUK755R4-100E	100	5.2		120	0.43
		BUK765R0-100E	100	5		120	0.43
D <sup>2</sup> PAK (SOT404)		BUK965R8-100E	100	5.6	5.8	120	0.43
		BUK768R1-100E	100	8.1		100	0.57
		BUK969R3-100E	100	8.9	9.3	100	0.57
		BUK7613-100E	100	13		72	0.82
		BUK9615-100E	100	14	15	66	0.82
		BUK7631-100E	100	31		34	1.56
		BUK9637-100E	100	36	37	31	1.56
		BUK9660-100A	100	58	60	26	1.4
		BUK7660-100A	100	60		26	1.4
		BUK9675-100A	100	72	75	23	1.5
		BUK7675-100A	100	75		23	1.5
		BUK96180-100A	100	173	180	11	2.8
		DPAK (SOT428)		BUK7227-100B	100	27	
BUK9230-100B	100			28	30	47	0.95
BUK9240-100A	100			39	40	33	1.3
BUK7240-100A	100			40		34	1.3
BUK9275-100A	100			72	75	21.7	1.7
BUK7275-100A	100			75		21.7	1.7
i <sup>2</sup> PAK (SOT226)		BUK7E5R2-100E	100	5.2		120	0.43
LFPAK56; Power-SO8 (SOT669)		BUK9Y12-100E	100	12	12	85	0.63
		BUK7Y12-100E	100	12		85	0.63
		BUK9Y15-100E	100	15	15	69	0.77
		BUK7Y15-100E	100	15		68	0.77
		BUK9Y19-100E	100	18	19	56	0.9
		BUK7Y19-100E	100	19		56	0.9
		BUK9Y22-100E	100	22	22	49	1.02
		BUK7Y22-100E	100	22		49	1.02
		BUK9Y38-100E	100	38	38	30	1.58
		BUK7Y38-100E	100	38		30	1.58
		BUK9Y65-100E	100	64	65	19	2.31
		BUK7Y65-100E	100	65		19	2.31
		BUK9Y113-100E	100	110	113	12	3.33
		BUK7Y113-100E	100	113		12	3.33
		BUK9Y153-100E	100	146	153	9.4	4.03
BUK7Y153-100E	100	153		9.4	4.03		

## N-channel 100V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
LFPAK56D (SOT1205)	BUK7K29-100E	100	25		29.5	2.21
	BUK9K29-100E	100	27	29	30	2.21
	BUK7K32-100E	100	28		29	2.36
	BUK9K32-100E	100	31	33	26	2.36
	BUK7K45-100E	100	38		21.4	2.84
	BUK9K45-100E	100	42	45	21	2.84
	BUK7K89-100E	100	83		13	3.96
	BUK9K89-100E	100	85	89	12.5	3.96
	BUK7K134-100E	100	121		9.8	4.68
	BUK9K134-100E	100	154	159	8.5	4.68
LFPAK33 (SOT1210)	BUK9M34-100E	100	34	34	29	1.89
	BUK9M43-100E	100	43	44	26	1.88
	BUK9M120-100E	100	119	120	11.5	3.4
	BUK9M156-100E	100	150	156	9.3	4.17
SOT223	BUK98180-100A/CU	100	173	180	4.6	
	BUK9875-100A/CU	101	72	75	7	

## P-channel 30V-60V automotive power MOSFETs

Types in **bold red** are in development

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
LFPAK56	<b>BUK6Y12-30P</b>	<b>30</b>	<b>12</b>	<b>67.3</b>	<b>1.4</b>
	<b>BUK6Y20-30P</b>	<b>30</b>	<b>20</b>	<b>41.1</b>	<b>2.3</b>
	<b>BUK6Y15-40P</b>	<b>40</b>	<b>15</b>	<b>63.1</b>	<b>1.4</b>
	<b>BUK6Y25-40P</b>	<b>40</b>	<b>25</b>	<b>39.4</b>	<b>2.3</b>
	<b>BUK6Y32-60P</b>	<b>60</b>	<b>32</b>	<b>38.7</b>	<b>1.4</b>
	<b>BUK6Y57-60P</b>	<b>60</b>	<b>57</b>	<b>22.7</b>	<b>2.3</b>

Small-signal automotive MOSFETs – Low  $R_{DS(on)}$

Package											
Size (mm)											
P <sub>tot</sub> (mW)											
Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =				
							10 V	4.5 V	2.5 V	1.8 V	
N-channel	20	8	4.7	0.45	1	2	-	24	29	40	
			2	0.45	1	2	-	57	64	78	
			2.8	0.4	1	2	-	64	78	110	
		12	12.9	0.4	0.9	2	-	10	12	16	
			11.4	0.4	0.9	2	-	12	15	20	
			6.3	0.75	1.25	2	-	16	24	-	
	30	12	11.3	0.4	0.9	2	-	13	14	17	
			5	0.4	0.9	2	-	28	32	37	
			4	0.75	1.25	2	-	55	72	-	
		20	0.9	0.75	1.25	2	-	212	269	-	
			5.5	1	2.5	2	17	22	-	-	
			3.9	1	2.5	2	30	39	-	-	
	40	15	7	1.4	2.1	0.5	-	18	22	-	
			19	1	2	-	-	23	-	-	
		20	7	2.4	4	0.5	19	-	-	-	
			2.7	1	2.5	1	64	79	-	-	
			2.5	1	2.5	1	95	120	-	-	
			19	1.3	2.7	-	23	30	-	-	
	60	20	19	2.4	4	-	25	-	-	-	
			5	1.3	2.7	0.5	32	38	-	-	
			4	1.3	2.7	2	42	49	-	-	
			3.1	1.3	2.7	2	46	52	-	-	
			3	1.3	2.7	2	72	85	-	-	
			2.1	1.3	2.7	2	96	108	-	-	
	80	20	1.5	1.3	2.7	2	176	196	-	-	
			0.8	1.3	2.7	2	300	332	-	-	
			13	1.3	2.7	-	43	53	-	-	
			2.8	1.3	2.7	2	80	92	-	-	
1.9			1.3	2.7	2	175	195	-	-		
1.1			1.3	2.7	2	345	390	-	-		
100	20	1.5	1.3	2.7	2	285	301	-	-		
		1.1	1.3	2.7	2	527	555	-	-		
P-channel	12	12	11.8	0.47	0.9	-	-	15	17	21	
	20	8	5.6	0.45	0.95	2	-	27	38	50	
			6	0.45	0.95	2	-	37	45	59	
			2	0.5	1.1	-	-	100	155	210	
			2.3	0.45	0.95	-	-	120	150	200	
		12	10.3	0.47	0.9	2	-	19	22	28	
			5.7	0.75	1.25	2	-	27	39	-	
			5	0.47	0.9	2,3	-	28	31	36	
			5.3	0.75	1.25	2	-	28	42	-	
			5	0.47	0.9	2	-	39	45	56	
			5.7	0.75	1.25	2	-	41	56	-	
	30	20	3.5	0.75	1.25	-	-	48	71	-	
			3.3	0.75	1.25	2	-	67	99	-	
			4.1	0.75	1.25	2	-	70	101	-	
			2.4	1	2.5	2	-	97	147	-	
	40	20	8.8	1	2.5	-	24	32	-	-	
			4.2	1	3	2	35	47	-	-	
	70	20	1.5	1	2.5	1	180	220	-	-	
			5	1.5	3	1	32	42	-	-	
			14	1.4	2.7	-	43	70	-	-	
			2.3	1	3	2	156	177	-	-	

Types in **bold** represent new products

SOT223	SOT457 (SC-74)	SOT23	SOT323 (SC-70)	DFN2020MD-6 (SOT1220)	DFN2020D-6 (SOT1118D)	DFN1010D-3 (SOT1215)
						
6.5 x 3.5 x 1.65	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 2.0 x 0.65	2.0 x 2.0 x 0.65	1.1 x 1.0 x 0.37
1700	600	250	200	1250	1250	1000
		PMV28UNEA				
			PMF63UNEA			
		PMV65UNEA				
				PMPB10XNEA		
				PMPB12XNEA		
		PMV20XNEA		PMPB20XNEA		
				PMPB13XNEA		
				PMPB29XNEA		
					PMDPB56XNEA	
			PMF250XNEA			
		PMV25ENEA				
		PMV50ENEA				
		PMV100ENEA				
				<b>BUK9D23-40E</b>		
		PMV65ENEA				
		PMV130ENEA				
				<b>BUK6D23-40E</b>		
				<b>BUK7D25-40E</b>		
				PMPB55ENEA		
		PMV55ENEA				
				PMPB85ENEA		
		PMV120ENEA				
		PMV230ENEA				
		PMV450ENEA				
				<b>BUK6D43-60E</b>		
				PMPB95ENEA		
				PMPB215ENEA		
						PMXB360ENEA
PMT280ENEA		PMV280ENEA				
PMT560ENEA						
				PMPB15XPA		
		PMV27UPEA				
	PMN40UPEA					
		NX2301P				
		BSH205G2				
				PMPB20XPEA		
	PMN27XPEA					
				<b>PMPB29XPEA</b>		
		PMV30XPEA				
				PMPB43XPEA		
	PMN42XPEA					
		PMV48XPA				
		PMV65XPEA				
	PMN70XPEA					
		PMV100XPEA				
				<b>PMPB27EPA</b>		
		PMV50EPEA		PMPB50EPEA		
		PMV250EPEA				
				PMPB45EPA		
				<b>BUK6D43-40P</b>		
PMT200EPEA						








## Automotive MOSFETs




### Small-signal automotive MOSFETs – High $R_{DS(on)}$

Package											
Size (mm)											
$P_{tot}$ (mW)											
Polarity	$V_{DS}$ (V)	$V_{GS}$ (V)	$I_D$ (A)	$V_{GS(th)}$ min (V)	$V_{GS(th)}$ max (V)	ESD protection (kV)	$R_{DS(on)}$ typ (m $\Omega$ ) @ $V_{GS}$ =				
							10 V	4.5 V	2.5 V	1.8 V	
N	30	8	0.4	0.6	1.1	2	-	1000	1400	2000	
			0.36	0.9	1.5	-	900	1000	-	-	
	60	20	0.36	0.48	1.6	1.5	1000	1100	1400	-	
			0.3	1	2.5	2	1000	1300	-	-	
			0.3	1	2.5	3	1100	1300	-	-	
			0.2	0.8	1.5	yes	2700	3000	4000	-	
P	30	8	0.23	0.6	1.1	2	-	2800	5300	-	
	50	20	0.2	1.1	2.1	1	5300	6000	-	-	

### Small-signal automotive MOSFETs – Dual


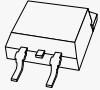
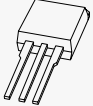

Package											
Size (mm)											
$P_{tot}$ (mW)											
Polarity	$V_{DS}$ (V)	$V_{GS}$ (V)	$I_D$ (A)	$V_{GS(th)}$ min (V)	$V_{GS(th)}$ max (V)	ESD protection (kV)	$R_{DS(on)}$ typ (m $\Omega$ ) @ $V_{GS}$ =				
							10 V	4.5 V	2.5 V	1.8 V	
N	20	8	0.8	0.5	0.95	2	-	380	620	1100	
			4	0.75	1.25	2	-	55	72	-	
	30	12	0.95	0.75	1.25	2	-	211	267	-	
P	20	8	0.55	0.5	1.3	2	-	670	1200	1800	
N	20	8	0.73	0.5	0.95	2	-	290	420	600	
P			0.5	0.5	1.3	2	-	670	1200	1800	

SOT23	SOT363 (SC-88)	SOT323 (SC-70)	SOT666	DFN1006 (SOT883)
				
2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.6 x 1.2 x 0.55	1.0 x 0.6 x 0.5
250	300	200	300	250
NX3008NBK	NX3008NBKS	NX3008NBKW	NX3008NBKV	
BSS138P	BSS138PS	BSS138PW		
BSS138BK	BSS138BKS	BSS138BKW		
2N7002BK	2N7002BKS	2N7002BKW		2N7002BKM
2N7002CK				
BSS138AKA				
NX3008PBK	NX3008PBKS	NX3008PBKW	NX3008PBKV	
BSS84AK	BSS84AKS	BSS84AKW	BSS84AKV	BSS84AKM

SOT363 (SC-88)	SOT666	DFN2020D-6 (SOT1118D)
		
2.0 x 1.25 x 0.95	1.6 x 1.2 x 0.55	2.0 x 2.0 x 0.65
300	300	1250
	PMDT290UNE	
PMGD175XNEA		PMDPB56XNEA
	PMDT670UPE	
PMGD290UCEA		

## N-channel 25V-30V MOSFETs

Types in **bold red** are in development

Package	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ $V_{GS} = 10\text{ V}$ (m $\Omega$ )	$R_{DS(on)}$ [max] @ $V_{GS} = 4.5\text{ V}$ or $5\text{ V}$ (m $\Omega$ )	$I_D$ [max] (A)	$Q_{G(tot)}$ [typ] (nC)
TO-220 (SOT78) 	PSMN1R1-30PL	30	1.3	1.6	120	118
	PSMN1R6-30PL	30	1.7	2.1	100	101
	PSMN1R8-30PL	30	1.8	2.3	100	83
	PSMN2R0-30PL	30	2.1	2.8	100	55
	PSMN2R7-30PL	30	2.7	3.6	100	32
	PSMN3R4-30PL	30	3.4	4.1	100	31
	PSMN4R3-30PL	30	4.3	6.2	100	19
	PSMN017-30PL	30	17	23	32	5.1
	PSMN022-30PL	30	22	34	30	4.4
D <sup>2</sup> PAK (SOT404) 	PSMNR90-30BL	30	1	1.4	120	118
	PSMN1R5-30BLE	30	1.5	1.85	120	108
	PSMN1R8-30BL	30	1.8	2.1	100	83
	PSMN1R6-30BL	30	1.9	2.2	100	101
	PSMN2R0-30BL	30	2.1	2.9	100	55
	PSMN2R7-30BL	30	3	3.7	100	32
	PSMN3R4-30BL	30	3.3	3.8	100	31
	PSMN3R4-30BLE	30	3.4	5	120	37
	PSMN4R3-30BL	30	4.1	5.2	100	19
	PSMN017-30BL	30	17	23	32	5.1
	PSMN022-30BL	30	22	30	30	4.4
I <sup>2</sup> PAK (SOT226) 	PSMN1R1-30EL	30	1.3	1.6	120	118
	PSMN017-30EL	30	17	23	32	5.1
LFPAK56 (Power-SO8) 	<b>PSMNR51-25YLH</b>	<b>25</b>	<b>0.51</b>	<b>0.75</b>	<b>300</b>	<b>52</b>
	<b>PSMNR60-25YLH</b>	<b>25</b>	<b>0.6</b>	<b>0.89</b>	<b>300</b>	<b>40.9</b>
	PSMN0R7-25YLD	25	0.74	0.92	300	50.9
	PSMN0R9-25YLD	25	0.86	1.2	300	41.5
	PSMN1R0-25YLD	25	1.02	1.4	100	33.2
	PSMN1R1-25YLC	25	1.15	1.5	100	39
	PSMN1R2-25YLD	25	1.15	1.7	100	28
	PSMN1R2-25YL	25	1.2	1.9	100	50.6
	PSMN1R2-25YLC	25	1.3	1.7	100	31
	PSMN1R5-25YL	25	1.5	2.2	100	36
	PSMN1R7-25YLD	25	1.68	2.4	100	21.5
	PSMN2R0-25YLD	25	2	2.9	100	15.7
	PSMN2R9-25YLC	25	3.15	4.1	100	16
	PSMN4R0-25YLC	25	4.5	5.8	84	10.9
	PSMN5R4-25YLD	25	5.4	8.4	70	5.7
	PSMN6R0-25YLD	25	6.03	10	61	4.9
	PSMN6R0-25YLB	25	6.1	7.9	73	9

## N-channel 25V-30V MOSFETs

Types in **bold red** are in development

Package	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ $V_{GS} = 10$ V (m $\Omega$ )	$R_{DS(on)}$ [max] @ $V_{GS} = 4.5$ V or 5 V (m $\Omega$ )	$I_D$ [max] (A)	$Q_{G(tot)}$ [typ] (nC)
LFPAK56 (Power-SO8)	<b>PSMNR58-30YLH</b>	<b>30</b>	<b>0.58</b>	<b>0.86</b>	<b>300</b>	<b>48</b>
	<b>PSMNR70-30YLH</b>	<b>30</b>	<b>0.7</b>	<b>0.98</b>	<b>300</b>	<b>40</b>
	PSMN0R9-30YLD	30	0.87	1.1	300	51
	PSMN1R0-30YLD	30	1.02	1.3	300	38.2
	PSMN1R0-30YLC	30	1.15	1.4	100	50
	PSMN1R2-30YLD	30	1.24	1.6	100	32
	PSMN1R2-30YLC	30	1.25	1.7	100	38
	PSMN1R3-30YL	30	1.3	2	100	46.6
	PSMN1R4-30YLD	30	1.42	1.9	100	27.6
	PSMN1R5-30YL	30	1.5	1.9	100	36.2
	PSMN1R5-30YLC	30	1.55	2.1	100	30
	PSMN1R7-30YL	30	1.7	2.1	100	36.2
	PSMN2R0-30YLD	30	2	2.5	100	21.8
	PSMN2R0-30YL	30	2	2.6	100	30
	PSMN2R0-30YLE	30	2	3.5	100	41
	PSMN2R2-30YLC	30	2.15	2.8	100	26
	PSMN2R4-30YLD	30	2.4	3.1	100	18
	PSMN2R5-30YL	30	2.4	3.2	100	27
	PSMN2R6-30YLC	30	2.8	3.7	100	18
	PSMN3R0-30YL	30	3	4	100	21
	PSMN3R0-30YLD	30	3	4	100	14.5
	PSMN3R5-30YL	30	3.5	4.6	100	19
	PSMN4R0-30YL	30	4	5.3	100	17.6
	PSMN4R0-30YLD	30	4	5.5	95	9.6
	PSMN4R1-30YLC	30	4.35	5.7	92	11
	PSMN5R0-30YL	30	5	6.7	91	14.1
	PSMN6R0-30YL	30	6	7.9	79	11
	PSMN6R0-30YLD	30	6	8.4	66	6.7
	PSMN6R1-30YLD	30	6.1	8.4	66	6.4
	PSMN6R0-30YLB	30	6.5	8.1	71	9
	PSMN7R0-30YL	30	7	9.1	76	10
	PSMN7R0-30YLC	30	7.1	8.9	61	7.9
	PSMN7R5-30YLD	30	7.5	10	51	5.8
	PSMN9R1-30YL	30	9.1	14	57	8.4
PSMN9R5-30YLC	30	9.8	12	44	5	
PSMN013-30YLC	30	13	17	32	4	
PSMN011-30YLC	30	11.6	15	37	4.9	
PSMN3R2-30YLC	30	3.5	4.6	100	14.2	
PSMN4R5-30YLC	30	4.8	6.1	84	9.6	



## N-channel 25V-30V MOSFETs





Types in **bold red** are in development

Package	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ $V_{GS} = 10$ V (m $\Omega$ )	$R_{DS(on)}$ [max] @ $V_{GS} = 4.5$ V or 5 V (m $\Omega$ )	$I_D$ [max] (A)	$Q_{G(tot)}$ [typ] (nC)
LFPAK33 (SOT1210)	PSMN2R0-25MLD	25	2	3.1	70	15.9
	PSMN2R8-25MLC	25	2.8	3.8	70	16.3
	PSMN3R5-25MLD	25	3.51	5.4	70	8.7
	PSMN3R9-25MLC	25	4.15	5.6	70	9.7
	PSMN5R3-25MLD	25	5.3	8.4	70	5.9
	PSMN6R1-25MLD	25	6.13	10	60	4.9
	PSMN9R0-25MLC	25	8.65	11	55	5.4
	<b>PSMN1R6-30MLH</b>	<b>30</b>	<b>1.6</b>	<b>2.2</b>	<b>100</b>	<b>16</b>
	PSMN2R4-30MLD	30	2.4	3.2	70	16
	PSMN3R0-30MLC	30	3.15	4.1	70	16.1
	PSMN4R2-30MLD	30	4.3	5.7	70	9.2
	PSMN4R4-30MLC	30	4.65	6	70	10.6
	PSMN6R4-30MLD	30	6.4	8.3	66	6.5
	PSMN6R5-30MLD	30	6.5	8.6	65	6.4
	PSMN7R0-30MLC	30	7	9	67	8.2
	PSMN7R5-30MLD	30	7.6	10	57	5.8
	PSMN9R8-30MLC	30	9.8	12	50	5
	PSMN013-30MLC	30	13	17	39	3.7
PSMN020-30MLC	30	18	27	31.8	4.6	

## N-channel 40V-60V MOSFETs


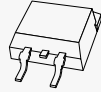
Package	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ $V_{GS} = 10$ V (m $\Omega$ )	$R_{DS(on)}$ [max] @ $V_{GS} = 4.5$ V or 5 V (m $\Omega$ )	$I_D$ [max] (A)	$Q_{G(tot)}$ [typ] (nC)
TO-220 (SOT78)	PSMN1R5-40PS	40	1.6		150	136
	PSMN1R9-40PL	40	1.7	1.9	150	230
	PSMN2R2-40PS	40	2.1		100	110
	PSMN2R1-40PL	40	2.2	2.6	150	168.9
	PSMN2R8-40PS	40	2.8		100	71
	PSMN4R5-40PS	40	4.6		100	35
	PSMN8R0-40PS	40	7.6		77	17
	PSMN2R0-60PSR	60	2		120	137
	PSMN2R0-60PS	60	2.2		120	137
	PSMN2R5-60PL	60	2.6	3.1	150	223
	PSMN2R6-60PS	60	2.6		150	140
	PSMN3R0-60PS	60	3		100	130
	PSMN3R3-60PL	60	3.4	3.8	130	175
	PSMN4R2-60PL	60	3.9	4.3	130	151
	PSMN3R9-60PS	60	3.9		130	103
	PSMN4R6-60PS	60	4.6		100	70.8
	PSMN7R6-60PS	60	7.8		92	38.7
	PSMN015-60PS	60	15		50	20.9

## N-channel 40V-60V MOSFETs

Package	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ $V_{GS} = 10$ V (m $\Omega$ )	$R_{DS(on)}$ [max] @ $V_{GS} = 4.5$ V or 5 V (m $\Omega$ )	$I_D$ [max] (A)	$Q_{G(tot)}$ [typ] (nC)
D <sup>2</sup> PAK (SOT404) 	PSMN1R1-40BS	40	1.3		120	136
	PSMN2R2-40BS	40	2.2		100	130
	PSMN2R8-40BS	40	2.9		100	71
	PSMN4R5-40BS	40	4.5		100	35
	PSMN8R0-40BS	40	7.6		77	21
	PSMN1R7-60BS	60	2		120	137
	PSMN3R0-60BS	60	3.2		100	130
	PSMN4R6-60BS	60	4.4		100	70.8
	PSMN7R6-60BS	60	7.8		92	38.7
	PSMN015-60BS	60	15		50	20.9
I <sup>2</sup> PAK (SOT226) 	PSMN1R5-40ES	40	1.6		120	136
	PSMN2R0-60ES	60	2.2		120	137
	PSMN3R0-60ES	60	3		100	130
LFPAK56 (Power-SO8) 	PSMN1R0-40YLD	40	1.1	1.4	280	127
	PSMN1R4-40YLD	40	1.4	1.9	240	96
	PSMN1R8-40YLC	40	1.8	2.1	100	96
	PSMN2R6-40YS	40	2.8		100	63
	PSMN3R3-40YS	40	3.3		100	49
	PSMN4R0-40YS	40	4.2		100	38
	PSMN5R8-40YS	40	5.7		90	28.8
	PSMN8R3-40YS	40	8.6		70	20
	PSMN014-40YS	40	14		46	12
	PSMN4R0-60YS	60	4		100	56
	PSMN4R1-60YL	60	4.1	4.8	100	103
	PSMN5R2-60YL	60	5.2	6	100	78.4
	PSMN5R5-60YS	60	5.2		100	56
	PSMN5R6-60YL	60	5.6	7.2	100	66.8
	PSMN7R0-60YS	60	6.4		89	45
	PSMN7R5-60YL	60	7.5	8.7	86	60.6
	PSMN8R5-60YS	60	8		76	39
	PSMN012-60YS	60	11		59	28.4
	PSMN013-60YL	60	13	15	53	33.2
	PSMN030-60YS	60	15		29	13
PSMN017-60YS	60	16		44	20	
LFPAK33 (SOT1210) 	PSMN011-60ML	60	11	13	61	37.2
	PSMN011-60MS	60	11		61	23



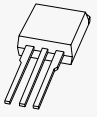
## N-channel 75V-200V MOSFETs

Types in **bold** represent new products

Package	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ $V_{GS} = 10\text{ V}$ (m $\Omega$ )	$R_{DS(on)}$ [max] @ $V_{GS} = 4.5\text{ V}$ or $5\text{ V}$ (m $\Omega$ )	$I_D$ [max] (A)	$Q_{G(tot)}$ [typ] (nC)
TO-220 (SOT78) 	PSMN3R3-80PS	80	3.3		120	139
	PSMN3R5-80PS	80	3.5		120	139
	PSMN4R4-80PS	80	4.1		100	112
	PSMN4R3-80PS	80	4.3		120	111
	PSMN5R0-80PS	80	4.7		100	87
	PSMN6R5-80PS	80	6.9		100	71
	PSMN8R7-80PS	80	8.7		90	52
	PSMN012-80PS	80	11		74	36
	PSMN017-80PS	80	17		50	26
	PSMN4R3-100PS	100	4.3		120	170
	PSMN4R8-100PSE	100	4.8		120	196
	PSMN5R0-100PS	100	5		120	170
	PSMN5R6-100PS	100	5.6		100	141
	PSMN7R0-100PS	100	6.8		100	125
	PSMN7R8-100PSE	100	7.8		100	128
	PSMN8R5-100PS	100	8.5		100	111
	<b>PSMN8R5-100PSF</b>	<b>100</b>	<b>8.5</b>		<b>98</b>	<b>44.5</b>
	PSMN9R5-100PS	100	9.6		98	45
	PSMN013-100PS	100	13		68	59
	PSMN016-100PS	100	16		57	49
	<b>PSMN018-100PSF</b>	<b>100</b>	<b>18</b>		<b>57</b>	<b>21.3</b>
	PSMN027-100PS	100	27		53	21
	PSMN034-100PS	100	35		32	23.8
	PSMN015-110P	110	15		75	90
	PHP27NQ11T	110	50		27.6	30
	PHP23NQ11T	110	70		23	22
	PHP18NQ11T	110	90		18	21
	PSMN6R3-120PS	120	6.7		70	207.1
	PSMN7R8-120PS	120	7.9		70	167
	PSMN030-150P	150	30		55.5	98
PHP30NQ15T	150	63		29	55	
PHP28NQ15T	150	65		28.5	24	
PSMN057-200P	200	57		39	96	
PHP33NQ20T	200	77		32.7	32.2	
PHP20NQ20T	200	130		20	65	
PHP9NQ20T	200	400		8.7	24	
D <sup>2</sup> PAK (SOT404) 	PSMN2R8-80BS	80	3		120	139
	PSMN3R3-80BS	80	3.5		120	111
	PSMN4R4-80BS	80	4.5		100	125
	PSMN5R0-80BS	80	5.1		100	101

## N-channel 75V-200V MOSFETs

Types in **bold** represent new products

Package	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ $V_{GS} = 10\text{ V}$ (m $\Omega$ )	$R_{DS(on)}$ [max] @ $V_{GS} = 4.5\text{ V}$ or $5\text{ V}$ (m $\Omega$ )	$I_D$ [max] (A)	$Q_{G(tot)}$ [typ] (nC)
D <sup>2</sup> PAK (SOT404) 	PSMN6R5-80BS	80	6.9		100	71
	PSMN8R7-80BS	80	8.7		90	52
	PSMN012-80BS	80	11		74	36
	PSMN017-80BS	80	17		50	26
	PSMN050-80BS	80	46		22	11
	PSMN3R8-100BS	100	3.9		120	170
	PSMN4R8-100BSE	100	4.8		120	196
	PSMN5R6-100BS	100	5.6		100	141
	PSMN7R0-100BS	100	6.8		100	125
	<b>PSMN7R0-100BSF</b>	<b>100</b>	<b>7</b>			
	PSMN7R6-100BSE	100	7.6		75	128
	PSMN9R5-100BS	100	9.6		89	82
	PSMN013-100BS	100	14		68	59
	PSMN016-100BS	100	16		57	49
	<b>PSMN018-100BSF</b>	<b>100</b>	<b>18</b>			
	PSMN027-100BS	100	27		37	30
	PSMN034-100BS	100	35		32	23.8
	PHB45NQ15T	150	42		45.1	32
	PSMN057-200B	200	57		39	96
PHB33NQ20T	200	77		32.7	32.2	
PHB20NQ20T	200	130		20	65	
DPAK (SOT428) 	PSMN063-150D	150	63		29	55
	PSMN130-200D	200	130		20	65
	PHD9NQ20T	200	400		8.7	24
I <sup>2</sup> PAK (SOT226) 	PSMN3R3-80ES	80	3.3		120	139
	PSMN3R5-80ES	80	3.5		120	139
	PSMN4R3-80ES	80	4.3		120	111
	PSMN4R3-100ES	100	4.3		120	170
	PSMN5R0-100ES	100	5		120	170
	PSMN7R0-100ES	100	6.8		100	125
	PSMN8R5-100ES	100	8.5		100	111
	<b>PSMN8R5-100ESF</b>	<b>100</b>	<b>8.5</b>		<b>97</b>	<b>45</b>
	PSMN013-100ES	100	14		68	59
	<b>PSMN018-100ESF</b>	<b>100</b>	<b>18</b>		<b>53</b>	<b>21</b>
	PSMN6R3-120ES	120	6.7		70	207.1
	PSMN7R8-120ES	120	7.9		70	167

Types in **bold red** are in development



## N-channel 75V-200V MOSFETs

Types in **bold** represent new products

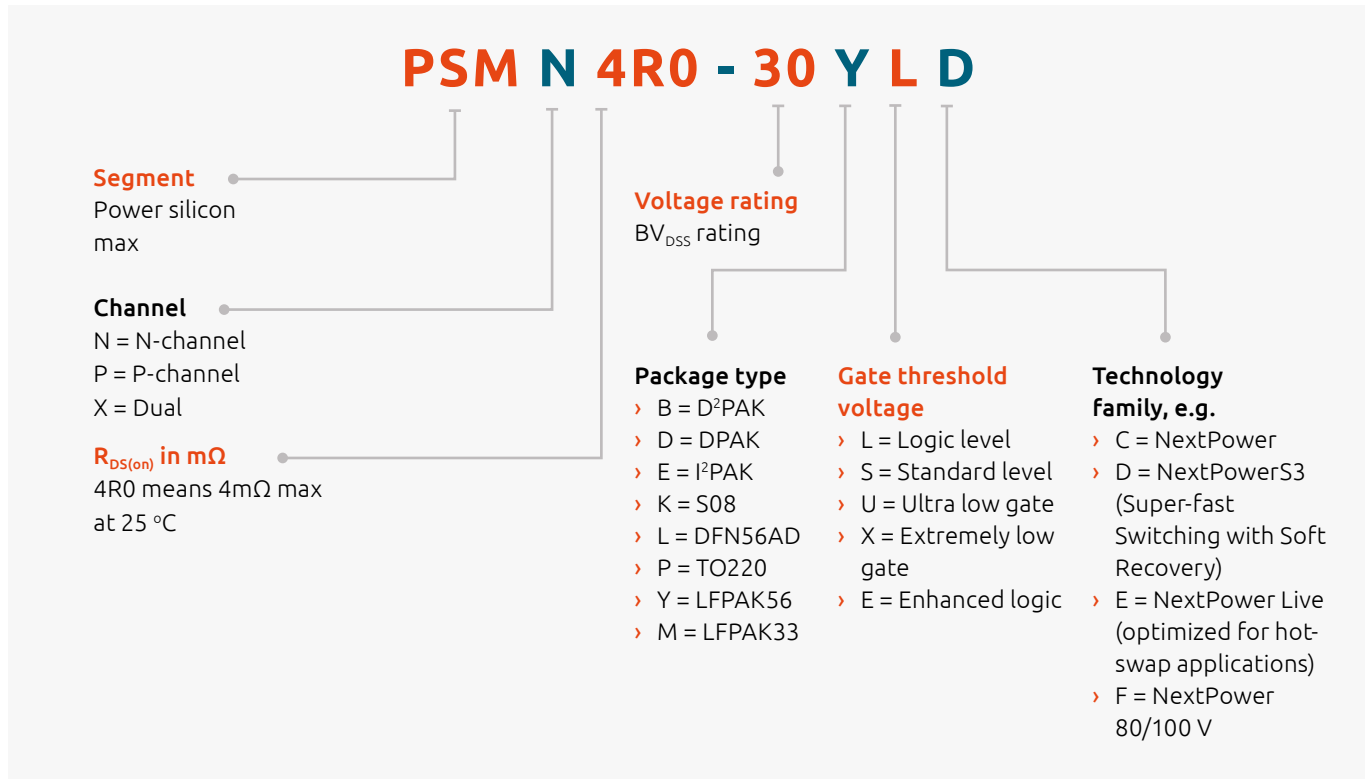
Package	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ $V_{GS} = 10$ V (m $\Omega$ )	$R_{DS(on)}$ [max] @ $V_{GS} = 4.5$ V or 5 V (m $\Omega$ )	$I_D$ [max] (A)	$Q_{G(tot)}$ [typ] (nC)
LFPAK56 (Power-SOB)	PSMN8R0-80YL	80	8	8.5	100	104
	PSMN8R2-80YS	80	8.5		82	55
	PSMN010-80YL	80	10	11	84	84.7
	PSMN011-80YS	80	11		67	45
	PSMN013-80YS	80	12.9		60	37
	PSMN014-80YL	80	14	15	62	56.9
	PSMN018-80YS	80	18		45	26
	PSMN025-80YL	80	25	27	37	34.3
	PSMN026-80YS	80	28		34	20
	PSMN041-80YL	80	41	45	25	21.9
	PSMN045-80YS	80	45		24	12.5
	<b>PSMN5R6-100YSF</b>	<b>100</b>	<b>5.6</b>		<b>158</b>	<b>63</b>
	<b>PSMN6R9-100YSF</b>	<b>100</b>	<b>6.9</b>		<b>128</b>	<b>51</b>
	<b>PSMN8R7-100YSF</b>	<b>100</b>	<b>8.7</b>		<b>100</b>	<b>39</b>
	PSMN012-100YL	100	12	12	85	118
	PSMN012-100YS	100	12		60	64
	PSMN013-100YSE	100	13		82	75
	PSMN015-100YL	100	15	15	69	86.3
	PSMN016-100YS	100	16		51	54
	PSMN019-100YL	100	19	19	56	72.4
	PSMN021-100YL	100	21	22	49	65.6
	PSMN020-100YS	100	21		43	41
	PSMN028-100YS	100	28		42	33
PSMN038-100YL	100	38	38	30	39.2	
PSMN039-100YS	100	39		28.1	23	
PSMN069-100YS	100	72		17	14	
PSMN059-150Y	150	59		43	27.9	
PSMN102-200Y	200	102		21.5	30.7	
LFPAK33 (SOT1210)	PSMN040-100MSE	100	37		30	30
	PSMN075-100MSE	100	71		18	16.4
SOT873	PML260SN	200	294		8.8	13.3
	PML340SN	220	386		7.3	13.2

## P-channel MOSFETs



Package	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ $V_{GS} = 10$ V (m $\Omega$ )	$I_D$ [max] (A)	$Q_{G(tot)}$ [typ] (nC)
LFPAK56	<b>PSMP012-30YE</b>	<b>30</b>	<b>12</b>	<b>67.3</b>	<b>52</b>
	<b>PSMP020-30YE</b>	<b>30</b>	<b>20</b>	<b>41.1</b>	<b>24</b>
	<b>PSMP015-40YE</b>	<b>40</b>	<b>15</b>	<b>63.1</b>	<b>43.5</b>
	<b>PSMP025-40YE</b>	<b>40</b>	<b>25</b>	<b>39.4</b>	<b>28</b>
	<b>PSMP032-60YE</b>	<b>60</b>	<b>32</b>	<b>38.7</b>	<b>46</b>
	<b>PSMP057-60YE</b>	<b>60</b>	<b>57</b>	<b>22.7</b>	<b>21</b>

Types in **bold red** are in development



## Power MOSFETs nomenclature






Small-signal MOSFETs in DFN1006 and DFN1006B packages

Package																DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)
																	
Size (mm)																1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37
Ptot (mW)																250	250
Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>C</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =							
										10 V	4.5 V	2.5 V	1.8 V	1.5 V	1.2 V		
N-channel	20	8	1.9	0.45	0.95	5.3	16	1.6	2	-	120	160	210	270	-	PMZ130UNE	
			1.6	0.45	0.95	5.3	16	1.6	2	-	170	200	240	300	-		PMZB150UNE
			1	0.5	0.95	6	86	0.45	2	-	270	360	470	600	-	PMZ290UNE2	PMZB290UNE2
			0.6	0.45	0.95	5.6	19	0.4	1	-	470	620	845	1125	2210	PMZ600UNE	PMZB600UNE
	30	8	1.5	0.45	0.95	5	17	1.6	2	-	210	240	270	300	-	PMZ200UNE	PMZB200UNE
			1	0.45	0.95	4	12	0.8	2	-	390	460	30	610	-	PMZ390UNE	PMZB390UNE
			0.59	0.45	0.95	4	12	0.6	2	-	550	660	770	890	-	PMZ550UNE	PMZB550UNE
	60	20	0.45	1.1	2.1	5	12	0.5	2	1000	1300	-	-	-	-	2N700BKM	2N7002BKMB
0.35			1.1	2.1	4.7	6.9	1	2	2200	2500	-	-	-	-	NX7002BKM	NX7002BKMB	
P-channel	20	8	1.4	0.45	0.95	4	26	1.3	1.8	-	330	420	520	-	-	PMZ350UPE	PMZB350UPE
			0.5	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500	PMZ950UPE	PMZB950UPE
	30	8	1	0.45	0.95	2.9	22	1.45	2	-	430	470	750	950	-	PMZ320UPE	PMZB320UPE
			0.41	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	3000	-	PMZ1200UPE	PMZB1200UPE
	50	20	0.23	1.1	2.1	13	48	0.26	1	4500	5700	-	-	-	-	BSS84AKM	BSS84AKMB



## Small-signal MOSFETs in DFN1010D-3 single and DFN1010B-3 dual packages

Package													DFN1010D-3 (SOT1215)	DFN1010B-6 (SOT1216)				
																		
Size (mm)													1.1 x 1.0 x 0.37	1.1 x 1.0 x 0.37				
P <sub>tot</sub> (mW)													1000	350				
Configuration	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>c</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =							
											10 V	4.5 V	2.5 V	1.8 V	1.5 V	1.2 V		
Single	N-channel	12	8	3.2	0.4	0.9	6	18	6.6	1	-	34	39	46	50	121	PMXB40UNE	
		20	8	3.2	0.5	0.9	6	17	5.7	1	-	42	48	56	64	-	PMXB43UNE	
		30	20	3.2	1	2	3	11	3.6	-	49	56	-	-	-	-	PMXB56EN	
				3.2	1	2.5	3	11	6	1	44	56	-	-	-	-	PMXB65ENE	
	80	20	1.1	1.3	2.7	2	9	3	2	345	390	-	-	-	-	PMXB360ENEA		
	P-channel	12	8	3.2	0.4	1	6.2	27	6.7	1.5	-	59	78	120	198	880	PMXB65UPE	
		20	8	2.9	0.4	1	6	29	6.8	1	-	69	86	130	205	950	PMXB75UPE	
				1.2	0.45	0.95	3	18	1.25	1.5	-	350	450	600	760	1200	PMXB350UPE	
30		20	2.4	1	2.5	4	16	6.2	1	100	125	-	-	-	-	PMXB120EPE		
Dual	N-ch	20	8	0.6	0.45	0.95	5.6	19	0.4	1	-	470	620	845	1125	2210		PMDXB600UNE
		30	8	0.59	0.45	0.95	4	12	0.6	2	-	550	660	770	890	-		PMDXB550UNE
		60	20	0.26	1.1	2.1	4.7	6.9	1	2	2200	2500	-	-	-	-		NX7002BKXB
	P-ch	20	8	0.5	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500		PMDXB950UPE
		30	8	0.41	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	3000	-		PMDXB1200UPE
Complementary	N	20	8	0.6	0.45	0.95	5.6	19	0.4	1	-	470	620	845	1125	2210		
	P	20	8	0.5	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500		PMCXB900UE
	N	30	8	0.59	0.45	0.95	4	12	0.6	2	-	550	660	770	890	-		
	P	30	8	0.41	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	3000	-		PMCXB1000UE

## Small-signal low-leakage MOSFETs



Package													DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)	DFN1010B-6 (SOT1216)		
																	
Size (mm)													1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.37		
P <sub>tot</sub> (mW)													250	250	350		
ConFig.	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	I <sub>DSS</sub> max (nA)	I <sub>GSS</sub> max (nA)	ESD Protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =							
										4.5 V	2.5 V	1.8 V	1.5 V	1.2 V			
Single	N	20	8	0.6	0.45	0.95	25	50	1	470	620	845	1125	2210	PMZ600UNEL	PMZB600UNEL	
	P	20	8	0.5	0.45	0.95	25	50	1	1020	1270	1700	2300	3500	PMZ950UPEL	PMZB950UPEL	
Dual	N	20	8	0.6	0.45	0.95	25	50	1	470	620	845	1125	2210			PMDXB600UNEL
	P	20	8	0.5	0.45	0.95	25	50	1	1020	1270	1700	2300	3500			PMDXB950UPEL
Compl.	N	20	8	0.6	0.45	0.95	25	50	1	470	620	845	1125	2210			
	P	20	8	0.5	0.45	0.95	25	50	1	1020	1270	1700	2300	3500			PMCXB900UEL

Small-signal MOSFETs in DFN2020MD-6 single and DFN2020-6 dual packages

															DFN2020MD-6 (SOT1220)	DFN2020-6 (SOT1118)
Package																
Size (mm)															2.0 x 2.0 x 0.65	2.0 x 2.0 x 0.65
P <sub>tot</sub> (mW)															1250	1250
Configuration	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>G</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =					
											10 V	4.5 V	2.5 V	1.8 V		
Single	N-channel	20	8	11.3	0.4	1	9	26	8.8	2	-	14	17	21	PMPB12UNE	
			12	12.9	0.4	0.9	13	54	23	2.2	-	10	12	16	PMPB10XNE	
			12	5.9	0.75	1.25	16	49	31	2	-	14	20	-	PMPB20XNEA	
			12	10.4	0.4	0.9	9	31	13.4	-	-	18	21	23	PMPB15XN	
			12	10.1	0.4	0.9	9	31	11.6	2.1	-	19	23	31	PMPB23XNE	
		30	12	11.3	0.4	0.9	12	54	24	2.2	-	13	14	17	PMPB13XNE	
		30	12	5	0.4	0.9	8	33	12.4	2.1	-	28	32	37	PMPB29XNE	
		30	20	5.5	0.45	1.2	6	21	5.1	-	-	37	55	-	PMPB33XN	
		30	20	13	1	2	9	17	13.7	-	-	12	14	-	PMPB11EN	
		30	20	10.4	1	2	9	9	7.2	-	-	16.5	20.5	-	PMPB20EN	
	60	20	4	1.3	2.7	4.5	13.5	7.5	1	42	48	-	-	PMPB55ENEAE		
	60	20	3	1.3	2.7	4	10.5	6.2	2.7	72	85	-	-	PMPB85ENEAE		
	80	20	2.8	1.3	2.7	5	15	9.9	2.8	80	92	-	-	PMPB95ENEAE		
	80	20	1.9	1.3	2.7	3.5	9.5	4.8	2	175	195	-	-	PMPB215ENEAE		
	P-channel	12	12	11.8	0.47	0.9	18	85	67	-	-	15	17	21	PMPB15XP	
		20	12	10.3	0.47	0.9	16	43	28.8	-	-	19	21	27	PMPB19XP	
				10.3	0.47	0.9	13	92	30	2.4	-	19	22	28	PMPB20XPE	
				5	0.47	0.9	12	91	30	2.3	-	28	31	36	PMPB29XPE	
				7.9	0.47	0.9	12	62	15	-	-	30	35	45	PMPB33XP	
				5	0.47	0.9	9	57	15.6	2.3	-	39	45	56	PMPB43XPE	
30		12	5	0.47	0.9	15	28	14	-	-	47	54	74	PMPB47XP		
30		20	8.8	1	2.5	10	28	30	-	24	32	-	-	PMPB27EP		
30		20	6.8	1	2.5	7.4	27	17	-	40	55	-	-	PMPB48EP		
Dual		Nch	20	12	5.3	0.4	0.9	4	40	14.4	-	-	32	40	60	
	30		12	3.1	0.75	1.25	9	19	2.9	2	-	55	72	-		PMDPB56XNEA
				3.1	0.5	1.5	6	18	1.65	1.8	-	95	130	-		PMDPB95XNE2
	P-channel	20	8	4.5	0.45	0.95	7	41	6.3	2	-	58	74	97		PMDPB58UPE
				3.7	0.45	0.95	6	47	5.4	2	-	82	107	142		PMDPB85UPE
		12	12	4.5	0.47	0.9	4	135	16.5	-	-	55	75	110		PMDPB55XP
				4.2	0.75	1.25	7	33	5	2	-	66	98			PMDPB70XPE
				3.7	0.4	1	6	120	5.7	-	-	80	95	120		PMDPB80XP
		30	12	3.8	0.45	1	3	112	5.2	-	-	70	89	-		PMDPB70XP
		MOSFET-Schottky	P-channel	20	12	3.7	0.4	1	6	120	5.7	-	-	80	95	120
Pre-biased NPN	P	30	12	3.4	0.45	1	3	112	5.2	-	-	85	105	-		PMC85XP
Complementary	N	20	12	5.3	0.4	0.9	4	40	14.4	-	-	26	33	50		PMCPB5530X
	P	20	12	4.5	0.4	0.9	4	40	8.1	-	-	55	75	110		

## Small-signal MOSFETs in WLCSP4 and WLCSP6 packages

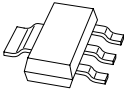




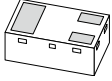
Types in **bold** represent new products

Package															WLCSP4	WLCSP6
																
Size (mm)															0.78 x 0.78 x 0.35	1.48 x 0.98 x 0.35
P <sub>tot</sub> (mW)															1300	1300
Configuration	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>c</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =					
											4.5 V	2.5 V	1.8 V	1.5 V		
	N	12	8	6	0.4	0.9	6.3	30	6	2	36	46	60	86	PMCM4401VNE	
		20	8	5.4	0.4	0.9	4	27	6	2	43	55	65	75	<b>PMCM4401UNE</b>	
	P	12	8	4.9	0.4	0.9	4.8	25.1	6.8	2	55	77	110	-	PMCM4401VPE	
		20	8	4	0.4	0.9	4	31	5.9	2	75	95	130	-	PMCM4401UPE	
	4.2			0.4	0.9	4	26	6	2	65	88	120	-	<b>PMCM4402UPE</b>		
	N	12	8	9.6	0.4	0.9	10.8	97.5	16.1	2	15	18	22	30		PMCM6501VNE
		20	8	8.7	0.4	0.9	7	100	19	2	17	20	22	30		<b>PMCM6501UNE</b>
	P	12	8	8.2	0.4	0.9	8	72	19.6	2	19	25	37	-		PMCM6501VPE
20		8	7.3	0.4	0.9	6	105	19	2	22	28	38	-		<b>PMCM6501UPE</b>	
Common drain	N	20	8	4.1	0.4	0.9	6	39	9	2	40	50	63	-		<b>PMCM6501CUNE</b>

Small-signal MOSFETs single (N-channel)

Package													
Size (mm)													
P <sub>tot</sub> (mW)													
V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>G</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =				
									10 V	4.5 V	2.5 V	1.8 V	
20	8	4.7	0.45	1	8.2	39.5	6.2	2	-	24	29	40	
		1.9	0.4	1	8	31	2.2	2	-	63	77	114	
		2.2	0.4	1	6	21	2.6	2	-	64	78	110	
		1.9	0.45	0.95	5.3	16	1.6	2	-	120	155	195	
		1.6	0.45	0.95	5.3	16	1.6	2	-	155	190	235	
		1	0.5	0.95	6	86	0.45	2	-	270	360	470	
	0.6	0.45	0.95	5.6	19	0.4	1	-	470	620	845		
	12	6.3	0.75	1.25	16	44	9.9	2	-	16	24	-	
		8.6	0.47	0.9	7	135	7.7	-	-	15	18	22	
		9.1	0.4	0.9	9	31	12	1	-	15	19	22	
5.4		0.4	0.9	7	35	6.2	-	-	24	30	40		
6	0.4	0.9	5.5	22	5.1	1	-	28	38	42			
30	8	1.5	0.45	0.95	5	17	1.6	2	-	210	240	270	
		1	0.45	0.95	4	12	0.8	2	-	390	460	530	
		0.59	0.45	0.95	4	12	0.6	2	-	550	660	770	
		0.4	0.6	1.1	26	88	0.52	2	-	1000	1400	2000	
	12	7.2	0.4	0.9	8	33	12.4	2	-	19	22	17	
		5.7	0.4	0.9	9	34	7	-	-	33	42	54	
		4.4	0.4	0.9	9	34	7	-	-	36	43	56	
	20	0.9	0.5	1.5	8	11	0.74	2	-	234	324	-	
		7.6	1	2	9	9	7.2	-	17	21	-	-	
		5.5	1	2.5	8	33	12.6	2	17	22	-	-	
3.9		1	2.5	6.3	14.1	6	2	30	39	-	-		
3.1		1	2.5	18	78	6.5	-	28	37	-	-		
4.5		1	2.5	3	11	6	1	30	44	-	-		
5.1	1	2	3	11	3.6	-	35	43	-	-			
2.1	1	2.5	3	15	2.6	2	70	90	-	-			
0.18	0.8	1.5	10	51	0.34	-	2700	3000	4000	-			
40	20	2.7	1	2.5	6	12	4.1	1	64	79	-	-	
		2.5	1	2.5	14	14	2.4	1	95	120	-	-	
55	10	0.3	0.4	1.3	4	11	1	3	-	2300	2400	3100	
60	20	3.1	1.3	2.7	9	33	12.7	2	46	52	-	-	
		2.1	1.3	2.7	6.4	15.9	5.9	2	96	108	-	-	
		1.5	1.3	2.7	6.3	13	3.9	2	176	196	-	-	
		0.8	1.3	2.7	5.3	10.2	2.4	2	300	332	-	-	
		0.19	0.8	1.5	6	11	0.33	yes	2800	3500	4500	-	
		0.27	0.5	1.5	7.9	12.5	0.49	2	2100	2200	2600	-	
		0.1	0.6	1.4	2	5		2	2800	3800	-	-	
		0.19	1.1	2.1	12	34	0.33	yes	3000	3700	-	-	
0.27	1.1	2.1	4.7	6.9	1	2	2200	2500	-	-			
100	20	1.5	1.3	2.7	4.8	9.3	4.5	1	285	300	-	-	
		1.1	1.3	2.7	5.7	10.2	2.9	1	527	555	-	-	

Types in **bold** represent new products

	SOT223	SOT457 (SC-74)	SOT23	SOT323 (SC-70)	DFN1006 (SOT883)	DFN1006B (SOT883B)
						
	6.5 x 3.5 x 1.65	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37
	1700	600	250	200	250	250
			PMV28UNEA			
				PMF63UNE		
			PMV65UNE			
					PMZ130UNE	
						PMZB150UNE
					PMZ290UNE2	PMZB290UNE2
					PMZ600UNE	PMZB600UNE
			PMV20XNEA			
			PMV16XN			
		PMN16XNE				
			PMV30UN2			
		PMN30UNE				
					PMZ200UNE	PMZB200UNE
					PMZ390UNE	PMZB390UNE
					PMZ550UNE	PMZB550UNE
			NX3008NBK	NX3008NBKW		
			PMV20XNE			
		PMN30UN				
			PMV40UN2			
				PMF250XNE		
			PMV20EN			
			PMV25ENEA			
			PMV50ENEA			
			PMV37EN2			
		PMN40ENE	PMV42ENE			
			PMV45EN2			
			PMV90ENE			
			NX3020NAK	NX3020NAKW		
			PMV65ENEA			
			PMV130ENEA			
			BSH111BK			
			PMV55ENEA			
			PMV120ENEA			
			PMV230ENEA			
			PMV450ENEA			
			NX138AK	NX138AKW		
			NX138BK	NX138BKW		
			BSN20BK			
			NX7002AK	NX7002AKW		
			NX7002BK	NX7002BKW	NX7002BKM	NX7002BKMB
	PMT280ENEA		<b>PMV280ENEA</b>			
	PMT560ENEA					



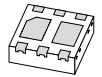
## Small-signal MOSFETs

### Small-signal MOSFETs single (P-channel)

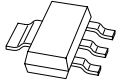






Package													
Size (mm)													
P <sub>tot</sub> (mW)													
V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>G</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =				
									10 V	4.5 V	2.5 V	1.8 V	
20	8	5.6	0.45	0.95	11	83	14.7	2	-	27	38	50	
		5.3	0.45	0.95	41	122	14.7	2	-	30	38	51	
		5.4	0.45	0.95	34	128	15.5	-	-	34	42	57	
		4	0.47	0.9	400	2180	10.5	3	-	50	57	70	
		2	0.5	1.1	7	50	6	-	-	100	155	210	
		1.2	0.45	0.95	33	52	3.3	-	-	170	210	280	
		2.3	0.45	0.95	5	43	3.7	-	-	120	150	200	
	12	1.4	0.45	0.95	9	35	1.3	1.8	-	330	420	520	
		0.5	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700	
		4.5	0.75	1.25	7.9	59	11	2	-	28	42	-	
		6.8	0.47	0.9	12	62	15	-	-	30	35	48	
		5.7	0.75	1.25	44	60	11.5	2	-	41	56	-	
		4.1/3.5	0.75	1.25	24	84	8.5	-	-	48	71	-	
		4.4	0.47	0.9	7	135	7.7	-	-	48	60	82	
30	8	4.7	0.47	0.9	5.1	141	8.5	-	-	50	64	88	
		3.9	0.55	0.95	28	101	7.6	-	-	65	90	-	
		3.3	0.75	1.25	7	36	5	2	-	67	99	-	
		4.1	0.75	1.25	20	57	5.2	2	-	70	101	-	
		3.9	0.47	0.9	6	120	5	-	-	72	88	110	
	12	3.2	0.47	0.9	6	120	5	-	-	77	95	120	
		2	0.65	1.15	48	64	4.8	-	-	90	125	-	
		2.3	0.7	1.3	5.3	36	3.4	2	-	100	155	-	
		1	0.65	1.15	26	44	2.6	-	-	175	240	-	
		1	0.45	0.95	2.9	22	1.45	2	-	400	480	600	
40	8	0.41	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	
		0.23	0.6	1.1	49	103	0.55	2	-	2800	5300	-	
	20	5.3	1	3	6	36	12.8	2	35	49	-	-	
		4.2	1	3	6	36	12.8	2	35	49	-	-	
50	20	4.4	1	3	5	19	6.5	2	60	96	-	-	
		1.8	1	2.5	10	40	4.7	1	180	220	-	-	
70	20	0.2	1.1	2.1	24	73	0.26	1	5300	6000	-	-	
70	20	2.4	1	3	6	42	10.6	2	130	150	-	-	

### Small-signal MOSFET-Schottky combination

Package													DFN2020-6 (SOT1118)		
Size (mm)													2.0 x 2.0 x 0.65		
P <sub>tot</sub> (mW)													1250		
Configuration	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>G</sub> typ (nC)	I <sub>F</sub> (A)	V <sub>R</sub> (V)	V <sub>F</sub> typ. (mV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =			
												4.5 V	2.5 V	1.8 V	
Single + schottky	20	8	3.7	0.4	1	20	170	5.7	2	30	455	80	95	120	PMFPB8040XP







Types in **bold** represent new products





SOT223	SOT457 (SC-74)	SOT23	SOT363 (SC-88)	SOT323 (SC-70)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)
						
6.5 x 3.5 x 1.65	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37
1700	600	250	300	200	250	250
		PMV27UPE				
		PMV33UPE				
		PMV32UP				
		PMV50UPE				
		NX2301P				
		PMV160UP				
		B5H205G2				
					PMZ350UPE	PMZB350UPE
					PMZ950UPE	PMZB950UPE
		PMV30XPEA				
	PMN30XP					
	PMN48XP	PMV48XP				
		PMV50XP				
	PMN52XP					
		PMV65XP				
		PMV65XPE				
	PMN70XPE					
	PMN70XP					
		PMV75UP				
			PMG85XP			
		PMV100XPEA				
				PMF170XP		
					PMZ320UPE	PMZB320UPE
					PMZ1200UPE	PMZB1200UPE
		NX3008PBK				
		PMV35EPE			NX3008PBKW	
	<b>PMN70EPE</b>					
		PMV250EPEA				
		B5S84AK		B5S84AKW	B5S84AKM	B5S84AKMB
PMT200EPEA						

## Small-signal MOSFETs dual

Package												
Size (mm)												
P <sub>tot</sub> (mW)												
Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>c</sub> typ (nC)	ESD protection (kV)			
N-channel	20	8	0.8	0.5	0.95	10	117	0.45	2			
			0.6	0.45	0.95	5.6	19	0.4	1			
		12	5.3	0.4	0.9	4	40	14.4	-			
	30	8	0.59	0.45	0.95	4	12	0.6	2			
			0.35	0.6	1.1	26	88	0.52	2			
			12	3.1	0.75	1.25	9	19	2.9	2		
		20	3.1	0.5	1.5	6	18	1.65	1.8			
			1	0.5	1.5	6.5	14	0.7	2			
			0.18	0.8	1.5	10	51	0.34	yes			
	60	20	0.18	0.8	1.5	6	11	0.33	yes			
			0.26	0.5	1.5	7.9	12.5	0.49	2			
			0.17	1.1	2.1	12	34	0.33	yes			
0.26			1.1	2.1	4.7	6.9	1	2				
P-channel	20	8	0.55	0.5	1.3	48	152	0.76	2			
			4.5	0.45	0.95	7	41	6.3	2			
			0.5	0.45	0.95	2.3	13.5	1.19	1			
		12	3.7	0.45	0.95	6	47	5.4	2			
			4.5	0.47	0.9	4	135	16.5	-			
			4.2	0.75	1	7	33	5	2			
	30	8	3.7	0.4	1	6	120	5.7	-			
			0.41	0.45	0.95	3	14	0.7	2			
			0.2	0.6	1.1	49	103	0.55	2			
		12	3.8	0.45	1	3	112	5.2	-			
			50	20	0.16	1.1	2.1	24	73	0.26	1	

## Small-signal MOSFETs complementary

Package	Type	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	
 SOT666 (1.6 x 1.2 x 0.55)	NX1029X	N	60	20	0.33	1.1	2.1	
		P	50	20	0.17	1.1	2.1	
	NX3008CBKV	N	30	8	0.4	0.6	1.1	
		P	30	8	0.22	0.6	1.1	
PMDT290UCE	N	20	8	0.8	0.5	0.95		
	P	20	8	0.55	0.5	1.3		
 SOT363 (SC-88) (2.0 x 1.25 x 0.95)	NX3008CBKS	N	30	8	0.35	0.6	1.1	
		P	30	8	0.2	0.6	1.1	
 DFN1010B-6 (1.1 x 1.0 x 0.37)	PMCXB900UE	N	20	8	0.6	0.45	0.95	
		P	20	8	0.5	0.45	0.95	
	PMCXB1000UE	N	30	8	0.59	0.45	0.95	
		P	30	8	0.41	0.45	0.95	
 DFN2020-6 (2.0 x 2.0 x 0.65)	PMCPB5530X	N	20	12	5.3	0.4	0.9	
		P	20	12	4.5	0.47	0.9	

					SOT363 (SC-88)	SOT666	DFN2020-6 (SOT1118)	DFN1010B-6 (SOT1216)		
										
					2.0 x 1.25 x 0.95	1.6 x 1.2 x 0.55	2.0 x 2.0 x 0.65	1.0 x 1.0 x 0.37		
					300	300	1250	350		
R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =										
					10 V	4.5 V	2.5 V	1.8 V		
	-	290	420	600						
	-	470	620	845		PMDT290UNE				
	-	32	40	60				PMDPB30XN		
	-	550	660	770					PMDXB550UNE	
	-	1000	1400	2000	NX3008NBKS	NX3008NBKV				
	-	55	72	-				PMDPB56XNEA		
	-	95	130	-				PMDPB95XNE2		
	-	170	240	-	PMGD175XNE					
	2700	3000	4000	-	NX3020NAKS	NX3020NAKV				
	2800	3500	4500	-	NX138AKS					
	2100	2200	2600	-	NX138BKS					
	3000	3700	-	-	NX7002AKS					
	2200	2500	-	-	NX7002BKS					NX7002BKXB
	-	670	1200	1800			PMDT670UPE			
	-	58	74	97				PMDPB58UPE		
	-	1020	1270	1700					PMDXB950UPE	
	-	82	107	142				PMDPB85UPE		
	-	55	75	110				PMDPB55XP		
	-	66	98	-				PMDPB70XPE		
	-	80	95	120				PMDPB80XP		
	-	1200	1700	2100						PMDXB1200UPE
	-	2800	5300	-	NX3008PBKS	NX3008PBKV				
	-	70	89	-				PMDPB70XP		
	4500	5700	-	-	BSS84AKS	BSS84AKV				

	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>c</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =					
					10 V	4.5 V	2.5 V	1.8 V	1.5 V	1.2 V
	11	19	0.5	2	1000	1300	-	-	-	-
	24	73	0.26	1	4500	5100	-	-	-	-
	26	88	0.52	2	-	1000	1400	2000	-	-
	49	103	0.55	2	-	2800	5300	-	-	-
	10	117	0.45	2	-	290	420	600	-	-
	48	152	0.76	2	-	670	1200	1800	-	-
	26	88	0.52	2	-	1000	1400	2000	-	-
	49	103	0.55	2	-	2800	5300	-	-	-
	5.6	19	0.4	1	-	470	620	845	1125	2210
	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500
	4	12	0.6	2	-	550	660	770	890	-
	3	14	0.7	2	-	1200	1700	2100	3000	-
	19	56	14.4	-	-	26	33	50	-	-
	18	56	16.5	-	-	55	75	110	-	-

AIRBAG

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# Q100 Standard logic functions and packages

## Analog switches

Type number	Description	Features					Package (suffix)								
		Configuration	V <sub>cc</sub> (V)	R <sub>ON</sub> (Ω)	R <sub>ON</sub> (FLAT) (Ω)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT137-1 (D)	SOT355-1 (PW)	SOT815-1 (BQ)
74HC4051-Q100	Single-pole, octal-throw analog switch	SP8T-Z	2.0 - 10.0	200	20	-40~125				•	•	•			
74HCT4051-Q100	Single-pole, octal-throw analog switch; TTL-enabled	SP8T-Z	4.5 - 5.5	225	20	-40~125				•	•	•			
74HC4052-Q100	Dual single-pole, quad-throw analog switch	SP4T-Z	2.0 - 10.0	200	20	-40~125				•	•	•			
74HCT4052-Q100	Dual single-pole, quad-throw analog switch; TTL-enabled	SP4T-Z	4.5 - 5.5	200	20	-40~125				•	•	•			
74HC4053-Q100	Triple single-pole, double-throw analog switch	SP8T-Z	2.0 - 10.0	200	20	-40~125				•	•	•			
74HCT4053-Q100	Triple single-pole, double-throw analog switch; TTL-enabled	SP8T-Z	4.5 - 5.5	200	20	-40~125				•	•	•			
74HC4066-Q100	Quad single-pole, single-throw analog switch	SPST-NO	2.0 - 10.0	105	23	-40~125	•	•	•						
74HCT4066-Q100	Quad single-pole, single-throw analog switch; TTL-enabled	SPST-NO	4.5 - 5.5	118	23	-40~125	•	•	•						
74HC4067-Q100	Single-pole, 16-throw analog switch	SP16T-Z	2.0 - 10.0	200	25	-40~125							•	•	•
74HCT4067-Q100	Single-pole, 16-throw analog switch; TTL-enabled	SP16T-Z	4.5 - 5.5	225	25	-40~125							•	•	•
74HC4851-Q100	Single-pole, octal-throw analog switch	SP8T-Z	2.0 - 10.0	220	-	-40~125				•	•	•			
74HCT4851-Q100	Single-pole, octal-throw analog switch; TTL-enabled	SP8T-Z	4.5 - 5.5	240	-	-40~125				•	•	•			
74HC4852-Q100	Dual single-pole, quad-throw analog switch	SP4T-Z	2.0 - 10.0	220	-	-40~125				•	•	•			
74HCT4852-Q100	Dual single-pole, quad-throw analog switch; TTL-enabled	SP4T-Z	4.5 - 5.5	240	-	-40~125				•	•	•			
74LV4052-Q100	Dual single-pole, quad-throw analog switch	SP4T-Z	1.0 - 6.0	125	15	-40~125				•	•				
74LV4053-Q100	Triple single-pole, double-throw analog switch	SPDT-Z	1.0 - 6.0	150	30	-40~125				•	•	•			
74LVC4066-Q100	Quad single-pole, single-throw analog switch	SPST-NO	1.65 - 5.5	15	1.5	-40~125	•	•	•						
HEF4051B-Q100	Single-pole, octal-throw analog switch	SP8T-Z	3.0 - 15	175	30	-40~85				•	•				
HEF4052B-Q100	Dual single-pole, quad-throw analog switch	SP4T-Z	3.0 - 15	175	30	-40~85				•	•				
HEF4053B-Q100	Triple single-pole, double-throw analog switch	SPDT-Z	3.0 - 15	175	30	-40~85				•	•				
HEF4066B-Q100	Quad single-pole, single-throw analog switch	SPST-NO	3.0 - 15	175	20	-40~85	•								
HEF4067B-Q100	Single-pole, 16-throw analog switch	SP16T-Z	3.0 - 15	175	20	-40~85							•		

## Buffers/Inverters

Type number	Description	Features				Package (suffix)								
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT362-1 (DGG)
74AHC04-Q100	Hex inverter	2.0 - 5.5	± 8	3.0	-40~125	•	•	•						
74AHT04-Q100	Hex inverter; TTL-enabled	4.5 - 5.5	± 8	3.0	-40~125	•	•	•						
74AHC125-Q100	Quad buffer/line driver (3-state)	2.0 - 5.5	± 8	3.0	-40~125	•	•	•						
74AHT125-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.0	-40~125	•	•	•						
74AHC126-Q100	Quad buffer/line driver (3-state)	2.0 - 5.5	± 8	3.3	-40~125	•	•	•						
74AHT126-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.0	-40~125	•	•	•						
74AHC240-Q100	Octal inverter/line driver (3-state)	2.0 - 5.5	± 8	2.8	-40~125						•	•	•	
74AHT240-Q100	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.0	-40~125						•	•	•	
74AHC244-Q100	Octal buffer/line driver (3-state)	2.0 - 5.5	± 8	3.5	-40~125						•	•	•	
74AHT244-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.5	-40~125						•	•	•	
74AHC541-Q100	Octal buffer/line driver (3-state)	2.0 - 5.5	± 8	3.5	-40~125						•	•	•	
74AHT541-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.5	-40~125						•	•	•	
74AHCU04-Q100	Hex inverter; unbuffered	2.0 - 5.5	± 8	2.4	-40~125	•	•	•						
74ALVC125-Q100	Quad buffer/line driver (3-state)	1.65 - 3.6	± 24	1.8	-40~85	•	•	•						
74ALVC541-Q100	Octal buffer/line driver (3-state)	1.65 - 3.6	± 24	2.3	-40~85						•	•	•	
74HC05-Q100	Hex inverter; open-drain	2.0 - 6.0	5.2	11	-40~125	•	•	•						
74HC04-Q100	Hex inverter	2.0 - 6.0	± 5.2	7.0	-40~125	•	•	•						
74HCT04-Q100	Hex inverter; TTL-enabled	4.5 - 5.5	± 4.0	8.0	-40~125	•	•	•						
74HC125-Q100	Quad buffer/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40~125	•	•							
74HCT125-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	12	-40~125	•	•							
74HC126-Q100	Quad buffer/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40~125	•	•							
74HCT126-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40~125	•	•							
74HC240-Q100	Octal inverter/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40~125						•	•	•	
74HCT240-Q100	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	9.0	-40~125						•	•	•	
74HC244-Q100	Octal buffer/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40~125						•	•	•	
74HCT244-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40~125						•	•	•	
74HC365-Q100	Hex buffer/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40~125				•	•				
74HCT365-Q100	Hex buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40~125				•	•				
74HC366-Q100	Hex inverter/line driver (3-state)	2.0 - 6.0	± 7.8	10	-40~125				•	•				
74HCT366-Q100	Hex inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40~125				•	•				
74HCS40-Q100	Octal inverter/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40~125						•			
74HCT540-Q100	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40~125						•			
74HCS41-Q100	Octal buffer/line driver (3-state)	2.0 - 6.0	± 7.8	10	-40~125						•	•		



## Buffers/Inverters

Type number	Description	Features				Package (suffix)								
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT362-1 (DGG)
74HCT541-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	12	-40~125						•	•		
74HCU04-Q100	Hex inverter; unbuffered	2.0 - 6.0	± 5.2	5.0	-40~125	•	•	•						
74LV244-Q100	Octal buffer/line driver (3-state)	1.0 - 5.5	± 16	8.0	-40~125						•	•		
74LVC04A-Q100	Hex inverter	1.65 - 5.5	± 24	2.0	-40~125	•	•	•						
74LVC06A-Q100	Hex inverter; open-drain	1.65 - 5.5	32	2.2	-40~125	•	•	•						
74LVC07A-Q100	Hex buffer; open-drain	1.65 - 5.5	32	2.2	-40~125	•	•	•						
74LVC125A-Q100	Quad buffer/line driver (3-state)	1.2 - 3.6	± 24	2.4	-40~125	•	•	•						
74LVC126A-Q100	Quad buffer/line driver (3-state)	1.2 - 3.6	± 24	2.4	-40~125	•	•	•						
74LVC541A-Q100	Octal buffer/line driver (3-state)	1.2 - 3.6	± 24	3.3	-40~125						•	•	•	
74LVC16240A-Q100	16-bit inverter/line driver (3-state)	1.2 - 3.6	± 24	2.7	-40~125									•
74LVC244A-Q100	Octal buffer/line driver (3-state)	1.2 - 3.6	± 24	2.8	-40~125						•	•	•	
74LVCH244A-Q100	Octal buffer/line driver with bus hold (3-state)	1.2 - 3.6	± 24	2.8	-40~125						•	•	•	
74LVC16244A-Q100	16-bit buffer/line driver (3-state)	1.2 - 3.6	± 24	3.0	-40~125									•
74LVCH16244A-Q100	16-bit buffer/line driver with bus hold (3-state)	1.2 - 3.6	± 24	3.0	-40~125									•
74LVCU04A-Q100	Hex inverter; unbuffered	1.2 - 3.6	± 24	2.0	-40~125	•	•							
74LVT04-Q100	Hex inverter	2.7 - 3.6	-20 / +32	2.6	-40~85	•	•							
74LVT244A-Q100	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	-32 / +64	2.6	-40~85						•	•		
74LVTH244A-Q100	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	-32 / +64	2.6	-40~85						•	•		
74VHC126-Q100	Quad buffer/line driver (3-state)	2.0 - 5.5	± 8	3.3	-40~125	•	•	•						
74VHCT126-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.0	-40~125	•	•	•						
74VHC541-Q100	Octal buffer/line driver (3-state)	2.0 - 5.5	± 8	3.5	-40~125						•	•	•	
74VHCT541-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.5	-40~125						•	•	•	
HEF4049B-Q100	Hex inverter/line driver	3.0 - 15.0	-3 / +20	20	-40~85				•					
HEF4050B-Q100	Hex buffer/line driver	3.0 - 15.0	-3 / +20	40	-40~85				•					
HEF4069UB-Q100	Hex inverter; unbuffered	3.0 - 15.0	± 3.4	15	-40~85	•	•							

## Counters/Frequency dividers

Types in **bold** represent new products

Type number	Description	Features				Package (suffix)					
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)
<b>74HC161-Q100</b>	Presetable synchronous 4-bit binary counter; asynchronous reset	2.0 - 6.0	± 5.2	19	-40~125				•	•	
74HC163-Q100	Presetable synchronous 4-bit binary counter; synchronous reset	2.0 - 6.0	± 5.2	17	-40~125				•	•	
74HCT163-Q100	Presetable synchronous 4-bit binary counter; synchronous reset; TTL-enabled	4.5 - 5.5	± 4.0	20	-40~125				•	•	
74HC193-Q100	Presetable synchronous 4-bit binary up/down counter	2.0 - 6.0	± 5.2	20	-40~125				•	•	
74HCT193-Q100	Presetable synchronous 4-bit binary up/down counter; TTL-enabled	4.5 - 5.5	± 4.0	20	-40~125				•	•	
74HC393-Q100	Dual 4-bit binary ripple counter	2.0 - 6.0	± 5.2	12	-40~125	•	•	•			
74HCT393-Q100	Dual 4-bit binary ripple counter; TTL-enabled	4.5 - 5.5	± 4.0	20	-40~125	•	•	•			
74HC4017-Q100	Johnson decade counter with 10 decoded outputs	2.0 - 6.0	± 5.2	18	-40~125				•	•	•
74HCT4017-Q100	Johnson decade counter with 10 decoded outputs; TTL-enabled	4.5 - 5.5	± 4.0	21	-40~125				•		•
74HC4020-Q100	14-stage binary ripple counter	2.0 - 6.0	± 5.2	11	-40~125				•	•	•
74HCT4020-Q100	14-stage binary ripple counter; TTL-enabled	4.5 - 5.5	± 4.0	15	-40~125				•	•	•
74HC4024-Q100	7-stage binary ripple counter	2.0 - 6.0	± 5.2	14	-40~125	•	•				
74HC4040-Q100	12-stage binary ripple counter	2.0 - 6.0	± 5.2	14	-40~125				•	•	•
74HCT4040-Q100	12-stage binary ripple counter; TTL-enabled	4.5 - 5.5	± 4.0	16	-40~125				•	•	•
74HC4060-Q100	14-stage binary ripple counter with oscillator	2.0 - 6.0	± 5.2	31	-40~125				•	•	•
74HCT4060-Q100	14-stage binary ripple counter with oscillator; TTL-enabled	4.5 - 5.5	± 4.0	31	-40~125				•		•
74HC4520-Q100	Dual 4-bit synchronous binary counter	2.0 - 6.0	± 5.2	24	-40~125				•		
74HCT4520-Q100	Dual 4-bit synchronous binary counter; TTL-enabled	4.5 - 5.5	± 4.0	24	-40~125				•		
74LV393-Q100	Dual 4-bit binary ripple counter	1.0 - 3.6	± 6	12	-40~125	•	•				
HEF4017B-Q100	5-stage Johnson decade counter	3.0 - 15	± 2.4	40	-40~85				•		
HEF4020B-Q100	14-stage binary ripple counter	3.0 - 15	± 2.4	30	-40~85				•		
HEF4040B-Q100	12-stage binary ripple counter	3.0 - 15	± 2.4	35	-40~85				•		
HEF4060B-Q100	14-stage binary ripple counter with oscillator	3.0 - 15	± 2.4	50	-40~85				•		
HEF4541B-Q100	Programmable timer	3.0 - 15	-4/ + 2.7	38	-40~85	•					
HEF4520B-Q100	Dual 4-bit synchronous binary counter	3.0 - 15	± 2.4	15	-40~85				•		

## Bus switches

Types in **bold** represent new products

Type number	Description	Features				Package (suffix)							
		$V_{CC}$ (V)	$V_{PASS}$ (V)	$R_{ON}$ ( $\Omega$ )	$T_{amb}$ ( $^{\circ}$ C)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)
<b>74CBTLV3125-Q100</b>	Quad bus switch	2.3 - 3.6	3.3	7	-40~125	•							
74CBTLV3126-Q100	Quad bus switch	2.3 - 3.6	3.3	7	-40~125	•	•						
74CBTLV3253-Q100	Dual 4:1 mux/demux	2.3 - 3.6	3.3	7	-40~125			•	•	•			
74CBTLV3257-Q100	Quad 2:1 mux/demux	2.3 - 3.6	3.3	7	-40~125			•	•	•			
74CBTLV3245-Q100	Octal bus switch	2.3 - 3.6	3.3	7	-40~125							•	•
74CBTLVD3245-Q100	Octal bus switch level translator	3.0 - 3.6	1.8	7	-40~125							•	•
CBT3245A-Q100	Octal bus switch	4.5 - 5.5	3.9	7	-40~85						•	•	•

## Digital decoders/Demultiplexers

Type number	Description	Features				Package (suffix)		
		$V_{CC}$ (V)	$I_O$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ ( $^{\circ}$ C)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)
74AHC138-Q100	3-to-8 line decoder/demultiplexer; inverting	2.0 - 5.5	$\pm 8$	4.4	-40~125	•	•	•
74AHCT138-Q100	3-to-8 line decoder/demultiplexer; inverting; TTL-enabled	4.5 - 5.5	$\pm 8$	4.4	-40~125	•	•	•
74AHC139-Q100	Dual 2-to-4 line decoder/demultiplexer	2.0 - 5.5	$\pm 8$	3.9	-40~125	•	•	
74AHCT139-Q100	Dual 2-to-4 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	$\pm 8$	3.6	-40~125	•	•	
74HC237-Q100	3-to-8 decoder/demultiplexer with address latches	2.0 - 6.0	$\pm 5.2$	18	-40~125	•		
74HC138-Q100	3-to-8 line decoder/demultiplexer; inverting	2.0 - 6.0	$\pm 5.2$	12	-40~125	•	•	•
74HCT138-Q100	3-to-8 line decoder/demultiplexer; inverting; TTL-enabled	4.5 - 5.5	$\pm 4$	19	-40~125	•	•	•
74HC139-Q100	Dual 2-to-4 line decoder/demultiplexer	2.0 - 6.0	$\pm 5.2$	14	-40~125	•	•	
74HCT139-Q100	Dual 2-to-4 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	$\pm 4$	16	-40~125	•	•	
74HC238-Q100	3-to-8 decoder/demultiplexer	2.0 - 6.0	$\pm 5.2$	14	-40~125	•	•	•
74HCT238-Q100	3-to-8 decoder/demultiplexer; TTL-enabled	4.5 - 5.5	$\pm 4$	18	-40~125	•	•	•
74LVC138A-Q100	3-to-8 line decoder/demultiplexer; inverting	1.2 - 3.6	$\pm 24$	2.7	-40~125	•	•	•
HEF4555B-Q100	Dual 1-to-4 line decoder/demultiplexer	3.0 - 15	$\pm 2.4$	30	-40~85	•		

## Digital multiplexers

Type number	Description	Features				Package (suffix)		
		$V_{cc}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)
74AHC157-Q100	Quad 2-input multiplexer	2.0 - 5.5	± 8	3.2	-40~125	•	•	•
74AHCT157-Q100	Quad 2-input multiplexer; TTL-enabled	4.5 - 5.5	± 8	3.2	-40~125	•	•	•
74AHC257-Q100	Quad 2-input multiplexer (3-State)	2.0 - 5.5	± 8	2.9	-40~125	•	•	
74AHCT257-Q100	Quad 2-input multiplexer; TTL-enabled (3-State)	4.5 - 5.5	± 8	3.7	-40~125	•	•	
74HC151-Q100	8-input multiplexer	2.0 - 6.0	± 5.2	17	-40~125	•	•	
74HCT151-Q100	8-input multiplexer; TTL-enabled	4.5 - 5.5	± 4	19	-40~125	•	•	
74HC153-Q100	Dual 4-input multiplexer	2.0 - 6.0	± 5.2	17	-40~125	•	•	
74HCT153-Q100	Dual 4-input multiplexer; TTL-enabled	4.5 - 5.5	± 4	19	-40~125	•	•	
74HC157-Q100	Quad 2-input multiplexer	2.0 - 6.0	± 5.2	11	-40~125	•	•	•
74HCT157-Q100	Quad 2-input multiplexer; TTL-enabled	4.5 - 5.5	± 4	13	-40~125	•	•	•
74HC251-Q100	8-input multiplexer (3-State)	2.0 - 6.0	± 5.2	18	-40~125	•	•	
74HCT251-Q100	8-input multiplexer; TTL-enabled (3-State)	4.5 - 5.5	± 4	22	-40~125	•	•	
74HC253-Q100	Dual 4-input multiplexer (3-State)	2.0 - 6.0	± 7.8	17	-40~125	•		
74HCT253-Q100	Dual 4-input multiplexer; TTL-enabled (3-State)	4.5 - 5.5	± 6	17	-40~125	•		
74HC257-Q100	Quad 2-input multiplexer (3-State)	2.0 - 6.0	± 7.8	11	-40~125	•	•	
74HCT257-Q100	Quad 2-input multiplexer; TTL-enabled (3-State)	4.5 - 5.5	± 6	13	-40~125	•	•	
74LVC157A-Q100	Quad 2-input multiplexer	1.2 - 3.6	± 24	2.5	-40~125	•	•	•

## Flip-flops

Type number	Description	Features				Package (suffix)									
		$V_{cc}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT815-1 (BQ)	SOT362-1 (DGG)
74AHC74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	2.0 - 5.5	± 8	3.7	-40~125	•	•	•							
74AHCT74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 8	3.3	-40~125	•	•	•							
74AHC273-Q100	Octal D-type flip-flop with reset; positive-edge trigger	2.0 - 5.5	± 8	4.2	-40~125					•	•	•			
74AHCT273-Q100	Octal D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 8	4.0	-40~125					•	•	•			
74AHC374-Q100	Octal D-type flip-flop; positive-edge trigger	2.0 - 5.5	± 8	4.4	-40~125					•	•				
74AHCT374-Q100	Octal D-type flip-flop; positive-edge trigger (3-state); TTL-enabled (3-state)	4.5 - 5.5	± 8	4.3	-40~125					•	•				
74AHC377-Q100	Octal D-type flip-flop with data enable; positive-edge trigger	2.0 - 5.5	± 8	3.9	-40~125						•				
74AHCT377-Q100	Octal D-type flip-flop with data enable; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 8	4.0	-40~125					•	•				
74AVC16374-Q100	16-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	± 12	1.5	-40~85										•

## Flip-flops

Type number	Description	Features				Package (suffix)									
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT815-1 (BQ)	SOT362-1 (DGG)
74HC74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	2.0 - 6.0	± 5.2	14	-40~125	•	•	•							
74HCT74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	15	-40~125	•	•	•							
74HC107-Q100	Dual J-K flip-flop with reset; negative-edge trigger	2.0 - 6.0	± 5.2	16	-40~125	•	•								
74HCT107-Q100	Dual J-K flip-flop with reset; negative-edge trigger; TTL-enabled	4.5 - 5.5	± 4	16	-40~125	•									
74HC109-Q100	Dual J-K flip-flop with set and reset; positive-edge trigger	2.0 - 6.0	± 5.2	15	-40~125				•						
74HCT109-Q100	Dual J-K flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	17	-40~125				•						
74HC174-Q100	Hex D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	± 5.2	17	-40~125				•	•					
74HCT174-Q100	Hex D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	18	-40~125				•	•					
74HC175-Q100	Quad D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	± 5.2	17	-40~125				•	•					
74HCT175-Q100	Quad D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	16	-40~125				•	•					
74HC273-Q100	Octal D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	± 5.2	15	-40~125						•	•	•		
74HCT273-Q100	Octal D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	15	-40~125						•	•	•		
74HC377-Q100	Octal D-type flip-flop with data enable; positive-edge trigger	2.0 - 6.0	± 7.8	13	-40~125						•	•			
74HCT377-Q100	Octal D-type flip-flop with data enable; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 6	14	-40~125						•	•			
74HC574-Q100	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 6.0	± 7.8	14	-40~125						•	•			
74HCT574-Q100	Octal D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	± 6	15	-40~125						•	•			
74LV74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	1.0 - 5.5	± 12	11	-40~125	•	•								
74LVC74A-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	1.2 - 3.6	± 24	2.5	-40~125	•	•	•							
74LVC273-Q100	Octal D-type flip-flop with reset; positive-edge trigger	1.2 - 3.6	± 24	6.0	-40~125						•	•	•		
74LVC374A-Q100	Octal D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	± 24	2.7	-40~125						•	•	•		

## Flip-flops

Type number	Description	Features				Package (suffix)									
		$V_{cc}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT815-1 (BQ)	SOT362-1 (DGG)
74LVC573A-Q100	Octal D-type transparent latch (3-state)	1.2 - 3.6	± 24	3.4	-40~125						•	•	•		
74LVC823A-Q100	9-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	± 24	5.4	-40~125									•	
74LVC16374A-Q100	16-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	± 24	3.8	-40~125										•
74LVCH16374A-Q100	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	1.2 - 3.6	± 24	3.8	-40~125										•
HEF4013B-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	3.0 - 15	± 2.4	30	-40~85	•	•								
HEF4027B-Q100	Dual J-K flip-flop	3.0 - 15	± 2.4	30	-40~85				•						

## Gates

Type number	Description	Features				Package (suffix)		
		$V_{cc}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)
74AHC00-Q100	Quad 2-input NAND gate	2.0 - 5.5	± 8	3.2	-40~125	•	•	•
74AHCT00-Q100	Quad 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 8	3.3	-40~125	•	•	•
74AHC02-Q100	Quad 2-input NOR gate	2.0 - 5.5	± 8	2.9	-40~125	•	•	•
74AHCT02-Q100	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 8	3.8	-40~125	•	•	•
74AHC08-Q100	Quad 2-input AND gate	2.0 - 5.5	± 8	3.5	-40~125	•	•	•
74AHCT08-Q100	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	± 8	5.0	-40~125	•	•	•
74AHC30-Q100	8-input NAND gate	2.0 - 5.5	± 8	3.6	-40~125	•	•	•
74AHCT30-Q100	8-input NAND gate; TTL-enabled	4.5 - 5.5	± 8	3.3	-40~125	•	•	•
74AHC32-Q100	Quad 2-input OR gate	2.0 - 5.5	± 8	3.5	-40~125	•	•	•
74AHCT32-Q100	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	± 8	5.0	-40~125	•	•	•
74AHC86-Q100	Quad 2-input EXCLUSIVE-OR gate	2.0 - 5.5	± 8	3.4	-40~125	•	•	•
74AHCT86-Q100	Quad 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 8	3.4	-40~125	•	•	•
74ALVC00-Q100	Quad 2-input NAND gate	1.65 - 3.6	± 24	2.1	-40~85	•	•	•

## Gates

Type number	Description	Features				Package (suffix)		
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT1402-1 (PW)	SOT762-1 (BQ)
74ALVC32-Q100	Quad 2-input OR gate	1.65 - 3.6	± 24	2.0	-40~125	•	•	•
74HC00-Q100	Quad 2-input NAND gate	2.0 - 6.0	± 5.2	7.0	-40~125	•	•	•
74HCT00-Q100	Quad 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	10	-40~125	•	•	•
74HC02-Q100	Quad 2-input NOR gate	2.0 - 6.0	± 5.2	7.0	-40~125	•	•	•
74HCT02-Q100	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 4	9.0	-40~125	•	•	•
74HC03-Q100	Quad 2-input NAND gate; open-drain	2.0 - 6.0	5.2	8.0	-40~125	•	•	
74HCT03-Q100	Quad 2-input NAND gate; open-drain; TTL-enabled	4.5 - 5.5	± 4	10	-40~125	•	•	
74HC08-Q100	Quad 2-input AND gate	2.0 - 6.0	± 5.2	7.0	-40~125	•	•	•
74HCT08-Q100	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	± 4	11	-40~125	•	•	•
74HC10-Q100	Triple 3-input NAND gate	2.0 - 6.0	± 5.2	9.0	-40~125	•	•	
74HCT10-Q100	Triple 3-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	11	-40~125	•	•	
74HC11-Q100	Triple 3-input AND gate	2.0 - 6.0	± 5.2	10	-40~125	•	•	
74HCT11-Q100	Triple 3-input AND gate; TTL-enabled	4.5 - 5.5	± 4	11	-40~125	•	•	
74HC20-Q100	Dual 4-input NAND gate	2.0 - 6.0	± 5.2	8.0	-40~125	•	•	
74HCT20-Q100	Dual 4-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	13	-40~125	•		•
74HC27-Q100	Triple 3-input NOR gate	2.0 - 6.0	± 5.2	8.0	-40~125	•	•	•
74HCT27-Q100	Triple 3-input NOR gate; TTL-enabled	4.5 - 5.5	± 4	10	-40~125	•	•	•
74HC30-Q100	8-input NAND gate	2.0 - 6.0	± 5.2	12	-40~125	•	•	
74HCT30-Q100	8-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	12	-40~125	•	•	
74HC32-Q100	Quad 2-input OR gate	2.0 - 6.0	± 5.2	6.0	-40~125	•	•	•
74HCT32-Q100	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	± 4.0	9.0	-40~125	•	•	•
74HC86-Q100	Quad 2-input EXCLUSIVE-OR gate	2.0 - 6.0	± 5.2	11	-40~125	•	•	
74HCT86-Q100	Quad 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 4	14	-40~125	•	•	
74HC4002-Q100	Dual 4-input NOR gate	2.0 - 6.0	± 5.2	9.0	-40~125	•	•	
74HC4075-Q100	Triple 3-input OR gate	2.0 - 6.0	± 5.2	8.0	-40~125	•	•	
74HCT4075-Q100	Triple 3-input OR gate; TTL-enabled	4.5 - 5.5	± 4	10	-40~125	•	•	
74LV08-Q100	Quad 2-input AND gate	1.0 - 5.5	± 12	7.0	-40~125	•	•	
74LVC00A-Q100	Quad 2-input NAND gate	1.2 - 3.6	± 24	2.1	-40~125	•	•	•
74LVC02A-Q100	Quad 2-input NOR gate	1.2 - 3.6	± 24	2.1	-40~125	•	•	•
74LVC08A-Q100	Quad 2-input AND gate	1.2 - 3.6	± 24	2.1	-40~125	•	•	•
74LVC32A-Q100	Quad 2-input OR gate	1.2 - 3.6	± 24	2.1	-40~125	•	•	•
74VHC02-Q100	Quad 2-input NOR gate	2.0 - 5.5	± 8	2.9	-40~125	•	•	•
74VHCT02-Q100	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 8	3.8	-40~125	•	•	•
74VHC08-Q100	Quad 2-input AND gate	2.0 - 5.5	± 8	3.5	-40~125	•	•	

## Gates

Type number	Description	Features				Package (suffix)		
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)
74VHCT08-Q100	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	± 8	5.0	-40~125	•	•	•
74VHC32-Q100	Quad 2-input OR gate	2.0 - 5.5	± 8	3.5	-40~125	•	•	
74VHCT32-Q100	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	± 8	5.0	-40~125	•	•	•
HEF4001B-Q100	Quad 2-input NOR gate	3.0 - 15	± 2.4	20	-40~85	•		
HEF4011B-Q100	Quad 2-input NAND gate	3.0 - 15	± 2.4	20	-40~85	•		
HEF4030B-Q100	Quad 2-input EXCLUSIVE-OR gate	3.0 - 15	± 2.4	30	-40~85	•		
HEF4070B-Q100	Quad 2-input EXCLUSIVE-OR gate	3.0 - 15	± 2.4	30	-40~85	•		
HEF4081B-Q100	Quad 2-input AND gate	3.0 - 15	± 2.4	20	-40~85	•		
HEF4082B-Q100	Dual 4-input AND gate	3.0 - 15	± 2.4	25	-40~85	•		

## Latches/Registered drivers

Type number	Description	Features				Package (suffix)						
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT362-1 (DGG)
74AHC573-Q100	Octal D-type transparent latch (3-state)	2.0 - 5.5	± 8	4.2	-40~125				•	•	•	
74AHCT573-Q100	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.9	-40~125				•	•	•	
74HC259-Q100	8 bit addressable latch	2.0 - 6.0	± 5.2	18	-40~125	•	•	•				
74HCT259-Q100	8 bit addressable latch; TTL-enabled	4.5 - 5.5	± 4	20	-40~125	•	•	•				
74HC373-Q100	Octal D-type transparent latch (3-state)	2.0 - 6.0	± 7.8	12	-40~125				•	•	•	
74HCT373-Q100	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	± 6	14	-40~125				•	•	•	
74HCS73-Q100	Octal D-type transparent latch (3-state)	2.0 - 6.0	± 7.8	14	-40~125				•	•	•	
74HCT573-Q100	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	± 6	17	-40~125				•	•	•	
74LVC373A-Q100	Octal D-type transparent latch (3-state)	1.2 - 3.6	± 24	3.0	-40~125				•	•	•	
74LVC16373A-Q100	16-bit D-type transparent latch (3-state)	1.2 - 3.6	± 24	2.4	-40~125							•
74LVCH16373A-Q100	16-bit D-type transparent latch with bushold (3-state)	1.2 - 3.6	± 24	2.4	-40~125							•
HEF4043B-Q100	Quad R/S latch with set and reset (3-state)	3.0 - 15	± 2.4	25	-40~85	•						



## Level shifters/Translators

Types in **bold** represent new products

Type number	Description	Features				Package (suffix)									
		V <sub>cc</sub> (A) (V)	V <sub>cc</sub> (B) (V)	I <sub>o</sub> (mA)	T <sub>amb</sub> (°C)	SOT402-1 (PW)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT137-1 (D)	SOT355-1 (PW)	SOT815-1 (BQ)	SOT362-1 (DGG)	SOT480-1 (DGV)	SOT364-1 (DGG)
74ALVC164245-Q100	16-bit dual-supply voltage level translating transceiver (3-state)	1.5 - 3.6	1.5 - 5.5	± 24	-40~125										
74AVC4T245-Q100	4-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40~125		•	•	•						
74AVC8T245-Q100	8-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40~125					•	•				
74AVC16T245-Q100	16-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40~125									•	
74AVC20T245-Q100	20-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40~125										•
74AVCH4T245-Q100	4-bit dual-supply voltage translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40~125		•	•	•						
74HC4050-Q100	Hex buffer with 15V tolerant inputs	2.0 - 6.0	n.a	± 5.2	-40~125		•	•							
<b>74LVC4T3144-Q100</b>	4-bit dual supply buffer/line driver (3-state)	1.2 to 5.5	1.2 to 5.5	± 24	-40~125	•									
74LVC4245A-Q100	8-bit dual-supply voltage translating transceiver (3-state)	1.5 - 5.5	1.5 - 3.6	± 24	-40~125					•	•	•			
74LVC8T245-Q100	8-bit dual-supply voltage translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40~125					•	•				
74LVCH8T245-Q100	8-bit dual-supply voltage translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40~125					•	•				
HEF4104B-Q100	Quad low-to-high voltage translator (3-state)	3.0 - 15.0	3.0 - 15.0	± 2.4	-40~85		•								

## Multivibrators

Types in **bold** represent new products

Type number	Description	Features				Package (suffix)		
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)
74AHC123A-Q100	Dual retriggerable monostable multivibrator with reset	2.0 - 5.5	± 8	5.1	-40~125	•	•	•
74AHCT123A-Q100	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	± 8	5.0	-40~125	•	•	•
74HC123-Q100	Dual retriggerable monostable multivibrator with reset	2.0 - 6.0	± 7.8	9.0	-40~125	•	•	•
74HCT123-Q100	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	± 4	26	-40~125	•	•	•
74HC4538-Q100	Dual retriggerable precision monostable multivibrator	2.0 - 6.0	± 5.2	27	-40~125	•	•	
74HCT4538-Q100	Dual retriggerable precision monostable multivibrator; TTL-enabled	4.5 - 5.5	± 4	30	-40~125	•	•	
<b>HEF4528B-Q100</b>	Dual retriggerable monostable multivibrator with reset	3.0 - 15	± 2.4	40	-40~85	•		
HEF4538B-Q100	Dual retriggerable precision monostable multivibrator	3.0 - 15	± 2.4	60	-40~85	•		

## Schmitt-triggers

Type number	Description	Features				Package (suffix)				
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)
74AHC14-Q100	Hex inverter Schmitt-trigger	2.0 - 5.5	± 8	3.2	-40~125	•	•	•		
74AHCT14-Q100	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 8	4.0	-40~125	•	•	•		
74AHC132-Q100	Quad 2-input NAND gate Schmitt-trigger	2.0 - 5.5	± 8	3.3	-40~125	•	•	•		
74AHCT132-Q100	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 8	3.5	-40~125	•	•	•		
74HC7014-Q100	Hex buffer precision Schmitt-trigger	2.0 - 6.0	± 5.2	27	-40~125	•				
74HC14-Q100	Hex inverter Schmitt-trigger	2.0 - 6.0	± 5.2	12	-40~125	•	•	•		
74HCT14-Q100	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4	17	-40~125	•	•	•		
74HC132-Q100	Quad 2-input NAND gate Schmitt-trigger	2.0 - 6.0	± 5.2	11	-40~125	•	•			
74HCT132-Q100	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4	17	-40~125	•	•			
74HC7541-Q100	Octal buffer/line driver Schmitt-trigger (3-State)	2.0 - 6.0	± 7.8	11	-40~125				•	•
74HCT7541-Q100	Octal buffer/line driver Schmitt-trigger; TTL-enabled (3-State)	4.5 - 5.5	± 6	16	-40~125				•	•
74LV132-Q100	Quad 2-input NAND gate Schmitt-trigger	1.0 - 5.5	± 12	10	-40~125	•	•	•		
74LVC14A-Q100	Hex inverter Schmitt-trigger	1.2 - 3.6	± 24	3.2	-40~125	•	•	•		
74LVC132A-Q100	Quad 2-input NAND gate Schmitt-trigger	1.2 - 3.6	± 24	3.4	-40~125	•	•	•		
HEF40106B-Q100	Hex inverter Schmitt-trigger	4.5 - 15.5	± 2.4	30	-40~85	•	•			

## Shift registers

Type number	Description	Features				Package (suffix)							
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)
74AHC164-Q100	8-bit serial-in/parallel-out shift register	2.0 - 5.5	± 8	4.5	-40~125	•	•	•					
74AHCT164-Q100	8-bit serial-in/parallel-out shift register; TTL-enabled	4.5 - 5.5	± 8	3.4	-40~125	•	•	•					
74AHC594-Q100	8-bit serial-in/parallel-out shift register with output register	2.0 - 5.5	± 8	4.1	-40~125				•	•	•		
74AHCT594-Q100	8-bit serial-in/parallel-out shift register with output register; TTL-enabled	4.5 - 5.5	± 8	3.8	-40~125				•	•	•		
74AHC595-Q100	8-bit serial-in/parallel-out shift register with output register (3-state)	2.0 - 5.5	± 8	4.0	-40~125				•	•	•		
74AHCT595-Q100	8-bit serial-in/parallel-out shift register with output storage; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.8	-40~125				•	•	•		
74HC164-Q100	8-bit serial-in/parallel-out shift register	2.0 - 6.0	± 5.2	12	-40~125	•	•	•					
74HCT164-Q100	8-bit serial-in/parallel-out shift register; TTL-enabled	4.5 - 5.5	± 4	12	-40~125	•	•	•					
74HC165-Q100	8-bit parallel or serial-in/serial-out shift register	2.0 - 6.0	± 5.2	16	-40~125				•	•	•		
74HCT165-Q100	8-bit parallel or serial-in/serial-out shift register; TTL-enabled	4.5 - 5.5	± 4	14	-40~125				•	•	•		
74HC166-Q100	8-bit parallel or serial-in/serial-out shift register	2.0 - 6.0	± 5.2	15	-40~125				•	•			
74HCT166-Q100	8-bit parallel or serial-in/serial-out shift register; TTL-enabled	4.5 - 5.5	± 4	23	-40~125				•				
74HC594-Q100	8-bit serial-in/parallel-out shift register with output storage register	2.0 - 6.0	± 7.8	14	-40~125			•					
74HCT594-Q100	8-bit serial-in/parallel-out shift register with output storage register; TTL-enabled	4.5 - 5.5	± 6	15	-40~125				•				
74HC595-Q100	8-bit serial-in/parallel-out shift register with output storage register (3-state)	2.0 - 6.0	± 7.8	16	-40~125				•	•	•		
74HCT595-Q100	8-bit serial-in/parallel-out shift register with output storage register; TTL-enabled (3-state)	4.5 - 5.5	± 6	25	-40~125				•	•	•		
74HC597-Q100	8-bit parallel or serial-in/parallel-out shift register with parallel input register	2.0 - 6.0	± 5.2	16	-40~125				•	•			
74HCT597-Q100	8-bit parallel or serial-in/parallel-out shift register with parallel input register; TTL-enabled	4.5 - 5.5	± 4	20	-40~125				•				
74HC4094-Q100	8-bit serial-in/serial or parallel-out shift register with output register (3-state)	2.0 - 6.0	± 5.2	15	-40~125				•	•			
74HCT4094-Q100	8-bit serial-in/serial or parallel-out shift register with output register; TTL-enabled (3-state)	4.5 - 5.5	± 4	19	-40~125				•				
74LV164-Q100	8-bit serial-in/parallel-out shift register	1.0 - 5.5	± 12	12	-40~125	•	•	•					
74LV165-Q100	8-bit parallel or serial-in/serial-out shift register	1.0 - 5.5	± 12	18	-40~125				•	•			
74LV165A-Q100	8-bit parallel or serial-in/serial-out shift register	1.0 - 5.5	± 12	7.5	-40~125				•	•			

## Shift registers

Type number	Description	Features				Package (suffix)							
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)
74LV4060-Q100	14-stage binary ripple counter with oscillator	1.0 - 5.5	± 6	29	-40~125				•	•			
74LVC594A-Q100	8-bit serial-in/parallel-out shift register with output storage register	1.2 - 5.5	± 24	3.1	-40~125				•	•	•		
74VHC595-Q100	8-bit serial-in/parallel-out shift register with output storage register (3-state)	2.0 - 5.5	± 8	4.0	-40~125				•	•	•		
74VHCT595-Q100	8-bit serial-in/parallel-out shift register with output storage register; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.8	-40~125				•	•	•		
HEF4014B-Q100	8-bit shift register with synchronous parallel enable	3.0 - 15	± 2.4	40	-40~85				•				
HEF4021B-Q100	8-bit shift register with asynchronous parallel load	3.0 - 15	± 2.4	40	-40~85				•	•			
HEF4094B-Q100	8-bit serial-in/serial or parallel-out shift register with output register (3-state)	3.0 - 15	± 2.4	50	-40~85				•	•			
HEF4794B-Q100	8-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	3.0 - 15	-20	45	-40~85				•				
HEF4894B-Q100	12-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	3.0 - 15	-20	45	-40~85							•	•
NPIC6C595-Q100	8-bit serial-in/parallel-out shift register with output storage register (3-state)	4.5 - 5.5	-100	90	-40~125				•	•	•		
NPIC6C596-Q100	8-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	4.5 - 5.5	-100	90	-40~125				•	•	•		
NPIC6C596A-Q100	8-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	2.3 - 5.5	-100	90	-40~125				•	•	•		
NPIC6C4894-Q100	12-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	3.5 - 15	-100	105	-40~125							•	•

## Transceivers

Type number	Description	Features				Package (suffix)			
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT362-1 (DGG)
74AHC245-Q100	Octal transceiver (3-state)	2.0 - 5.5	± 8	3.5	-40~125	•	•	•	
74AHCT245-Q100	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	± 8	5.0	-40~125	•	•	•	
74AVC16245-Q100	16-bit transceiver (3-state)	1.2 - 3.6	± 12	2.0	-40~85				•
74HC245-Q100	Octal transceiver (3-state)	2.0 - 6.0	± 7.8	7.0	-40~125	•	•	•	
74HCT245-Q100	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	± 6	10	-40~125	•	•	•	
74LVC245A-Q100	Octal transceiver (3-state)	1.2 - 3.6	± 24	2.9	-40~125	•	•	•	
74LVCH245A-Q100	Octal transceiver with bus hold (3-state)	1.2 - 3.6	± 24	2.9	-40~125	•	•	•	
74LVC162245A-Q100	16-bit transceiver with 30 $\Omega$ termination resistors (3-state)	1.2 - 3.6	± 12	3.3	-40~125				•

# Q100 mini logic functions and packages

## Analog switches

Type number	Description	Features					Package (suffix)					
		Configuration	$V_{CC}$ (V)	$R_{ON}$ ( $\Omega$ )	$R_{ON}(FLAT)$ ( $\Omega$ )	$T_{amb}$ ( $^{\circ}C$ )	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)
74AHC1G66-Q100	Single-pole, single-throw analog switch	SPST-NO	2.0 - 5.5	40	5	-40~125	•	•				
74AHCT1G66-Q100	Single-pole, single-throw analog switch; TTL-enabled	SPST-NO	4.5 - 5.5	40	5	-40~125	•	•				
74HC1G66-Q100	Single-pole, single-throw analog switch	SPST-NO	2.0 - 9.0	105	23	-40~125	•	•				
74HCT1G66-Q100	Single-pole, single-throw analog switch; TTL-enabled	SPST-NO	4.5 - 5.5	118	23	-40~125	•	•				
74HC2G66-Q100	Dual single-pole, single-throw analog switch	SPST-NO	2.0 - 9.0	105	23	-40~125					•	•
74HCT2G66-Q100	Dual single-pole, single-throw analog switch; TTL-enabled	SPST-NO	4.5 - 5.5	118	23	-40~125					•	•
74LVC1G53-Q100	Single-pole, double-throw analog switch	SPDT-Z	1.65 - 5.5	15	1.5	-40~125					•	•
74LVC1G66-Q100	Single-pole, single-throw analog switch	SPST-NO	1.65 - 5.5	15	1.5	-40~125	•	•				
74LVC1G384-Q100	Single-pole, single-throw analog switch	SPST-NC	1.65 - 5.5	15	1.5	-40~125	•	•				
74LVC1G3157-Q100	Single-pole, double-throw analog switch	SPDT	1.65 - 5.5	15	1.5	-40~125			•	•		
74LVC2G66-Q100	Dual single-pole, single-throw analog switch	SPST-NO	1.65 - 5.5	15	1.5	-40~125					•	•

## Bus switches

Type number	Description	Features				Package (suffix)	
		$V_{CC}$ (V)	$V_{PASS}$ (V)	$R_{ON}$ ( $\Omega$ )	$T_{amb}$ ( $^{\circ}C$ )	SOT96-1 (D)	SOT530-1 (PW)
CBT3306-Q100	Dual bus switch	4.5 - 5.5	3.9	7	-40~85	•	•

## Buffers/Inverters

Type number	Description	Features				Package (suffix)					
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{\text{prop}}$ (ns)	$T_{\text{amb}}$ (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)
74AHC1GU04-Q100	Single inverter; unbuffered	2.0 - 5.5	± 8	2.6	-40~125	•	•				
74AHC3GU04-Q100	Triple inverter; unbuffered	2.0 - 5.5	± 8	2.5	-40~125					•	•
74AHC1G04-Q100	Single inverter	2.0 - 5.5	± 8	3.1	-40~125	•	•				
74AHC1G04-Q100	Single inverter; TTL-enabled	4.5 - 5.5	± 8	3.4	-40~125	•	•				
74AHC1G07-Q100	Single buffer; open-drain	2.0 - 5.5	8	4.2	-40~125	•	•				
74AHC1G17-Q100	Single buffer with Schmitt-trigger inputs	2.0 - 5.5	± 8	3.2	-40~125	•					
74AHC1G17-Q100	Single buffer with Schmitt-trigger inputs; TTL-enabled	4.5 - 5.5	± 8	4.1	-40~125	•					
74AHC1G125-Q100	Single buffer/line driver (3-state)	2.0 - 5.5	± 8	3.4	-40~125	•	•				
74AHC1G125-Q100	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.4	-40~125	•	•				
74AHC1G126-Q100	Single buffer/line driver (3-state)	2.0 - 5.5	± 8	3.4	-40~125	•	•				
74AHC1G126-Q100	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.4	-40~125	•	•				
74AHC2G125-Q100	Dual buffer/line driver (3-state)	2.0 - 5.5	± 8	3.4	-40~125					•	•
74AHC2G125-Q100	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.4	-40~125					•	•
74AHC2G126-Q100	Dual buffer/line driver (3-state)	2.0 - 5.5	± 8	3.4	-40~125					•	•
74AHC2G126-Q100	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.4	-40~125					•	•
74AHC2G241-Q100	Dual buffer/line driver (3-state)	2.0 - 5.5	± 8	3.4	-40~125					•	•
74AHC2G241-Q100	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.4	-40~125					•	•
74AHC3G04-Q100	Triple inverter	2.0 - 5.5	± 8	3.1	-40~125					•	•
74AHC3G04-Q100	Triple inverter; TTL-enabled	4.5 - 5.5	± 8	3.0	-40~125					•	•
74AUP1G04-Q100	Single inverter	1.1 - 3.6	± 1.9	4.0	-40~125	•	•				
74AUP1G06-Q100	Single inverter; open-drain	1.1 - 3.6	1.9	4.5	-40~125	•					
74AUP1G34-Q100	Single buffer	1.1 - 3.6	± 1.9	3.9	-40~125	•					
74AUP1G125-Q100	Single buffer/line driver (3-state)	1.1 - 3.6	± 1.9	4.3	-40~125	•					
74AUP2G04-Q100	Dual inverter	1.1 - 3.6	± 1.9	4.0	-40~125			•			
74AUP2GU04-Q100	Dual inverter; unbuffered	1.1 - 3.6	± 1.9	2.3	-40~125			•			
74HC1GU04-Q100	Single inverter; unbuffered	2.0 - 6.0	± 2.6	5.0	-40~125	•	•				
74HC2GU04-Q100	Dual inverter; unbuffered	2.0 - 6.0	± 5.2	5.0	-40~125			•	•		
74HC3GU04-Q100	Triple inverter; unbuffered	2.0 - 6.0	± 5.2	6.0	-40~125					•	•
74HC1G04-Q100	Single inverter	2.0 - 6.0	± 2.6	7.0	-40~125	•	•				
74HCT1G04-Q100	Single inverter; TTL-enabled	4.5 - 5.5	± 2.0	8.0	-40~125	•	•				
74HC1G125-Q100	Single buffer/line driver (3-state)	2.0 - 6.0	± 2.6	9.0	-40~125	•	•				
74HCT1G125-Q100	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 2.0	10	-40~125	•	•				

## Buffers/Inverters

Type number	Description	Features				Package (suffix)					
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)
74HC2G04-Q100	Dual inverter	2.0 - 6.0	± 5.2	8.0	-40~125			•	•		
74HCT2G04-Q100	Dual inverter; TTL-enabled	4.5 - 5.5	± 4.0	10	-40~125			•	•		
74HC2G34-Q100	Dual buffer	2.0 - 6.0	± 5.2	9.0	-40~125			•	•		
74HCT2G34-Q100	Dual buffer; TTL-enabled	4.5 - 5.5	± 4.0	10	-40~125			•	•		
74HC2G125-Q100	Dual buffer/line driver (3-state)	2.0 - 6.0	± 5.2	10	-40~125					•	•
74HCT2G125-Q100	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 4.0	12	-40~125					•	•
74HC3G04-Q100	Triple inverter	2.0 - 6.0	± 5.2	8.0	-40~125					•	•
74HCT3G04-Q100	Triple inverter; TTL-enabled	4.5 - 5.5	± 4.0	10	-40~125					•	•
74HC3G07-Q100	Triple buffer; open-drain	2.0 - 6.0	5.2	9.0	-40~125					•	•
74HCT3G07-Q100	Triple buffer; open-drain; TTL-enabled	4.5 - 5.5	4	9.0	-40~125					•	•
74HC3G34-Q100	Triple buffer	2.0 - 6.0	± 5.2	9.0	-40~125					•	•
74HCT3G34-Q100	Triple buffer; TTL-enabled	4.5 - 5.5	± 4.0	10	-40~125						•
74LVC1G04-Q100	Single inverter	1.65 - 5.5	± 32	2.0	-40~125	•	•				
74LVC1G06-Q100	Single inverter; open-drain	1.65 - 5.5	32	2.3	-40~125	•	•				
74LVC1G07-Q100	Single buffer; open-drain	1.65 - 5.5	32	2.2	-40~125	•	•				
74LVC1G34-Q100	Single buffer	1.65 - 5.5	± 32	2.0	-40~125	•	•				
74LVC1G125-Q100	Single buffer/line driver (3-state)	1.65 - 5.5	± 32	2.1	-40~125	•	•				
74LVC1G126-Q100	Single buffer/line driver (3-state)	1.65 - 5.5	± 32	2.0	-40~125	•	•				
74LVC1GU04-Q100	Single inverter; unbuffered	1.65 - 5.5	± 32	1.6	-40~125	•	•				
74LVC2G04-Q100	Dual inverter	1.65 - 5.5	± 32	2.7	-40~125			•	•		
74LVC2G06-Q100	Dual inverter; open-drain	1.65 - 5.5	32	2.3	-40~125			•	•		
74LVC2G07-Q100	Dual buffer; open-drain	1.65 - 5.5	32	2.6	-40~125			•	•		
74LVC2G125-Q100	Dual buffer/line driver (3-state)	1.65 - 5.5	± 32	2.3	-40~125					•	•
74LVC2G126-Q100	Dual buffer/line driver (3-state)	1.65 - 5.5	± 32	2.4	-40~125					•	•
74LVC2G240-Q100	Dual inverter/line driver (3-state)	1.65 - 5.5	± 32	2.5	-40~125					•	•
74LVC2G241-Q100	Dual buffer/line driver (3-state)	1.65 - 5.5	± 32	2.6	-40~125					•	•
74LVC2GU04-Q100	Dual inverter; unbuffered	1.65 - 5.5	± 32	2.3	-40~125			•	•		
74LVC3G04-Q100	Triple inverter	1.65 - 5.5	± 32	2.7	-40~125					•	•
74LVC3G07-Q100	Triple buffer; open-drain	1.65 - 5.5	32	2.1	-40~125					•	•
74LVC3G34-Q100	Triple buffer	1.65 - 5.5	± 32	2.2	-40~125					•	•



## Digital decoders/Demultiplexers

Types in **bold** represent new products

Type number	Description	Features				Package (suffix)	
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT363 (GW)	SOT457 (GV)
74LVC1G18-Q100	1-to-2 demultiplexer (3-state)	1.65 - 5.5	± 32	2.3	-40~125	•	•
<b>74LVC1G19-Q100</b>	1-to-2 demultiplexer	1.65 - 5.5	± 32	1.8	-40~125	•	

## Digital multiplexers

Type number	Description	Features				Package (suffix)	
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT363 (GW)	SOT457 (GV)
74LVC1G157-Q100	Single 2-input multiplexer	1.65 - 5.5	± 32	2.2	-40~125	•	•

## Flip-flops

Type number	Description	Features				Package (suffix)					
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)
74AHC1G79-Q100	Single D-type flip-flop; positive-edge trigger	2.0 - 5.5	± 8	3.5	-40~125	•	•				
74AHCT1G79-Q100	Single D-type flip-flop; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 8	3.5	-40~125	•	•				
74AUP1G74-Q100	Single D-type flip-flop with set and reset; positive-edge trigger	1.1 - 3.6	± 1.9	8.1	-40~125						•
74AUP1G175-Q100	Single D flip-flop with reset; positive-edge trigger	1.1 - 3.6	± 1.9	7.4	-40~125			•			
74AUP1G374-Q100	Single D-type flip-flop; positive-edge trigger (3-state)	1.1 - 3.6	± 1.9	7.9	-40~125			•			
74AUP2G79-Q100	Dual D-type flip-flop; positive-edge trigger	1.1 - 3.6	± 1.9	8.5	-40~125						•
74LVC1G74-Q100	Single D-type flip-flop with set and reset; positive-edge trigger	1.65 - 5.5	± 32	3.5	-40~125					•	•
74LVC1G79-Q100	Single D-type flip-flop; positive-edge trigger	1.65 - 5.5	± 32	2.2	-40~125	•	•				
74LVC1G80-Q100	Single D-type flip-flop; positive-edge trigger	1.65 - 5.5	± 32	2.4	-40~125	•	•				
74LVC1G175-Q100	Single D flip-flop with reset; positive-edge trigger	1.65 - 5.5	± 32	3.1	-40~125			•	•		
74LVC2G74-Q100	Single D-type flip-flop with set and reset; positive-edge trigger	1.65 - 5.5	± 32	3.5	-40~125					•	•

## Gates

Type number	Description	Features				Package (suffix)					
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)
74AHC1G09-Q100	Single 2-input AND gate; open-drain	2.0 - 5.5	± 8	3.2	-40~125	•	•				
74AHC1G00-Q100	Single 2-input NAND gate	2.0 - 5.5	± 8	3.5	-40~125	•	•				
74AHC1G00-Q100	Single 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 8	3.6	-40~125	•	•				
74AHC1G02-Q100	Single 2-input NOR gate	2.0 - 5.5	± 8	3.2	-40~125	•	•				
74AHC1G02-Q100	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 8	3.5	-40~125	•	•				
74AHC1G08-Q100	Single 2-input AND gate	2.0 - 5.5	± 8	3.2	-40~125	•	•				
74AHC1G08-Q100	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	± 8	3.6	-40~125	•	•				
74AHC1G32-Q100	Single 2-input OR gate	2.0 - 5.5	± 8	3.2	-40~125	•	•				
74AHC1G32-Q100	Single 2-input OR gate; TTL-enabled	4.5 - 5.5	± 8	3.3	-40~125	•	•				
74AHC1G86-Q100	2-input EXCLUSIVE-OR gate	2.0 - 5.5	± 8	3.4	-40~125	•	•				
74AHC1G86-Q100	2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 8	3.5	-40~125	•	•				
74AHC2G00-Q100	Dual 2-input NAND gate	2.0 - 5.5	± 8	3.5	-40~125					•	•
74AHC2G00-Q100	Dual 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 8	3.6	-40~125					•	•
74AHC2G08-Q100	Dual 2-input AND gate	2.0 - 5.5	± 8	3.2	-40~125					•	•
74AHC2G08-Q100	Dual 2-input AND gate; TTL-enabled	4.5 - 5.5	± 8	3.6	-40~125					•	•
74AHC2G32-Q100	Dual 2-input OR gate	2.0 - 5.5	± 8	3.2	-40~125					•	•
74AHC2G32-Q100	Dual 2-input OR gate; TTL-enabled	4.5 - 5.5	± 8	3.3	-40~125					•	•
74AUP1G02-Q100	Single 2-input NOR gate	1.1 - 3.6	± 1.9	8.2	-40~125	•					
74AUP1G08-Q100	Single 2-input AND gate	1.1 - 3.6	± 1.9	8.2	-40~125	•					
74AUP1G32-Q100	Single 2-input OR gate	1.1 - 3.6	± 1.9	7.9	-40~125	•					
74AUP1G86-Q100	Single 2-input EXCLUSIVE-OR gate	1.1 - 3.6	± 1.9	3.3	-40~125	•					
74AUP1T98-Q100	Configurable gate with voltage level translation	2.3-3.6 V	± 1.9	8.7	-40~125			•			
74HC1G86-Q100	Single 2-input EXCLUSIVE-OR gate	2.0 - 6.0	± 2.6	9.0	-40~125	•	•				
74HC1G00-Q100	Single 2-input NAND gate	2.0 - 6.0	± 2.6	7.0	-40~125	•					
74HCT1G00-Q100	Single 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 2	10	-40~125	•	•				
74HC1G02-Q100	Single 2-input NOR gate	2.0 - 6.0	± 2.6	7.0	-40~125	•	•				
74HCT1G02-Q100	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 2.0	9.0	-40~125	•	•				
74HC1G08-Q100	Single 2-input AND gate	2.0 - 6.0	± 5.2	7.0	-40~125	•	•				
74HCT1G08-Q100	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	± 2	11	-40~125	•	•				
74HC1G32-Q100	Single 2-input OR gate	2.0 - 6.0	± 2.6	8.0	-40~125	•	•				
74HCT1G32-Q100	Single 2-input OR gate; TTL-enabled	4.5 - 5.5	± 2.0	10	-40~125	•	•				
74HC2G00-Q100	Dual 2-input NAND gate	2.0 - 6.0	± 5.6	9.0	-40~125					•	•
74HCT2G00-Q100	Dual 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	12	-40~125					•	•
74HC2G02-Q100	Dual 2-input NOR gate	2.0 - 6.0	± 5.2	9.0	-40~125					•	•
74HCT2G02-Q100	Dual 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 4	12	-40~125					•	•
74HC2G08-Q100	Dual 2-input AND gate	2.0 - 6.0	± 5.2	9.0	-40~125					•	•

## Gates

Type number	Description	Features				Package (suffix)					
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)
74HCT2G08-Q100	Dual 2-input AND gate; TTL-enabled	4.5 - 5.5	± 4	14	-40~125					•	•
74HC2G32-Q100	Dual 2-input OR gate	2.0 - 6.0	± 5.2	9.0	-40~125					•	•
74HCT2G32-Q100	Dual 2-input OR gate; TTL-enabled	4.5 - 5.5	± 4.0	13	-40~125					•	•
74HC2G86-Q100	Dual 2-input EXCLUSIVE-OR gate	2.0 - 6.0	± 5.2	9.0	-40~125					•	•
74HCT2G86-Q100	Dual 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 4.0	11	-40~125					•	•
74HCT1G86-Q100	Single 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 2.0	10	-40~125	•	•				
74LVC1G00-Q100	Single 2-input NAND gate	1.65 - 5.5	± 32	2.2	-40~125	•	•				
74LVC1G02-Q100	Single 2-input NOR gate	1.65 - 5.5	± 32	2.1	-40~125	•	•				
74LVC1G08-Q100	Single 2-input AND gate	1.65 - 5.5	± 32	2.1	-40~125	•	•				
74LVC1G10-Q100	Single 3-input NAND gate	1.65 - 5.5	± 32	2.6	-40~125			•			
74LVC1G11-Q100	Single 3-input AND gate	1.65 - 5.5	± 32	2.6	-40~125			•	•		
74LVC1G32-Q100	Single 2-input OR gate	1.65 - 5.5	± 32	2.1	-40~125	•	•				
74LVC1G38-Q100	Single 2-input NAND gate; open-drain	1.65 - 5.5	32	2.3	-40~125	•	•				
74LVC1G57-Q100	Configurable gate; Schmitt-trigger	1.65 - 5.5	± 32	3.8	-40~125			•	•		
74LVC1G58-Q100	Configurable gate; Schmitt-trigger	1.65 - 5.5	± 32	3.8	-40~125			•	•		
74LVC1G86-Q100	Single 2-input EXCLUSIVE-OR gate	1.65 - 5.5	± 32	2.4	-40~125	•	•				
74LVC1G332-Q100	Single 3-input OR gate	1.65 - 5.5	± 32	2.6	-40~125			•	•		
74LVC1GX04-Q100	Crystal driver	1.65 - 5.5	± 24	2.8	-40~125			•	•		
74LVC2G00-Q100	Dual 2-input NAND gate	1.65 - 5.5	± 32	2.2	-40~125						•
74LVC2G02-Q100	Dual 2-input NOR gate	1.65 - 5.5	± 32	2.4	-40~125					•	•
74LVC2G08-Q100	Dual 2-input AND gate	1.65 - 5.5	± 24	2.1	-40~125					•	•
74LVC2G32-Q100	Dual 2-input OR gate	1.65 - 5.5	± 32	2.2	-40~125					•	•
74LVC2G34-Q100	Dual buffer	1.65 - 5.5	± 32	2.2	-40~125			•	•		
74LVC2G86-Q100	Dual 2-input EXCLUSIVE-OR gate	1.65 - 5.5	± 32	2.3	-40~125					•	•

## Latches/Registered drivers

Type number	Description	Features				Package (suffix)
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT363 (GW)
74AUP1G373-Q100	Single D-type transparent latch (3-state)	1.1 - 3.6	±1.9	8.5	-40~125	•

## Multivibrators

Type number	Description	Features				Package (suffix)	
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{emb}$ (°C)	SOT505-2 (DP)	SOT765-1 (DC)
74LVC1G123-Q100	Single retriggerable monostable multivibrator	1.65 - 5.5	± 32	3.5	-40~125	•	•

## Schmitt-triggers

Type number	Description	Features				Package (suffix)					
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{emb}$ (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)
74AHC1G14-Q100	Single inverter Schmitt-trigger	2.0 - 5.5	± 8	3.2	-40~125	•	•				
74AHT1G14-Q100	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 8	4.1	-40~125	•	•				
74AHC3G14-Q100	Triple inverter Schmitt-trigger	2.0 - 5.5	± 8	3.2	-40~125					•	•
74AHT3G14-Q100	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 8	4.1	-40~125					•	•
74HC1G14-Q100	Single inverter Schmitt-trigger	2.0 - 6.0	± 2.6	10	-40~125	•	•				
74HCT1G14-Q100	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 2.0	15	-40~125	•	•				
74HC2G14-Q100	Dual inverter Schmitt-trigger	2.0 - 6.0	± 5.2	16	-40~125			•	•		
74HCT2G14-Q100	Dual inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4.0	21	-40~125			•	•		
74HC2G17-Q100	Dual buffer Schmitt-trigger	2.0 - 6.0	± 5.2	12	-40~125			•	•		
74HCT2G17-Q100	Dual buffer Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4.0	21	-40~125			•	•		
74HC3G14-Q100	Triple inverter Schmitt-trigger	2.0 - 6.0	± 5.2	16	-40~125					•	•
74HCT3G14-Q100	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4.0	21	-40~125					•	•
74LVC1G14-Q100	Single inverter Schmitt-trigger	1.65 - 5.5	± 32	3.0	-40~125	•	•				
74LVC1G17-Q100	Single buffer Schmitt-trigger	1.65 - 5.5	± 32	3.0	-40~125	•	•				
74LVC2G14-Q100	Dual inverter Schmitt-trigger	1.65 - 5.5	± 32	3.9	-40~125			•	•		
74LVC2G17-Q100	Dual buffer Schmitt-trigger	1.65 - 5.5	± 32	3.6	-40~125			•	•		
74LVC3G17-Q100	Triple buffer Schmitt-trigger	1.65 - 5.5	± 32	3.6	-40~125					•	•

## Level shifters/Translators

Type number	Description	Features				Package (suffix)				
		V <sub>cc(A)</sub> (V)	V <sub>cc(B)</sub> (V)	I <sub>o</sub> (mA)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT363 (GW)	SOT505-2 (DP)	SOT765-1 (DC)	SOT552-1 (DP)
74AUP1T34-Q100	Single dual supply translating buffer	1.1 - 3.6	1.1 - 3.6	± 1.9	-40~125	•				
74AVC1T45-Q100	Single dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40~125		•			
74AVC2T45-Q100	Dual-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40~125			•	•	
74AVCH1T45-Q100	Single dual-supply voltage translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40~125		•			
74AXP1T57-Q100	Dual-supply translating configurable multiple function gate, Schmitt-trigger inputs	0.7 - 2.75	1.2 - 5.5	± 12	-40~125				•	
74AXP2T08-Q100	Dual-supply 2-input AND gate	0.7 - 2.75	1.2 - 5.5	± 12	-40~125					•
74LVC1T45-Q100	Single dual-supply voltage level translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40~125		•			
74LVCH1T45-Q100	Single dual-supply voltage translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40~125		•			
74LVC2T45-Q100	Dual-bit dual-supply voltage level translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40~125				•	
74LVCH2T45-Q100	Dual-bit dual-supply voltage level translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40~125				•	

## Buffers/Inverters/Drivers

Types in **bold** represent new products

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74ABT04	Hex inverter	4.5 - 5.5	TTL	-15 / 20	50	2.2	100	-40~85
74ABT125	Quad buffer/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	3.1	100	-40~85
74ABT126	Quad buffer/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	3.0	100	-40~85
74ABT162244	16-bit buffer/line driver with 30 Ohm termination resistors (3-state)	4.5 - 5.5	TTL	-32 / 12	50	3.2	100	-40~85
74ABT16240A	16-bit inverter/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	2.0	150	-40~85
74ABT16244A	16-bit buffer/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	2.1	150	-40~85
74ABT244	Octal buffer/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	2.9	100	-40~85
74AHC04	Hex inverter	2.0 - 5.5	CMOS	±8	50	3.0	60	-40~125
74AHC125	Quad buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.0	60	-40~125
74AHC126	Quad buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.3	60	-40~125
74AHC14	Hex inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40~125
74AHC1G04	Single inverter	2.0 - 5.5	CMOS	±8	50	3.1	60	-40~125
74AHC1G125	Single buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40~125
74AHC1G126	Single buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40~125
74AHC1G14	Single inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40~125
74AHC1G17	Single buffer with Schmitt-trigger inputs	2.0 - 5.5	CMOS	±8	50	3.2	60	-40~125
74AHC1GU04	Single inverter; unbuffered	2.0 - 5.5	CMOS	±8	50	2.6	60	-40~125
74AHC244	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.5	60	-40~125
74AHC2G125	Dual buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40~125
74AHC2G126	Dual buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40~125
74AHC2G241	Dual buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40~125
74AHC3G04	Triple inverter	2.0 - 5.5	CMOS	±8	50	3.1	60	-40~125
74AHC3G14	Triple inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40~125
74AHC3GU04	Triple inverter; unbuffered	2.0 - 5.5	CMOS	±8	50	2.5	60	-40~125
74AHC541	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.5	60	-40~125
<b>74AHC9541A</b>	Octal buffer/line driver; Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±8	15	3.4	60	-40~125
74AHCT04	Hex inverter; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.0	60	-40~125
74AHCT04A	Hex inverter; TTL-enabled	4.5 - 5.5	TTL	±8	15	3.1	60	-40~125
<b>74AHCT07A</b>	Hex buffer; open-drain; TTL-enabled	4.5 - 5.5	TTL	±8	15	4.0	60	-40~125
74AHCT125	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40~125
74AHCT126	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40~125
74AHCT14	Hex inverting; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.4	60	-40~125
74AHCT14A	Hex inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	15	3.7	60	-40~125
74AHCT17A	Hex buffer; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	15	3.2	60	-40~125
74AHCT1G04	Single inverter; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.4	60	-40~125
74AHCT1G125	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40~125
74AHCT1G126	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40~125
74AHCT1G14	Single inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40~125
74AHCT1G17	Single buffer with Schmitt-trigger inputs; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40~125

## Buffers/Inverters/Drivers

Types in **bold** represent new products

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AHCT240	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40~125
74AHCT244	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.5	60	-40~125
<b>74AHCT244A</b>	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	15	3.5	60	-40~125
74AHCT2G125	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40~125
74AHCT2G126	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40~125
74AHCT2G241	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40~125
74AHCT3G04	Triple inverter; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.0	60	-40~125
74AHCT3G14	Triple inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40~125
74AHCT541	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.5	60	-40~125
<b>74AHCT541A</b>	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	15	3.5	60	-40~125
74AHCU04	Hex inverter; unbuffered	2.0 - 5.5	CMOS	±8	50	2.4	60	-40~125
<b>74AHCV07A</b>	Hex buffer; Schmitt-trigger; open-drain	1.8 - 5.5	CMOS	16	15	3.8	60	-40~125
74AHCV14A	Hex inverter; Schmitt-trigger	1.8 - 5.5	CMOS	±16	15	3.2	60	-40~125
74AHCV17A	Hex buffer; Schmitt-trigger	1.8 - 5.5	CMOS	±16	15	3.2	60	-40~125
<b>74AHCV244A</b>	Octal buffer/line driver; Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	15	3.0	60	-40~125
<b>74AHCV541A</b>	Octal buffer/line driver; Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	15	3.0	60	-40~125
74ALVC04	Hex inverter	1.65 - 3.6	TTL	±24	30	2.0	150	-40~85
74ALVC125	Quad buffer/line driver (3-state)	1.65 - 3.6	TTL	±24	30	1.8	145	-40~85
74ALVC14	Hex inverter; Schmitt-trigger	1.65 - 3.6	TTL	±24	30	2.4	150	-40~85
74ALVC16244	16-bit buffer/line driver (3-state)	1.2 - 3.6	TTL	±24	50	1.9	150	-40~85
74ALVC244	Octal buffer/line driver (3-state)	1.65 - 3.6	TTL	±24	30	2.9	130	-40~85
74ALVC541	Octal buffer/line driver (3-state)	1.65 - 3.6	TTL	±24	30	2.3	130	-40~85
74ALVCH162244	16-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	TTL	±12	30	2.7	150	-40~85
74ALVCH16244	16-bit buffer/line driver with bus hold (3-state)	1.2 - 3.6	TTL	±24	30	1.9	150	-40~85
74ALVCH162827	20-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	TTL	±12	30	2.9	150	-40~85
74ALVCH16825	18-bit buffer/line driver with bus hold (3-state)	2.3 - 3.6	TTL	±24	30	2.0	150	-40~85
74ALVCH16827	20-bit buffer/line driver with bus hold (3-state)	2.3 - 3.6	TTL	±24	30	2.0	150	-40~85
74ALVT16244	16-bit buffer/line driver with bus hold (3-state)	2.3 - 3.6	LVTTTL	-32 / 64	50	1.5	200	-40~85
74ALVT162827	20-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	LVTTTL	±12	50	2.2	75	-40~85
74ALVT16827	20-bit buffer/line driver with bus hold (3-state)	2.3 - 3.6	LVTTTL	-32 / 64	50	1.3	200	-40~85
74AUP1G04	Single inverter	1.1 - 3.6	CMOS	±1.9	30	4.0	70	-40~125
74AUP1G06	Single inverter; open drain	1.1 - 3.6	CMOS	1.9	30	4.5	70	-40~125
74AUP1G07	Single buffer; open drain	1.1 - 3.6	CMOS	1.9	30	4.4	70	-40~125
74AUP1G125	Single buffer/line driver (3-state)	1.1 - 3.6	CMOS	±1.9	30	4.3	70	-40~125
74AUP1G126	Single buffer/line driver (3-state)	1.1 - 3.6	CMOS	±1.9	30	4.3	70	-40~125
74AUP1G14	Single inverter; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	30	4.7	70	-40~125
74AUP1G16	Single buffer	1.1 - 3.6	CMOS	±1.9	30	4.7	70	-40~125
74AUP1G240	Single inverter/line driver (3-state)	1.1 - 3.6	CMOS	±1.9	30	4.2	70	-40~125
74AUP1G34	Single buffer	1.1 - 3.6	CMOS	±1.9	30	3.9	70	-40~125
74AUP1GU04	Single inverter; unbuffered	1.1 - 3.6	CMOS	±1.9	30	2.3	70	-40~125

## Buffers/Inverters/Drivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AUP2G04	Dual inverter	1.1 - 3.6	CMOS	±1.9	30	4.0	70	-40~125
74AUP2G06	Dual inverter; open drain	1.1 - 3.6	CMOS	1.9	30	4.5	70	-40~125
74AUP2G07	Dual buffer; open drain	1.1 - 3.6	CMOS	1.9	30	4.4	70	-40~125
74AUP2G125	Dual buffer/line driver (3-state)	1.1 - 3.6	CMOS	+1.9	30	4.3	70	-40~125
74AUP2G126	Dual buffer/line driver (3-state)	1.1 - 3.6	CMOS	+1.9	30	4.3	70	-40~125
74AUP2G14	Dual inverter; Schmitt-trigger	1.1 - 3.6	CMOS	+1.9	30	4.7	70	-40~125
74AUP2G16	Dual buffer	1.1 - 3.6	CMOS	+1.9	30	4.7	70	-40~125
74AUP2G17	Dual buffer; Schmitt-trigger	1.1 - 3.6	CMOS	+1.9	30	7.8	70	-40~125
74AUP2G240	Dual inverter/line driver (3-state)	1.1 - 3.6	CMOS	+1.9	30	4.2	70	-40~125
74AUP2G241	Dual buffer/line driver (3-state)	1.1 - 3.6	CMOS	+ 1.9	30	4.3	70	-40~125
74AUP2G34	Dual buffer	1.1 - 3.6	CMOS	+1.9	30	3.9	70	-40~125
74AUP2GU04	Dual inverter; unbuffered	1.1 - 3.6	CMOS	+1.9	30	2.3	70	-40~125
74AUP3G04	Triple inverter	1.1 - 3.6	CMOS	+1.9	30	4.0	70	-40~125
74AUP3G14	Triple inverter; Schmitt-trigger	1.1 - 3.6	CMOS	+1.9	30	4.7	70	-40~125
74AUP3G16	Triple buffer	1.1 - 3.6	CMOS	+1.9	30	4.0	70	-40~125
74AUP3G17	Triple buffer; Schmitt-trigger	1.1 - 3.6	CMOS	+1.9	30	4.7	70	-40~125
74AVC16244	16-bit buffer/line driver (3-state)	0.8 - 3.6	CMOS/LVTTL	+12	30	2.0	200	-40~85
74AVCH16244	16-bit buffer/line driver with bus hold (3-state)	0.8 - 3.6	CMOS/LVTTL	+12	30	2.0	200	-40~85
74AXP1G04	Single inverter	0.7 - 2.75	CMOS	+4.5	5	2.6	70	-40~85
74AXP1G06	Single inverter; open drain	0.7 - 2.75	CMOS	4.5	5	3.5	70	-40~85
74AXP1G07	Single buffer; open-drain	0.7 - 2.75	CMOS	4.5	5	3.5	70	-40~85
74AXP1G125	Single buffer/line driver (3-state)	0.7 - 2.75	CMOS	+4.5	5	2.7	70	-40~85
74AXP1G14	Single inverter; Schmitt-trigger	0.7 to 2.75	CMOS	+4.5	5	2.9	70	-40~85
74AXP1G17	Single buffer; Schmitt-trigger	0.7 to 2.75	CMOS	+4.5	5	2.8	70	-40~85
74AXP2G17	Dual buffer; Schmitt-trigger	0.7 to 2.75	CMOS	+4.5	5	2.8	70	-40~85
74AXP2G34	Dual buffer	0.7 to 2.75	CMOS	+4.5	5	2.5	70	-40~85
74AXP2G3404	Single buffer and Single inverter	0.7 to 2.75	CMOS	+4.5	5	2.5	70	-40~85
74HC04	Hex inverter	2.0 - 6.0	CMOS	+5.2	50	7.0	36	-40~125
74HC05	Hex inverter; open drain	2.0 - 6.0	CMOS	5.2	50	11	36	-40~125
74HC125	Quad buffer/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	9.0	36	-40~125
74HC126	Quad buffer/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	9.0	36	-40~125
74HC14	Hex inverter; Schmitt-trigger	2.0 - 6.0	CMOS	+5.2	50	12	36	-40~125
74HC1G04	Single inverter	2.0 - 6.0	CMOS	+2.6	50	7.0	36	-40~125
74HC1G125	Single buffer/line driver (3-state)	2.0 - 6.0	CMOS	+2.6	50	9.0	36	-40~125
74HC1G126	Single buffer/line driver (3-state)	2.0 - 6.0	CMOS	+2.6	50	9.0	36	-40~125
74HC1G14	Single inverter; Schmitt-trigger	2.0 - 6.0	CMOS	+2.6	50	10	36	-40~125
74HC1GU04	Single inverter; unbuffered	2.0 - 6.0	CMOS	+ 2.6	50	5.0	36	-40~125
74HC240	Octal inverter/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	9.0	36	-40~125
74HC241	Octal buffer/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	7.0	36	-40~125
74HC244	Octal buffer/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	9.0	36	-40~125



## Buffers/Inverters/Drivers

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74HC2G04	Dual inverter	2.0 - 6.0	CMOS	±5.2	50	8.0	36	-40~125
74HC2G125	Dual buffer/line driver (3-state)	2.0 - 6.0	CMOS	±5.2	50	10	36	-40~125
74HC2G14	Dual inverter; Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	50	16	36	-40~125
74HC2G17	Dual buffer; Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	50	12	36	-40~125
74HC2G34	Dual buffer	2.0 - 6.0	CMOS	±5.2	50	9.0	36	-40~125
74HC2GU04	Single inverter; unbuffered	2.0 - 6.0	CMOS	±2.6	50	5.0	36	-40~125
74HC365	Hex buffer/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	9.0	36	-40~125
74HC366	Hex inverter/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	10	36	-40~125
74HC367	Hex buffer/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	8.0	36	-40~125
74HC368	Hex inverter/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	9.0	36	-40~125
74HC3G04	Triple inverter	2.0 - 6.0	CMOS	±5.2	50	8.0	36	-40~125
74HC3G06	Triple inverter; open drain	2.0 - 6.0	CMOS	5.2	50	9.0	36	-40~125
74HC3G07	Triple buffer; open drain	2.0 - 6.0	CMOS	5.2	50	9.0	36	-40~125
74HC3G14	Triple inverter; Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	50	16	36	-40~125
74HC3G16	Triple buffer	2.0 - 6.0	CMOS	±5.2	50	9.0	36	-40~125
74HC3G34	Triple buffer	2.0 - 6.0	CMOS	±5.2	50	9.0	36	-40~125
74HC3GU04	Triple inverter; unbuffered	2.0 - 6.0	CMOS	±5.2	50	6.0	36	-40~125
74HC540	Octal inverter/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	9.0	36	-40~125
74HC541	Octal buffer/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	10	36	-40~125
74HC7014	Hex buffer; precision Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	50	27	36	-40~125
74HC7540	Octal inverter/line driver; Schmitt-trigger (3-State)	2.0 - 6.0	CMOS	±7.8	15	11	36	-40~125
74HC7541	Octal buffer/line driver; Schmitt-trigger (3-State)	2.0 - 6.0	CMOS	±7.8	15	10	36	-40~125
74HC9114	9-bit inverter; Schmitt-trigger; open-drain (3-state)	2.0 - 6.0	CMOS	5.2	15	12	36	-40~125
74HC9115	9-bit buffer; Schmitt-trigger; open-drain (3-state)	2.0 - 6.0	CMOS	5.2	15	12	36	-40~125
74HCT04	Hex inverter; TTL-enabled	4.5 - 5.5	TTL	±4	50	8.0	36	-40~125
74HCT125	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	12	36	-40~125
74HCT126	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40~125
74HCT14	Hex inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	50	17	36	-40~125
74HCT1G04	Single inverter; TTL-enabled	4.5 - 5.5	TTL	±2	50	8.0	36	-40~125
74HCT1G125	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±2	50	10	36	-40~125
74HCT1G126	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±2	50	10	36	-40~125
74HCT1G14	Single inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±2	50	15	36	-40~125
74HCT240	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	9.0	36	-40~125
74HCT241	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40~125
74HCT244	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40~125
74HCT2G04	Dual inverter; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	36	-40~125
74HCT2G125	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±4	50	12	36	-40~125
74HCT2G14	Dual inverter; Schmitt-trigger; TTL-enabled	4.5 to 5.5	TTL	±4	50	21	36	-40~125
74HCT2G17	Dual buffer; Schmitt-trigger; TTL-enabled	4.5 to 5.5	TTL	±4	50	21	36	-40~125

# Buffers/Inverters/Drivers

Types in **bold** represent new products

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74HCT2G34	Dual buffer; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	32	-40~125
74HCT365	Hex buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40~125
74HCT366	Hex inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40~125
74HCT367	Hex buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40~125
74HCT368	Hex inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40~125
74HCT3G04	Triple inverter; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	36	-40~125
74HCT3G06	Triple inverter; open drain; TTL-enabled	4.5 - 5.5	TTL	4	50	9.0	36	-40~125
74HCT3G07	Triple buffer; open drain; TTL-enabled	4.5 - 5.5	TTL	4	50	9.0	36	-40~125
74HCT3G14	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	50	21	36	-40~125
74HCT3G16	Triple buffer; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	36	-40~125
74HCT3G34	Triple buffer; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	36	-40~125
74HCT540	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40~125
74HCT541	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	12	36	-40~125
74HCT7540	Octal inverter/line driver Schmitt-trigger; TTL-enabled (3-State)	4.5 - 5.5	TTL	±6	15	16	36	-40~125
74HCT7541	Octal buffer/line driver Schmitt-trigger; TTL-enabled (3-State)	4.5 - 5.5	TTL	±6	15	16	36	-40~125
74HCT9114	9-bit inverter Schmitt-trigger; open-drain; TTL-enabled (3-state)	4.5 - 5.5	TTL	4	15	13	36	-40~125
74HCU04	Hex inverter; unbuffered	2.0 - 6.0	CMOS	±5.2	50	5.0	36	-40~125
74LV04	Hex inverter	1.0 - 5.5	CMOS	±12	50	6.0	30	-40~125
<b>74LV04AT</b>	Hex buffer	4.5 - 5.5	TTL	±12	15	3.3	60	-40~125
<b>74LV05A</b>	Hex inverter; open-drain	2.0 - 5.5	CMOS	12	15	2.9	60	-40~125
74LV07A	Hex buffer; open-drain	2.0 - 5.5	CMOS	16	15	3.6	60	-40~125
<b>74LV07AT</b>	Hex buffer; open-drain; TTL-enabled	4.5 - 5.5	TTL	16	15	3.5	60	-40~125
74LV14	Hex inverter; Schmitt-trigger	1.0 - 5.5	TTL	±12	50	13	30	-40~125
74LV14A	Hex inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±12	15	3.4	60	-40~125
<b>74LV17A</b>	Hex buffer; Schmitt-trigger	2.0 - 5.5	CMOS	±12	15	3.4	60	-40~125
74LV244	Octal buffer/line driver (3-state)	1.0 - 5.5	CMOS	±16	50	8.0	30	-40~125
<b>74LV244A</b>	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±16	15	2.9	60	-40~125
<b>74LV244AT</b>	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±16	15	2.8	60	-40~125
74LV365	Hex buffer/line driver (3-state)	1.0 - 3.6	CMOS	±8	50	9.0	30	-40~125
<b>74LV540A</b>	Octal buffer/line driver (3-state); inverting	1.65 - 5.5	CMOS/LVTTL	±16	15	3.1	60	-40~125
74LV541A	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±16	15	2.9	60	-40~125
74LV541AT	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±16	15	2.8	60	-40~125
74LVC04A	Hex inverter	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40~125
74LVC06A	Hex inverter; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.2	175	-40~125
74LVC07A	Hex buffer; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.2	175	-40~125
74LVC125A	Quad buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.4	175	-40~125
74LVC126A	Quad buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.4	175	-40~125
74LVC14A	Hex inverter; Schmitt-trigger	1.2 - 3.6	CMOS/LVTTL	±24	50	3.2	175	-40~125
74LVC162244A	16-bit buffer/line driver with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.9	175	-40~125

## Buffers/Inverters/Drivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74LVC16240A	16-bit inverter/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.7	175	-40~125
74LVC16241A	16-bit buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.9	175	-40~125
74LVC16244A	16-bit buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	3.0	175	-40~125
74LVC1G04	Single inverter	1.65 - 5.5	CMOS/LVTTL	±32	50	2.0	175	-40~125
74LVC1G06	Single inverter; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.3	175	-40~125
74LVC1G07	Single buffer; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.2	175	-40~125
74LVC1G125	Single buffer/line driver; TTL-enabled (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.1	175	-40~125
74LVC1G126	Single buffer/line driver; TTL-enabled (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.0	175	-40~125
74LVC1G14	Single inverter; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.0	175	-40~125
74LVC1G16	Single buffer	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40~125
74LVC1G17	Single buffer; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.0	175	-40~125
74LVC1G34	Single buffer	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40~125
74LVC1GU04	Single inverter; unbuffered	1.65 - 5.5	CMOS/LVTTL	±32	50	1.6	175	-40~125
74LVC2244A	Octal buffer/line driver with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	50	3.1	175	-40~125
74LVC240A	Octal inverter/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	3.5	175	-40~125
74LVC244A	Octal buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.8	175	-40~125
74LVC2G04	Dual inverter	1.65 - 5.5	CMOS/LVTTL	±24	50	2.7	175	-40~125
74LVC2G06	Dual inverter; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.3	175	-40~125
74LVC2G07	Dual buffer; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.6	175	-40~125
74LVC2G125	Dual buffer/line driver; TTL-enabled (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.3	175	-40~125
74LVC2G126	Dual buffer/line driver; TTL-enabled (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.4	175	-40~125
74LVC2G14	Dual inverter; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.9	175	-40~125
74LVC2G16	Dual buffer	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40~125
74LVC2G17	Dual buffer; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.6	175	-40~125
74LVC2G240	Dual inverter/line driver (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.5	175	-40~125
74LVC2G241	Dual buffer/line driver (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.6	175	-40~125
74LVC2G34	Dual buffer	1.65 - 5.5	CMOS/LVTTL	±32	50	2.2	175	-40~125
74LVC2GU04	Dual inverter; unbuffered	1.65 - 5.5	CMOS/LVTTL	±32	50	2.3	175	-40~125
74LVC3G04	Triple inverter	1.65 - 5.5	CMOS/LVTTL	±32	50	2.7	175	-40~125
74LVC3G06	Triple inverter; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.0	175	-40~125
74LVC3G07	Triple buffer; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.1	175	-40~125
74LVC3G14	Triple inverter; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.2	175	-40~125
74LVC3G16	Triple buffer	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40~125
74LVC3G17	Triple buffer; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.6	175	-40~125
74LVC3G34	Triple buffer	1.65 - 5.5	CMOS/LVTTL	±32	50	2.2	175	-40~125
74LVC3GU04	Triple inverter; unbuffered	1.65 - 5.5	CMOS/LVTTL	±32	50	2.3	175	-40~125
74LVC541A	Octal buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	3.3	175	-40~125
74LVC827A	10-bit buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	4.0	175	-40~125
74LVCH162244A	16-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	50	2.9	175	-40~125

## Buffers/Inverters/Drivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74LVCH16244A	16-bit buffer/line driver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	3.0	175	-40~125
74LVCH16541A	16-bit buffer/line driver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.7	175	-40~125
74LVCH244A	Octal buffer/line driver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.8	175	-40~125
74LVCU04A	Hex inverter; unbuffered	1.2 - 3.6	CMOS/LVTTL	±24	50	2.0	175	-40~125
74LVT04	Hex inverter	2.7 - 3.6	TTL	-20 / 32	50	2.6	150	-40~85
74LVT125	Quad buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.9	150	-40~85
74LVT126	Quad buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.4	150	-40~85
74LVT14	Hex inverter; Schmitt-trigger	2.7 - 3.6	TTL	-32 / 64	50	3.8	150	-40~85
74LVT162240A	16-bit inverter/line driver with bus hold and 30 Ω termination (3-state)	2.7 - 3.6	TTL	±12	50	2.6	150	-40~85
74LVT162244B	16-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	50	2.8	150	-40~85
74LVT16240A	16-bit inverter/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.0	150	-40~85
74LVT16244B	16-bit buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	1.8	150	-40~85
74LVT2241	Octal buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	50	3.3	150	-40~85
74LVT2244	Octal buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	50	2.9	150	-40~85
74LVT240	Octal inverter/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.5	150	-40~85
74LVT241	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.8	150	-40~85
74LVT244A	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.6	150	-40~85
74LVT244B	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.0	150	-40~85
74LVTH125	Quad buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.9	150	-40~85
74LVTH16244B	16-bit buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	1.8	150	-40~85
74LVTH244A	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.6	150	-40~85
74LVTH244B	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.0	150	-40~85
74LVTN16244B	16-bit buffer/line driver (3-state)	2.7 - 3.6	TTL	-32 / 64	50	1.8	150	-40~85
74VHC125	Quad buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.0	60	-40~125
74VHC126	Quad buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.3	60	-40~125
74VHC14	Hex inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40~125
74VHC244	Octal inverter/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.5	60	-40~125
74VHC541	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.5	60	-40~125
74VHCT125	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40~125
74VHCT126	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40~125
74VHCT14	Hex inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40~125
74VHCT244	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	5.0	60	-40~125
74VHCT541	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.5	60	-40~125
HEF40098B	Hex inverter	3.0 - 15.0	CMOS	-10 / 20	50	25	10	-40~125
HEF40244B	Octal buffer/line driver (3-state)	3.0 - 15.0	CMOS	-62 / 45	50	30	10	-40~125
HEF4049B	Hex inverter/line driver	3.0 - 15.0	CMOS	-3 / 20	50	20	10	-40~125
HEF4050B	Hex buffer/line driver	3.0 - 15.0	CMOS	-3 / 20	50	40	10	-40~125
HEF4069UB	Hex inverter; unbuffered	3.0 - 15.0	CMOS	±3.4	50	15	10	-40~125
XC7SET04	Single inverter; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.5	60	-40~125

## Buffers/inverters/drivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
XC7SET125	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40~125
XC7SET14	Single inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40~125
XC7SH04	Single inverter	2.0 - 5.5	CMOS	±8	50	3.5	60	-40~125
XC7SH125	Single buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40~125
XC7SH14	Single inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40~125
XC7SHU04	Single inverter; unbuffered	2.0 - 5.5	CMOS	±8	50	3.5	60	-40~125
XC7WH126	Dual buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40~125
XC7WH14	Triple inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40~125
XC7WT14	Triple inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40~125

## Transceivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Number of bits	f <sub>max</sub> (MHz)	T <sub>v</sub> (°C)
74ABT162245A	16-bit transceiver with 30 ohm termination resistors (3-state)	4.5 - 5.5	TTL	-32 / 12	3.0	16	100	-40~85
74ABT16245B	16-bit transceiver (3-state)	4.5 - 5.5	TTL	-32 / 64	2.3	16	150	-40~85
74ABT245	Octal transceiver (3-state)	4.5 - 5.5	TTL	-32 / 64	2.9	8	100	-40~85
74ABTH162245A	16-bit transceiver with bus hold and 30 ohm termination resistors (3-state)	4.5 - 5.5	TTL	-32 / 12	3.0	16	80	-40~85
74AHC245	Octal transceiver (3-state)	2.0 - 5.5	CMOS	±8	3.5	8	60	-40~125
74AHCT245	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	5.0	8	60	-40~125
74AHCT245A	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	3.0	8	60	-40~125
74AHCV245A	Octal transceiver; Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	3.2	8	60	-40~125
74ALVC16245	16-bit transceiver (3-state)	1.65 - 3.6	TTL	±24	1.9	16	150	-40~85
74ALVC245	Octal transceiver (3-state)	1.65 - 3.6	TTL	±24	2.3	8	130	-40~85
74ALVCH162245	16-bit transceiver with bus hold and 30 Ω termination resistors (3-state)	1.65 - 3.6	TTL	±12	2.4	16	150	-40~85
74ALVCH16245	16-bit transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	1.9	16	150	-40~85
74ALVCH162601	18-bit universal bus transceiver with bus hold and 30 Ω termination resistors; positive-edge trigger (3-state)	1.65 - 3.6	TTL	±12	3.1	18	150	-40~85
74ALVCH16500	18-bit universal bus transceiver with bus hold; negative edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.9	18	150	-40~85
74ALVCH16501	18-bit universal bus transceiver with bus hold; positive edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.8	18	150	-40~85
74ALVCH16543	16-bit registered transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	3.8	16	150	-40~85
74ALVCH16600	18-bit universal bus transceiver with bus hold; negative edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.8	18	150	-40~85
74ALVCH16601	18-bit universal bus transceiver with bus hold; positive edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.8	18	150	-40~85
74ALVCH16646	16-bit registered transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	2.6	16	150	-40~85
74ALVCH16652	16-bit registered transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	2.6	16	150	-40~85
74ALVCH16952	16-bit registered transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	3.2	16	150	-40~85
74ALVT162245	16-bit transceiver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	TTL	±12	2.3	16	75	-40~85
74AVC16245	16-bit transceiver (3-state)	1.2 - 3.6	CMOS	±12	2.0	16	200	-40~85
74AVCH16245	16-bit transceiver with bus hold (3-state)	1.2 - 3.6	CMOS	±12	2.0	16	200	-40~85
74HC245	Octal transceiver (3-state)	2.0 - 6.0	CMOS	±7.8	7.0	8	36	-40~125
74HCT245	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	10	8	36	-40~125
74LV245	Octal transceiver (3-state)	1.0 - 5.5	TTL	±16	7.0	8	30	-40~125
74LV245A	Octal transceiver (3-state)	2.0 - 5.5	CMOS	±16	3	8	60	-40~125
74LV245AT	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±16	3	8	60	-40~125
74LVC162245A	16-bit transceiver with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	3.3	16	175	-40~125
74LVC16245A	16-bit transceiver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	16	175	-40~125
74LVC2245A	Octal transceiver with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	3.3	8	175	-40~125
74LVC245A	Octal transceiver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	2.9	8	175	-40~125
74LVC32245A	32-bit transceiver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	2.2	32	175	-40~125
74LVCH162245A	16-bit transceiver with bus hold and 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	3.3	16	175	-40~125
74LVCH16245A	16-bit transceiver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	16	175	-40~125
74LVCH245A	Octal transceiver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	2.9	8	175	-40~125

## Transceivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Number of bits	f <sub>max</sub> (MHz)	T <sub>v</sub> (°C)
74LVT162245B	16-bit transceiver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	2.5	16	150	-40~85
74LVT16245B	16-bit transceiver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	1.9	16	150	-40~85
74LVT16543A	16-bit registered transceiver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	2.2	16	150	-40~85
74LVT16543A	16-bit registered transceiver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	2	16	150	-40~85
74LVT2245	Octal transceiver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	3.2	8	150	-40~85
74LVT245	Octal transceiver (3-state)	2.7 - 3.6	TTL	-32 / 64	2.4	8	150	-40~85
74LVT245B	Octal transceiver (3-state)	2.7 - 3.6	TTL	-32 / 64	2	8	150	-40~85
74LVT640	Octal transceiver with bus hold; inverting (3-state)	2.7 - 3.6	TTL	-32 / 64	2.4	8	150	-40~85
74LVTH16245B	16-bit transceiver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	1.9	16	150	-40~85
74LVTH2245	Octal transceiver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	3.2	8	150	-40~85
74LVTN16245B	16-bit transceiver (3-state)	2.7 - 3.6	TTL	-32 / 64	1.9	16	150	-40~85
74VHC245	Octal transceiver (3-state)	2.0 - 5.5	CMOS	±8	3.5	8	60	-40~125
74VHCT245	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	5.0	8	60	-40~125

## Schmitt-triggers

Types in **bold** represent new products

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AHC132	Quad 2-input NAND gate Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.3	50	60	4	-40~125
74AHC14	Hex inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	6	-40~125
74AHC1G14	Single inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40~125
74AHC1G17	Single buffer Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40~125
74AHC3G14	Triple inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	3	-40~125
74AHCT132	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	4	-40~125
74AHCT14	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.0	50	60	6	-40~125
<b>74AHCT17A</b>	Hex buffer Schmitt-trigger	4.5 - 5.5	TTL	±8	3.2	50	60	8	-40~125
74AHCT1G14	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	1	-40~125
74AHCT1G17	Single buffer Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	1	-40~125
74AHCT3G14	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	3	-40~125
74AHCV07A	Hex buffer Schmitt-trigger; open-drain	1.8 - 5.5	CMOS	16	3.8	15	60	6	-40~125
74AHCV14A	Hex inverter Schmitt-trigger	1.8 - 5.5	CMOS	±16	3.2	15	60	6	-40~125
74AHCV17A	Hex buffer Schmitt-trigger	1.8 - 5.5	CMOS	±16	3.2	15	60	6	-40~125
74AHCV244A	Octal buffer/line driver Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	3.0	15	60	8	-40~125
74AHCV245A	Octal transceiver Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	3.2	15	60	8	-40~125
74AHCV541A	Octal buffer/line driver Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	3.0	15	60	8	-40~125
74ALVC14	Hex inverter Schmitt-trigger	1.65 - 3.6	TTL	±24	2.4	50	150	6	-40~85
74AUP1G132	Single 2-input NAND gate Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	10.0	30	70	1	-40~125
74AUP1G14	Single inverter Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	4.7	30	70	1	-40~125
74AUP1G17	Single buffer Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	7.8	30	70	1	-40~125

## Schmitt-triggers

Types in **bold** represent new products

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AUP1G57	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40~125
74AUP1G58	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40~125
74AUP1G97	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40~125
74AUP1G98	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.9	30	70	1	-40~125
<b>74AUP2G132</b>	Dual 2-input NAND gate Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	10	30	70	2	-40~125
74AUP2G14	Dual inverter Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	4.7	30	70	2	-40~125
74AUP2G17	Dual buffer Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	7.8	30	70	2	-40~125
74AUP2G58	Dual configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	2	-40~125
74AUP2G97	Dual configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	2	-40~125
74AUP2G98	Dual configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.9	30	70	2	-40~125
74AUP3G14	Triple inverter Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	2.4	30	70	3	-40~125
74AUP3G17	Triple Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	2.4	30	70	3	-40~125
74AXP1G14	Single inverter Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	2.9	5	70	1	-40~85
74AXP1G17	Single buffer Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	2.8	5	70	1	-40~85
74AXP1G57	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.6	5	70	1	-40~85
74AXP1G58	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.5	5	70	1	-40~85
74AXP1G97	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.5	5	70	1	-40~85
74AXP1G98	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.5	5	70	1	-40~85
74AXP1T14	Dual-supply Schmitt-trigger inverter	0.75 - 2.75	CMOS	±12	4.9	5	45	1	-40~125
74AXP1T57	Single dual-supply translating configurable gate; Schmitt-trigger inputs	0.75 - 2.75	CMOS	±12	4.8	5	45	1	-40~125
74AXP2G14	Dual inverter Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	2.9	5	70	2	-40~85
74AXP2G17	Dual buffer Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	2.8	5	70	1	-40~85
74HC132	Quad 2-input NAND gate Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	11	50	36	4	-40~125
74HC14	Hex inverter Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	12	50	36	6	-40~125
74HC1G14	Single inverter Schmitt-trigger	2.0 - 6.0	CMOS	±2.6	10	50	36	1	-40~125
74HC2G14	Dual inverter Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	16	50	36	2	-40~125
74HC2G17	Dual buffer Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	12	50	36	2	-40~125
74HC3G14	Triple inverter Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	16	50	36	3	-40~125
74HC7014	Hex buffer precision Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	27	50	36	6	-40~125
74HC7540	Octal inverter/line driver Schmitt-trigger (3-state)	2.0 - 6.0	CMOS	±7.8	11	50	36	8	-40~125
74HC7541	Octal buffer/line driver Schmitt-trigger (3-state)	2.0 - 6.0	CMOS	±7.8	11	50	36	8	-40~125
74HC9114	9-bit inverter Schmitt-trigger; open drain (3-state)	2.0 - 6.0	CMOS	5,2	12	50	36	9	-40~125
74HC9115	9-bit buffer Schmitt-trigger; open drain (3-state)	2.0 - 6.0	CMOS	5,2	12	50	36	9	-40~125
74HCT132	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	36	4	-40~125
74HCT14	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	36	6	-40~125
74HCT1G14	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±2.0	15	50	36	1	-40~125
74HCT2G14	Dual inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4.0	21	50	36	2	-40~125
74HCT2G17	Dual buffer Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4.0	21	50	36	2	-40~125



## Schmitt-triggers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74HCT3G14	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4.0	21	50	36	3	-40~125
74HCT7540	Octal inverter/line driver Schmitt-trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	16	50	36	8	-40~125
74HCT7541	Octal buffer/line driver Schmitt-trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	16	50	36	8	-40~125
74HCT9114	9-bit inverter Schmitt-trigger; open drain; TTL-enabled (3-state)	4.5 - 5.5	TTL	4	13	50	36	9	-40~125
74LV132	Quad 2-input NAND gate Schmitt-trigger	1.0 - 5.5	TTL	±12	10	50	30	4	-40~125
74LV14	Hex inverter Schmitt-trigger	1.0 - 5.5	TTL	±12	13	50	30	6	-40~125
74LV14A	Hex inverter Schmitt-trigger	2.0 - 5.5	CMOS	±12	3.4	15	60	6	-40~125
74LVC132A	Quad 2-input NAND gate Schmitt-trigger	1.2 - 3.6	CMOS/LVTTL	±24	3.4	50	175	4	-40~125
74LVC14A	Hex inverter Schmitt-trigger	1.2 - 3.6	CMOS/LVTTL	±24	3.2	50	175	6	-40~125
74LVC1G14	Single inverter Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.0	50	175	1	-40~125
74LVC1G17	Single buffer Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.0	50	175	1	-40~125
74LVC1G57	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	6.3	50	150	1	-40~125
74LVC1G58	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	6.3	50	150	1	-40~125
74LVC1G97	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	6.3	50	150	1	-40~125
74LVC1G98	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	6.3	50	150	1	-40~125
74LVC1G99	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	8.4	50	150	1	-40~125
74LVC2G14	Dual inverter Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.9	50	175	2	-40~125
74LVC2G17	Dual buffer Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.6	50	175	2	-40~125
74LVC3G14	Triple inverter Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.2	50	175	3	-40~125
74LVC3G17	Triple buffer Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.6	50	175	3	-40~125
74LVT14	Hex inverter Schmitt-trigger	2.7 - 3.6	TTL	±32	3.8	50	150	6	-40~125
74VHC14	Hex inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	6	-40~125
74VHCT14	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	6	-40~125
HEF40106B	Hex inverter Schmitt-trigger	3.0 - 15	CMOS	±2.4	30	50	10	6	-40~85
HEF4093B	Quad 2-input NAND gate Schmitt-trigger	3.0 - 15	CMOS	±2.4	30	50	10	4	-40~125
XC7SET14	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	1	-40~125
XC7SH14	Single inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40~125
XC7WH14	Triple inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	3	-40~125
XC7WT14	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	3	-40~125

## Counters/Frequency dividers

Type number	Description	V <sub>CC</sub> (V)	Output drive capability (mA)	Logic switching levels	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AHC1G4210	10-stage divider and oscillator	2.0 - 5.5	±5.2	CMOS	17	15	125	-40~125
74AHC1G4212	12-stage divider and oscillator	2.0 - 5.5	±5.2	CMOS	20	15	125	-40~125
74AHC1G4214	14-stage divider and oscillator	2.0 - 5.5	±5.2	CMOS	23	15	125	-40~125
74HC160	Presetable synchronous BCD decade counter; asynchronous reset	2.0 - 6.0	±5.2	CMOS	18	50	55	-40~125
74HC161	Presetable synchronous 4-bit binary counter; asynchronous reset	2.0 - 6.0	±5.2	CMOS	19	50	48	-40~125
74HCT161	Presetable synchronous 4-bit binary counter; asynchronous reset; TTL-enabled	4.5 - 5.5	±4.0	TTL	20	50	41	-40~125
74HCT163	Presetable synchronous 4-bit binary counter; synchronous reset; TTL-enabled	4.5 - 5.5	±4.0	TTL	20	50	50	-40~125
74HC191	Presetable synchronous 4-bit binary up/down counter	2.0 - 6.0	±5.2	CMOS	22	50	36	-40~125
74HC193	Presetable synchronous 4-bit binary up/down counter; separate up/down clocks	2.0 - 6.0	±5.2	CMOS	20	50	49	-40~125
74HCT193	Presetable synchronous 4-bit binary up/down counter; separate up/down clocks; TTL-enabled	4.5 - 5.5	±4.0	TTL	20	50	43	-40~125
74HC390	Dual decade ripple counter	2.0 - 6.0	±5.2	CMOS	14	50	60	-40~125
74HCT390	Dual decade ripple counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	18	50	55	-40~125
74HC393	Dual 4-bit binary ripple counter	2.0 - 6.0	±5.2	CMOS	12	50	107	-40~125
74HCT393	Dual 4-bit binary ripple counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	20	50	53	-40~125
74HC4017	Johnson decade counter with 10 decoded outputs	2.0 - 6.0	±5.2	CMOS	18	50	77	-40~125
74HCT4017	Johnson decade counter with 10 decoded outputs; TTL-enabled	4.5 - 5.5	±4.0	TTL	21	50	67	-40~125
74HC4020	14-stage binary ripple counter	2.0 - 6.0	±5.2	CMOS	11	50	52	-40~125
74HCT4020	14-stage binary ripple counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	15	50	52	-40~125
74HC4040	12-stage binary ripple counter	2.0 - 6.0	±5.2	CMOS	14	50	90	-40~125
74HCT4040	12-stage binary ripple counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	16	50	79	-40~125
74HC4060	14-stage binary ripple counter with oscillator	2.0 - 6.0	±5.2	CMOS	31	50	95	-40~125
74HCT4060	14-stage binary ripple counter with oscillator; TTL-enabled	4.5 - 5.5	±4.0	TTL	31	50	88	-40~125
74HC4520	Dual 4-bit synchronous binary counter	2.0 - 6.0	±5.2	CMOS	24	50	64	-40~125
74HCT4520	Dual 4-bit synchronous binary counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	24	50	64	-40~125
74HC555	Programmable delay timer with oscillator	2.0 - 6.0	-0,8	CMOS	89	50	24	-40~125
74HC6323	Programmable ripple counter with oscillator (3-state)	2.0 - 6.0	±7.8	CMOS	17	50	100	-40~125
74HCT6323	Programmable ripple counter with oscillator (3-state); TTL-enabled	4.5 - 5.5	±4.0	TTL	17	50	85	-40~125
74HC40103	8-bit synchronous binary down counter	2.0 - 6.0	±5.2	CMOS	15	50	14	-40~125
74HC4024	7-stage binary ripple counter	2.0 - 6.0	±5.2	CMOS	14	50	90	-40~125
74HC590	8-bit binary counter with output register (3-state)	2.0 - 6.0	±5.2	CMOS	19	50	61	-40~125
74LV393	Dual 4-bit binary ripple counter	1.0 - 3.6	±6	TTL	12	50	90	-40~125
74LV4020	14-stage binary ripple counter	1.0 - 5.5	±6	TTL	16	50	100	-40~125
74LV4060	14-stage binary ripple counter with oscillator	1.0 - 5.5	±6	TTL	29	50	100	-40~125
74LVC161	Presetable synchronous 4-bit binary counter; asynchronous reset	1.2 - 3.6	±24	CMOS/ LVTTTL	4.9	50	200	-40~125

## Counters/Frequency dividers

Type number	Description	V <sub>CC</sub> (V)	Output drive capability (mA)	Logic switching levels	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74LVC163	Presetable synchronous 4-bit binary counter; synchronous reset	1.2 - 3.6	±24	CMOS/LVTTL	4.9	50	200	-40~125
HEF4017B	Johnson decade counter with 10 decoded outputs	3.0 - 15	±2.4	CMOS	40	50	30	-40~85
HEF4020B	14-stage binary ripple counter	3.0 - 15	±2.4	CMOS	35	50	35	-40~85
HEF4024B	7-stage binary ripple counter	3.0 - 15	±2.4	CMOS	30	50	35	-40~85
HEF4040B	12-stage binary ripple counter	3.0 - 15	±2.4	CMOS	35	50	50	-40~85
HEF4060B	14-stage binary ripple counter with oscillator	3.0 - 15	±2.4	CMOS	50	50	30	-40~85
HEF4518B	Dual BCD counter	3.0 - 15	±2.4	CMOS	40	50	40	-40~85
HEF4520B	Dual 4-bit synchronous binary counter	3.0 - 15	±2.4	CMOS	15	50	40	-40~85
HEF4521B	24-stage frequency divider and oscillator	3.0 - 15	±2.4	CMOS	220	50	35	-40~85
HEF4541B	Programmable timer	3.0 - 15	-4/ 2.7	CMOS	38	50	150	-40~85

## FIFO registers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74HC40105	4-bit x 16-word FIFO register	2.0 - 6.0	CMOS	±5.2	15	50	30	-40~125

## Flip-flops

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AHC1G79	Single D-type flip-flop; positive-edge trigger	2.0 - 5.5	CMOS	±8	3.5	50	90	-40~125
74AHC273	Octal D-type flip-flop with reset; positive-edge trigger	2.0 - 5.5	CMOS	±8	4.2	50	165	-40~125
74AHC374	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 5.5	CMOS	±8	4.4	50	185	-40~125
74AHC377	Octal D-type flip-flop with data enable; positive-edge trigger	2.0 - 5.5	CMOS	±8	3.9	50	175	-40~125
74AHC574	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 5.5	CMOS	±8	4.4	50	130	-40~125
74AHC74	Dual D-type flip-flop with set and reset; positive-edge trigger	2.0 - 5.5	CMOS	±8	3.7	50	170	-40~125
74AHCT1G79	Single D-type flip-flop; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	90	-40~125
74AHCT273	Octal D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.0	50	120	-40~125
74AHCT374	Octal D-type flip-flop; positive-edge trigger (3-state)	4.5 - 5.5	TTL	±8	4.3	50	140	-40~125
74AHCT377	Octal D-type flip-flop with data enable; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.0	50	140	-40~125
74AHCT574	Octal D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	4.4	50	130	-40~125
74AHCT74	Dual D-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±8	3.3	50	160	-40~125
74ALVC374	Octal D-type flip-flop; positive-edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.5	50	300	-40~85
74ALVC574	Octal D-type flip-flop; positive-edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.5	50	300	-40~85
74ALVC74	Dual D-type flip-flop with set and reset; positive-edge trigger	1.65 - 3.6	TTL	±24	2.3	50	425	-40~85
74ALVCH16374	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	1.2 - 3.6	TTL	±24	2.3	50	350	-40~85
74ALVCH16821	20-bit D-type flip-flop; positive-edge trigger (3-state)	2.3 - 3.6	TTL	±24	2.5	50	350	-40~85
74ALVCH16823	18-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	1.2 - 3.6	TTL	±24	2.1	50	350	-40~85
74ALVT162821	20-bit D-type flip-flop; positive-edge trigger (3-state)	2.3 - 3.6	TTL	±12	3.2	50	150	-40~85
74ALVT162823	18-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	TTL	±12	3.0	50	150	-40~85
74ALVT16821	20-bit D-type flip-flop; positive-edge trigger (3-state)	2.3 - 3.6	TTL	-32 / 64	1.8	50	150	-40~85
74ALVT16823	18-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	2.3 - 3.6	TTL	-32 / 64	1.9	50	250	-40~85
74AUP1G175	Single D flip-flop with reset; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	7.4	30	70	-40~125
74AUP1G374	Single D-type flip-flop; positive-edge trigger (3-state)	1.1 - 3.6	CMOS	±1.9	7.9	30	400	-40~125
74AUP1G74	Single D-type flip-flop with set and reset; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	9.2	30	400	-40~125
74AUP1G79	Single D-type flip-flop; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	9.1	30	400	-40~125
74AUP1G80	Single D-type flip-flop; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	9.1	30	400	-40~125
74AUP2G79	Dual D-type flip-flop; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	8.5	30	400	-40~125
74AUP2G80	Dual D-type flip-flop; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	9.1	30	400	-40~125
74AVC16374	16-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS	±12	1.5	30	350	-40~85
74HC107	Dual JK-type flip-flop with reset; negative-edge trigger	2.0 - 6.0	CMOS	±5.2	16	50	78	-40~125

## Flip-flops

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74HC109	Dual JK-type flip-flop with set and reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	15	50	75	-40~125
74HC112	Dual JK-type flip-flop with set and reset; negative-edge trigger	2.0 - 6.0	CMOS	±5.2	15	50	66	-40~125
74HC173	Quad D-type flip-flop; positive-edge trigger (3-state)	2.0 - 6.0	CMOS	±7.8	17	50	88	-40~125
74HC174	Hex D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	17	50	99	-40~125
74HC175	Quad D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	17	50	83	-40~125
74HC273	Octal D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	15	50	122	-40~125
74HC374	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 6.0	CMOS	±7.8	14	50	83	-40~125
74HC377	Octal D-type flip-flop with data enable; positive-edge trigger	2.0 - 6.0	CMOS	±7.8	13	50	83	-40~125
74HC574	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 6.0	CMOS	±7.8	14	50	133	-40~125
74HC73	Dual JK-type flip-flop with reset; negative-edge trigger	2.0 - 6.0	CMOS	±5.2	16	50	77	-40~125
74HC74	Dual D-type flip-flop with set and reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	14	50	82	-40~125
74HCT107	Dual JK-type flip-flop with reset; negative-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	16	50	73	-40~125
74HCT109	Dual JK-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	61	-40~125
74HCT112	Dual JK-type flip-flop with set and reset; negative-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	19	50	70	-40~125
74HCT173	Quad D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	17	50	88	-40~125
74HCT174	Hex D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	18	50	69	-40~125
74HCT175	Quad D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	16	50	54	-40~125
74HCT273	Octal D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	15	50	36	-40~125
74HCT374	Octal D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	13	50	48	-40~125
74HCT377	Octal D-type flip-flop with data enable; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±6	14	50	53	-40~125
74HCT574	Octal D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	15	50	76	-40~125
74HCT74	Dual D-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	15	50	59	-40~125
74LV74	Dual D-type flip-flop with set and reset; positive-edge trigger	1.0 - 5.5	TTL	±12	11	50	75	-40~125
74LVC16374A	16-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	3.8	50	150	-40~125
74LVC1G175	Single D flip-flop with reset; positive-edge trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	3.1	50	300	-40~125
74LVC1G74	Single D-type flip-flop with set and reset; positive-edge trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	3.5	50	280	-40~125
74LVC1G79	Single D-type flip-flop; positive-edge trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	2.2	50	450	-40~125
74LVC1G80	Single D-type flip-flop; positive-edge trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	2.4	50	450	-40~125
74LVC273	Octal D-type flip-flop with reset; positive-edge trigger	1.2 - 3.6	CMOS/ LVTTTL	±24	6.0	50	230	-40~125
74LVC2G74	Single D-type flip-flop with set and reset; positive-edge trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	3.5	50	280	-40~125
74LVC374A	Octal D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	2.7	50	100	-40~125
74LVC377	Octal D-type flip-flop with data enable; positive-edge trigger	1.2 - 3.6	CMOS/ LVTTTL	±24	6.0	50	230	-40~125
74LVC574A	Octal D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	3.2	50	150	-40~125
74LVC74A	Dual D-type flip-flop with set and reset; positive-edge trigger	1.2 - 3.6	CMOS/ LVTTTL	±24	2.5	50	250	-40~125
74LVC823A	9-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	5.4	50	150	-40~125
74LVCH162374A	16-bit D-type flip-flop with bus hold and 30 Ω termination resistors; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	3.8	50	150	-40~125
74LVCH16374A	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	3.8	50	150	-40~125

## Flip-flops

Type number	Description	$V_{CC}$ (V)	Logic switching levels	Output drive capability (mA)	$t_{pd}$ (ns)	Output Load $C_L$ (pF)	$f_{max}$ (MHz)	$T_{amb}$ (°C)
74LVT162374	16-bit D-type flip-flop with bus hold and 30 $\Omega$ termination resistors; positive-edge trigger (3-state)	2.7 - 3.6	TTL	$\pm 12$	3.0	50	150	-40~85
74LVT16374A	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	2.7 - 3.6	TTL	-32 / 64	3.0	50	150	-40~85
74LVTH16374A	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	2.7 - 3.6	TTL	-32 / 64	3.0	50	150	-40~85
HEF4013B	Dual D-type flip-flop with set and reset; positive-edge trigger	3.0 - 15.0	CMOS	$\pm 2.4$	30	50	40	-40~85
HEF40175B	Quad D-type flip-flop with reset; positive-edge trigger	3.0 - 15.0	CMOS	$\pm 2.4$	25	50	45	-40~85
HEF4027B	Dual JK-type flip-flop	3.0 - 15.0	CMOS	$\pm 2.4$	30	50	30	-40~85

## Latches/Registered drivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	Number of bits	T <sub>amb</sub> (°C)
74AHC373	Octal D-type transparent latch (3-state)	2.0 - 5.5	CMOS	±8	4.3	50	8	-40~125
74AHC573	Octal D-type transparent latch (3-state)	2.0 - 5.5	CMOS	±8	4.2	50	8	-40~125
74AHCT573	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	3.9	50	8	-40~125
74ALVC162334A	16-bit registered driver with 30 Ω termination resistors (3-state)	1.65 - 3.6	TTL	±24	6.0	50	16	-40~85
74ALVC162834A	18-bit registered driver with 30 Ω termination resistors (3-state)	1.65 - 3.6	TTL	±24	6.0	50	18	-40~85
74ALVC162835A	18-bit registered driver with 30 Ω termination resistors (3-state)	1.65 - 3.6	TTL	±24	6.0	50	18	-40~85
74ALVC162836A	20-bit registered driver with 30 Ω termination resistors (3-state)	1.65 - 3.6	TTL	±24	6.0	50	20	-40~85
74ALVC16834A	18-bit registered driver (3-state)	1.65 - 3.6	TTL	±24	4.0	50	18	-40~85
74ALVC16835A	18-bit registered driver (3-state)	1.65 - 3.6	TTL	±24	4.0	50	18	-40~85
74ALVC16836A	20-bit registered driver (3-state)	1.65 - 3.6	TTL	±24	4.0	50	20	-40~85
74ALVC373	Octal D-type transparent latch (3-state)	1.65 - 3.6	TTL	±24	2.2	50	8	-40~85
74ALVC573	Octal D-type transparent latch (3-state)	1.65 - 3.6	TTL	±24	2.2	50	8	-40~85
74ALVCH16373	16-bit D-type transparent latch with bus hold (3-state)	2.3 - 3.6	TTL	±24	2.1	50	16	-40~85
74ALVCH16841	20-bit D-type transparent latch with bus hold (3-state)	2.3 - 3.6	TTL	±24	2.4	50	20	-40~85
74ALVCH16843	18-bit D-type transparent latch with bus hold (3-state)	2.3 - 3.6	TTL	±24	2.1	50	18	-40~85
74ALVCH32973	16-bit transceiver and transparent D-type latch with 8 independent buffers	1.8 - 3.6	TTL	±24	2.5	50	16	-40~85
74ALVT16373	16-bit D-type transparent latch with bus hold (3-state)	2.3 - 3.6	TTL	-32 / 64	1.8	50	16	-40~85
74AUP1G373	Single D-type transparent latch (3-state)	1.1 - 3.6	CMOS	±1.9	8.5	30	1	-40~125
74AVC16334A	16-bit registered driver (3-state)	1.2 - 3.6	CMOS	±12	2.0	30	16	-40~85
74AVC16373	16-bit D-type transparent latch (3-state)	1.2 - 3.6	CMOS	±12	2.0	30	16	-40~85
74AVC16834A	18-bit registered driver (3-state)	1.2 - 3.6	CMOS	±12	2.0	30	18	-40~85
74AVC16835A	18-bit registered driver (3-state)	1.2 - 3.6	CMOS	±12	2.0	30	18	-40~85
74AVC16836A	20-bit registered driver (3-state)	1.2 - 3.6	CMOS	±12	2.0	30	20	-40~85
74HC259	8-bit addressable latch	2.0 - 6.0	CMOS	±5.2	18	50	8	-40~125
74HC373	Octal D-type transparent latch (3-state)	2.0 - 6.0	CMOS	±7.8	12	50	8	-40~125
74HC573	Octal D-type transparent latch (3-state)	2.0 - 6.0	CMOS	±7.8	14	50	8	-40~125
74HC75	Quad bistable transparent latch	2.0 - 6.0	CMOS	±5.2	11	50	4	-40~125
74HC75	Quad bistable transparent latch	2.0 - 6.0	CMOS	±5.2	11	50	4	-40~125
74HCT259	8-bit addressable latch; TTL-enabled	4.5 - 5.5	TTL	±4	20	50	8	-40~125
74HCT373	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	14	50	8	-40~125
74HCT573	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	17	50	8	-40~125
74LVC162373A	16-bit D-type transparent latch with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	3.2	50	16	-40~125
74LVC16373A	16-bit D-type transparent latch (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	50	16	-40~125
74LVC373A	Octal D-type transparent latch (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	50	8	-40~125
74LVC573A	Octal D-type transparent latch (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.4	50	8	-40~125
74LVCH162373A	16-bit D-type transparent latch with bus hold and 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.2	50	16	-40~125
74LVCH16373A	16-bit D-type transparent latch with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	50	16	-40~125

## Latches/Registered drivers

Type number	Description	$V_{CC}$ (V)	Logic switching levels	Output drive capability (mA)	$t_{pd}$ (ns)	Output Load $C_L$ (pF)	Number of bits	$T_{amb}$ (°C)
74LVT162373	16-bit D-type transparent latch with bus hold and 30 $\Omega$ termination resistors (3-state)	2.7 - 3.6	TTL	$\pm 12$	2.5	50	16	-40~85
74LVT16373A	16-bit D-type transparent latch with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	1.9	50	16	-40~85
74LVT573	Octal D-type transparent latch (3-state)	2.7 - 3.6	TTL	-32 / 64	2.7	50	8	-40~85
HEF40373B	Octal D-type transparent latch (3-state)	3.0 - 15.0	CMOS	-50 / 62	40	50	8	-40~85
HEF4043B	Quad R/S latch with set and reset (3-state)	3.0 - 15.0	CMOS	$\pm 2.4$	25	50	4	-40~85



## AND Gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (Typ)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74ABT08	Quad 2-input AND gate	4.5 - 5.5	TTL	-15 / 20	2.4	50	100	4	-40~85
74AHC08	Quad 2-input AND gate	2.0 - 5.5	CMOS	±8	3.5	50 pF	60	4	-40~125
74AHC1G08	Single 2-input AND gate	2.0 - 5.5	CMOS	±8	3.2	50 pF	60	1	-40~125
74AHC1G09	Single 2-input AND gate; open drain	2.0 - 5.5	CMOS	±8	3.2	50 pF	60	1	-40~125
74AHC2G08	Dual 2-input AND gate	2.0 - 5.5	CMOS	±8	3.2	50 pF	60	2	-40~125
74AHCT08	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50 pF	60	4	-40~125
74AHCT1G08	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50 pF	60	1	-40~125
74AHCT2G08	Dual 2-Input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50 pF	60	2	-40~125
74ALVC08	Quad 2-input AND gate	1.65 - 3.6	CMOS/ LVTTTL	±24	2.0	50 pF	145	4	-40~85
74AUP1G08	Single 2-input AND gate	1.1 - 3.6	CMOS	±1.9	8.2	30 pF	70	1	-40~125
74AUP1G09	Single 2-input AND gate; open drain	1.1 - 3.6	CMOS	1.9	8.5	30 pF	70	1	-40~125
74AUP1G11	Single 3-input AND gate	1.1 - 3.6	CMOS	±1.9	6.9	30 pF	70	1	-40~125
74AUP2G08	Dual 2-input AND gate	1.1 - 3.6	CMOS	±1.9	8.2	30 pF	70	2	-40~125
74AXP1G08	Single 2-input AND gate	0.7 - 2.75	CMOS	±4.5	2.6	5 pF	70	1	-40~85
74AXP1G09	Single 2-input AND gate with open-drain output	0.7 - 2.75	CMOS	±4.5	2.6	5 pF	70	1	-40~85
74AXP1G11	Single 3-input AND gate	0.7 - 2.75	CMOS	±4.5	2.6	5 pF	70	1	-40~85
74HC08	Quad 2-input AND gate	2.0 - 6.0	CMOS	±5.2	7.0	50 pF	36	4	-40~125
74HC11	Triple 3-input AND gate	2.0 - 6.0	CMOS	±5.2	10	50 pF	36	3	-40~125
74HC1G08	Single 2-input AND gate	2.0 - 6.0	CMOS	±5.2	7.0	50 pF	36	1	-40~125
74HC21	Dual 4-input AND gate	2.0 - 6.0	CMOS	±5.2	10	50 pF	36	2	-40~125
74HC2G08	Dual 2-input AND gate	2.0 - 6.0	CMOS	±5.2	9.0	50 pF	36	2	-40~125
74HCT08	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±4	11	50 pF	36	4	-40~125
74HCT11	Triple 3-input AND gate	4.5 - 5.5	TTL	±4	11	50 pF	36	3	-40~125
74HCT1G08	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±2	11	50 pF	36	1	-40~125
74HCT2G08	Dual 2-Input AND gate; TTL-enabled	4.5 - 5.5	TTL	±4	14	50 pF	36	2	-40~125
74LV08	Quad 2-input AND gate	1.0 - 5.5	TTL	±12	7.0	50 pF	30	4	-40~125
74LVC08A	Quad 2-input AND gate	1.2 - 3.6	CMOS/ LVTTTL	±24	2.1	50 pF	150	4	-40~125
74LVC11	Triple 3-input AND gate	1.2 - 3.6	CMOS/ LVTTTL	±24	3.7	50 pF	150	3	-40~125
74LVC1G08	Single 2-input AND gate	1.65 - 5.5	CMOS/ LVTTTL	±24	2.1	50 pF	150	1	-40~125
74LVC1G11	Single 3-input AND gate	1.65 - 5.5	CMOS/ LVTTTL	±24	2.6	50 pF	150	1	-40~125
74LVC2G08	Dual 2-input AND gate	1.65 - 5.5	CMOS/ LVTTTL	±24	2.1	50 pF	150	2	-40~125
74LVT08	Quad 2-input AND gate	2.7 - 3.6	TTL	-20 / 32	3.4	50 pF	150	4	-40~85
74VHC08	Quad 2-input AND gate	2.0 - 5.5	CMOS	±8	3.5	50 pF	60	4	-40~125
74VHCT08	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50 pF	60	4	-40~125
HEF4073B	Triple 3-input AND gate	3.0 - 15	CMOS	±2.4	20	50 pF	10	3	-40~85
HEF4081B	Quad 2-input AND gate	3.0 - 15	CMOS	±2.4	20	50 pF	10	4	-40~85
HEF4082B	Dual 4-input AND gate	3.0 - 15	CMOS	±2.4	25	50 pF	10	2	-40~85
XC7SET08	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50 pF	60	1	-40~125
XC7SH08	Single 2-input AND gate	2.0 - 5.5	CMOS	±8	3.2	50 pF	60	1	-40~125

## Combination Gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (Typ)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AUP1G0832	Single 3-input AND-OR gate	1.1 - 3.6	CMOS	±1.9	6.7	30 pF	70	1	-40~125
74AUP1G3208	Single 3-input OR-AND gate	1.1 - 3.6	CMOS	±1.9	7.4	30 pF	70	1	-40~125
74AUP1G885	Dual function gate	1.1 - 3.6	CMOS	±1.9	7.6	30 pF	70	1	-40~125
74AUP1Z04	Crystal driver with enable and internal resistor	1.1 - 3.6	CMOS	±1.9	5.6	30 pF	70	1	-40~125
74AUP1Z125	Crystal driver with enable and internal resistor (3-state)	1.1 - 3.6	CMOS	±1.9	4.7	30 pF	70	1	-40~125
74AUP2G0604	Inverter with open drain and inverter	1.1 - 3.6	CMOS	±1.9	4.0	30 pF	70	2	-40~125
74AUP2G3404	Buffer and inverter	1.1 - 3.6	CMOS	±1.9	4.0	30 pF	70	2	-40~125
74AUP2G3407	Buffer and buffer with open drain	1.1 - 3.6	CMOS	±1.9	4.1	30 pF	70	2	-40~125
74AUP2T1326	Dual supply buffer/line driver; 3-state	1.1 - 3.6	CMOS	±1.9	3.8	30 pF	70	2	-40~125
74AUP3G0434	Dual inverter and single buffer	1.1 - 3.6	CMOS	±1.9	4.0	30 pF	70	3	-40~125
74AUP3G3404	Dual buffer and single inverter	1.1 - 3.6	CMOS	±1.9	4.0	30 pF	70	3	-40~125
74LVC1GX04	Crystal driver	1.65 - 5.5	CMOS/ LVTTTL	±24	2.8	50 pF	150	1	-40~125
HEF4007UB	Dual complementary pair and inverter	3.0 - 15	CMOS	±3.4	15	50 pF	10	2	-40~85

## Configurable Gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (Typ)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AUP1G57	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30 pF	70	1	-40~125
74AUP1G58	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30 pF	70	1	-40~125
74AUP1G97	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30 pF	70	1	-40~125
74AUP1G98	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.9	30 pF	70	1	-40~125
74AUP1G3208	Configurable multiple function gate	0.8 - 3.6	CMOS	±4	6.6	30 pF	70	1	-40~125
74AUP1T57	Configurable gate with voltage-level translation	2.3 - 3.6	CMOS	±1.9	8.7	30 pF	70	1	-40~125
74AUP1T58	Configurable gate with voltage-level translation	2.3 - 3.6	CMOS	±1.9	8.7	30 pF	70	1	-40~125
74AUP1T97	Configurable gate with voltage-level translation	2.3 - 3.6	CMOS	±1.9	8.7	30 pF	70	1	-40~125
74AUP1T98	Configurable gate with voltage-level translation	2.3 - 3.6	CMOS	±1.9	8.7	30 pF	70	1	-40~125
74AUP2G57	Dual configurable gate; Schmitt-trigger	0.8 - 3.6	CMOS	±4	6.6	30pF	70	1	-40~125
74AUP2G58	Dual configurable gate; Schmitt-trigger	0.8 - 3.6	CMOS	±4	6.6	30pF	70	1	-40~125
74AUP2G97	Dual configurable gate; Schmitt-trigger	0.8 - 3.6	CMOS	±4	6.6	30pF	70	1	-40~125
74AUP2G98	Dual configurable gate; Schmitt-trigger	0.8 - 3.6	CMOS	±4	6.6	30pF	70	1	-40~125
74AXP1G57	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.6	5pF	70	1	-40~85
74AXP1G58	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.5	5pF	70	1	-40~85
74AXP1G97	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.5	5pF	70	1	-40~85
74AXP1G98	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.5	5pF	70	1	-40~85
74LVC1G57	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	6.3	50 pF	150	1	-40~125
74LVC1G58	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	6.3	50 pF	150	1	-40~125
74LVC1G97	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	6.3	50 pF	150	1	-40~125
74LVC1G98	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	6.3	50 pF	150	1	-40~125
74LVC1G99	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	8.4	50 pF	150	1	-40~125

## EXCLUSIVE-NOR Gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (Typ)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
HEF4077	Quad 2-input EXCLUSIVE-NOR gate	3.0 - 15	CMOS	±2.4	30	50 pF	10	-40~85

## EXCLUSIVE-OR Gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (Typ)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AHC1G86	2-input EXCLUSIVE-OR gate	2.0 - 5.5	CMOS	±8	3.4	50 pF	60	1	-40~125
74AHC1G86	2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50 pF	60	1	-40~125
74AHC86	Quad 2-input EXCLUSIVE-OR gate	2.0 - 5.5	CMOS	±8	3.4	50 pF	60	4	-40~125
74AHC86	Quad 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.4	50 pF	60	4	-40~125
74AUP1G386	Single 3-input EXCLUSIVE-OR gate	1.1 - 3.6	CMOS	±1.9	8.6	30 pF	70	1	-40~125
74AUP1G86	Single 2-input Exclusive-OR gate	1.1 - 3.6	CMOS	±1.9	9.0	30	70	1	-40~125
74AUP2G86	Dual 2-input EXCLUSIVE-OR gate	1.1 - 3.6	CMOS	±1.9	9.0	30 pF	70	2	-40~125
74AXP1G86	Single 2-input Exclusive-OR gates	0.7 - 2.75	CMOS	±4.5	4.5	5	70	1	-40~85
74HC1G86	Single 2-input EXCLUSIVE-OR gate	2.0 - 6.0	CMOS	±2.6	9.0	50 pF	36	1	-40~125
74HCT1G86	Single 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±2.0	10	50 pF	36	1	-40~125
74HC2G86	Dual 2-input EXCLUSIVE-OR gate	2.0 - 6.0	CMOS	±5.2	9.0	50 pF	36	2	-40~125
74HCT2G86	Dual 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±4.0	11	50 pF	36	2	-40~125
74HC86	Quad 2-input EXCLUSIVE-OR gate	2.0 - 6.0	CMOS	±5.2	11	50 pF	36	4	-40~125
74HCT86	Quad 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±4	14	50 pF	36	4	-40~125
74LVC1G386	Single 3-Input EXCLUSIVE-OR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	4.5	50 pF	150	1	-40~125
74LVC1G86	Single 2-input EXCLUSIVE-OR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.4	50 pF	150	1	-40~125
74LVC2G86	Dual 2-input EXCLUSIVE-OR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.3	50 pF	150	2	-40~125
74LVC86	Quad 2-input EXCLUSIVE-OR gate	1.2 - 3.6	CMOS/ LVTTTL	±24	3.0	50 pF	150	4	-40~125
HEF4030B	Quad 2-input EXCLUSIVE-OR gate	3.0 - 15	CMOS	±2.4	30	50 pF	10	4	-40~85
HEF4070B	Quad 2-input EXCLUSIVE-OR gate	3.0 - 15	CMOS	±2.4	30	50 pF	10	4	-40~85
XC7SET86	2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50 pF	60	1	-40~125
XC7SH86	2-input EXCLUSIVE-OR gate	2.0 - 5.5	CMOS	±8	3.4	50 pF	60	1	-40~125

## NAND Gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (Typ)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74ABT00	Quad 2-input NAND gate	4.5 - 5.5	TTL	-15 / 20	2.5	50	100	4	-40~85
74ABT20	Dual 4-input NAND gate	4.5 - 5.5	TTL	-15 / 20	2.7	50	100	2	-40~85
74AHC00	Quad 2-input NAND gate	2.0 - 5.5	CMOS	±8	3.2	50	60	4	-40~125
74AHC132	Quad 2-input NAND gate Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.3	50	60	4	-40~125
74AHC1G00	Single 2-input NAND gate	2.0 - 5.5	CMOS	±8	3.5	50	60	1	-40~125
74AHC2G00	Dual 2-input NAND gate	2.0 - 5.5	CMOS	±8	3.5	50	60	2	-40~125
74AHC00	Quad 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.3	50	60	4	-40~125
74AHC132	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	4	-40~125

## NAND Gates

Types in **bold** represent new products

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AHCT1G00	Single 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	60	1	-40~125
74AHCT2G00	Dual 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	60	2	-40~125
<b>74AUP2G132</b>	Dual 2-input NAND gate Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	10	30	70	2	-40~125
74AXP1G00	Single 2-input NAND gate	0.7 - 2.75	CMOS	±4.5	2.7	5	70	1	-40~85
74AXP1G10	Single 3-input NAND gate	0.7 - 2.75	CMOS	±4.5	2.6	5	70	1	-40~85
74HC132	Quad 2-input NAND gate Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	11	50	36	4	-40~125
74HCT132	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	36	4	-40~125
74LV132	Quad 2-input NAND gate Schmitt-trigger	1.0 - 5.5	TTL	±12	10	50	30	4	-40~125
74LVC132A	Quad 2-input NAND gate Schmitt-trigger	1.2 - 3.6	CMOS/ LVTTTL	±24	3.4	50	175	4	-40~125
HEF4093B	Quad 2-input NAND gate Schmitt-trigger	3.0 - 15	CMOS	±2.4	3.0	50	10	4	-40~85
74AHC30	8-input NAND gate	2.0 - 5.5	CMOS	±8	3.6	50	60	1	-40~125
74AHCT30	8-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.3	50	60	1	-40~125
74ALVC00	Quad 2-input NAND gate	1.65 - 3.6	CMOS/ LVTTTL	±24	2.1	50	145	4	-40~85
74AUP1G00	Single 2-input NAND gate	1.1 - 3.6	CMOS	±1.9	8.3	30	70	1	-40~125
74AUP1G132	Single 2-input NAND gate Schmitt trigger	1.1 - 3.6	CMOS	±1.9	10	30	70	1	-40~125
74AUP1G38	Single 2-input NAND gate; open drain	1.1 - 3.6	CMOS	1.9	8.5	30	70	1	-40~125
74AUP2G00	Dual 2-input NAND gate	1.1 - 3.6	CMOS	±1.9	8.3	30	70	2	-40~125
74AUP2G38	Dual 2-input NAND gate; open drain	1.1 - 3.6	CMOS	1.9	8.5	30	70	2	-40~125
74HC00	Quad 2-input NAND gate	2.0 - 6.0	CMOS	±5.2	7.0	50	36	4	-40~125
74HC03	Quad 2-input NAND gate; open drain	2.0 - 6.0	CMOS	5.2	8.0	50	36	4	-40~125
74HC10	Triple 3-input NAND gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	3	-40~125
74HC1G00	Single 2-input NAND gate	2.0 - 6.0	CMOS	±2.6	7.0	50	36	1	-40~125
74HC20	Dual 4-input NAND gate	2.0 - 6.0	CMOS	±5.2	8.0	50	36	2	-40~125
74HC2G00	Dual 2-input NAND gate	2.0 - 6.0	CMOS	±5.6	9.0	50	36	2	-40~125
74HC30	8-input NAND gate	2.0 - 6.0	CMOS	±5.2	12	50	36	1	-40~125
74HCT00	Quad 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	10	50	36	4	-40~125
74HCT03	Quad 2-input NAND gate; TTL-enabled; open drain	4.5 - 5.5	TTL	±4	10	50	36	4	-40~125
74HCT10	Triple 3-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	11	50	36	3	-40~125
74HCT1G00	Single 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±2	10	50	36	1	-40~125
74HCT20	Dual 4-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	13	50	36	2	-40~125
74HCT2G00	Dual 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	12	50	36	2	-40~125
74HCT30	8-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	12	50	36	1	-40~125
74LV00	Quad 2-input NAND gate	1.0 - 5.5	TTL	±12	7	50	30	4	-40~125
74LV03	Quad 2-input NAND gate; TTL-enabled; open drain	1.0 - 5.5	TTL	±12	8.0	50	30	4	-40~125
74LVC00A	Quad 2-input NAND gate	1.2 - 3.6	CMOS/ LVTTTL	±24	2.1	50	150	4	-40~125
74LVC10A	Triple 3-input NAND gate	1.2 - 3.6	CMOS/ LVTTTL	±24	3.9	50	150	3	-40~125
74LVC1G00	Single 2-input NAND gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.2	50	175	1	-40~125
74LVC1G10	Single 3-input NAND gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.6	50	175	1	-40~125
74LVC1G38	Single 2-input NAND gate; open drain	1.65 - 5.5	CMOS/ LVTTTL	32	2.3	50	175	1	-40~125
74LVC2G00	Dual 2-input NAND gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.2	50	175	2	-40~125
74LVC2G38	Dual 2-input NAND gate; open drain	1.65 - 5.5	CMOS/ LVTTTL	32	2.1	50	175	2	-40~125
74LVC30A	8-input NAND gate	1.65 - 5.5	CMOS/ LVTTTL	24	3.6	50	175	1	-40~125
HEF4011B	Quad 2-input NAND gate	3.0 - 15	CMOS	±2.4	20	50	10	4	-40~85

## NOR Gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AHC02	Quad 2-input NOR gate	2.0 - 5.5	CMOS	±8	2.9	50	60	4	-40~125
74AHCT02	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.8	50 pF	60	4	-40~125
74AHC1G02	Single 2-input NOR gate	2.0 - 5.5	CMOS	±8	3.2	50 pF	60	1	-40~125
74AHCT1G02	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50 pF	60	1	-40~125
74ALVC02	Quad 2-input NOR gate	1.65 - 3.6	CMOS/ LVTTTL	±24	2.2	50 pF	150	4	-40~85
74AUP1G02	Single 2-input NOR gate	1.1 - 3.6	CMOS	±1.9	8.3	30 pF	70	1	-40~125
74AUP2G02	Dual 2-input NOR gate	1.1 - 3.6	CMOS	±1.9	8.3	30 pF	70	2	-40~125
74AXP1G02	Single 2-input NOR gate	0.7 - 2.75	CMOS	±4.5	2.6	5	70	1	-40~85
74HC02	Quad 2-input NOR gate	2.0 - 6.0	CMOS	±5.2	7.0	50 pF	36	4	-40~125
74HCT02	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±4	9.0	50 pF	36	4	-40~125
74HC1G02	Single 2-input NOR gate	2.0 - 6.0	CMOS	±2.6	7.0	50 pF	36	1	-40~125
74HCT1G02	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±2.0	9.0	50 pF	36	1	-40~125
74HC27	Triple 3-input NOR gate	2.0 - 6.0	CMOS	±5.2	8.0	50 pF	36	3	-40~125
74HCT27	Triple 3-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±4	10	50 pF	36	3	-40~125
74HC2G02	Dual 2-input NOR gate	2.0 - 6.0	CMOS	±5.2	9.0	50 pF	36	2	-40~125
74HCT2G02	Dual 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±4	12	50 pF	36	2	-40~125
74HC4002	Dual 4-input NOR gate	2.0 - 6.0	CMOS	±5.2	9.0	50 pF	36	2	-40~125
74HCT4002	Dual 4-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±4	11	50 pF	36	2	-40~125
74LV02	Quad 2-input NOR gate	1.0 - 5.5	TTL	±12	6.0	50 pF	30	4	-40~125
74LVC02A	Quad 2-input NOR gate	1.2 - 3.6	CMOS/ LVTTTL	±24	2.1	50 pF	150	4	-40~125
74LVC1G02	Single 2-input NOR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.1	50 pF	150	1	-40~125
74LVC1G27	Single 3-input NOR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.6	50 pF	150	1	-40~125
74LVC2G02	Dual 2-input NOR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.4	50 pF	150	2	-40~125
74LVT02	Quad 2-input NOR gate	2.7 - 3.6	TTL	-20 / 32	2.8	50 pF	150	4	-40~85
74VHC02	Quad 2-input NOR gate	2.0 - 5.5	CMOS	±8	2.9	50 pF	60	4	-40~125
74VHCT02	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.8	50 pF	60	4	-40~125
HEF4001B	Quad 2-input NOR gate	3.0 - 15	CMOS	±2.4	20	50 pF	10	4	-40~85
HEF4002B	Dual 4-input NOR gate	3.0 - 15	CMOS	±2.4	20	50 pF	10	4	-40~85
XC7SET02	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50 pF	60	1	-40~125
XC7SH02	Single 2-input NOR gate	2.0 - 5.5	CMOS	±8	3.2	50 pF	60	1	-40~125

## OR Gates

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (Typ)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74ABT32	Quad 2-input OR gate	4.5 - 5.5	TTL	-15 / 20	2.3	50	100	4	-40 ~85
74AHC1G32	Single 2-input OR gate	2.0 - 5.5	CMOS	±8	3.2	50 pF	60	1	-40~125
74AHCT1G32	Single 2-input OR gate	4.5 - 5.5	TTL	±8	3.3	50 pF	60	1	-40~125
74AHC2G32	Dual 2-input OR gate	2.0 - 5.5	CMOS	±8	3.2	50 pF	60	2	-40~125
74AHCT2G32	Dual 2-input OR gate	4.5 - 5.5	TTL	±8	3.3	50 pF	60	2	-40~125
74AHC32	Quad 2-input OR gate	2.0 - 5.5	CMOS	±8	3.5	50 pF	60	4	-40~125
74AHCT32	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50 pF	60	4	-40~125
74ALVC32	Quad 2-input OR gate	1.65 - 3.6	CMOS/LVTTL	±24	2.0	50 pF	150	4	-40~125
74AUP1G32	Single 2-input OR gate	1.1 - 3.6	CMOS	±1.9	7.9	30 pF	70	1	-40~125
74AUP1G332	Single 3-input OR gate	1.1 - 3.6	CMOS	±1.9	6.8	30 pF	70	1	-40~125
74AUP2G32	Dual 2-input OR gate	1.1 - 3.6	CMOS	±1.9	7.9	30 pF	70	2	-40~125
74AXP1G32	Single 2-input OR gate	0.7 - 2.75	CMOS	±4.5	2.5	5	70	1	-40 ~85
74HC1G32	Single 2-input OR gate	2.0 - 6.0	CMOS	±2.6	8.0	50 pF	36	1	-40~125
74HCT1G32	Single 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±2.0	10	50 pF	36	1	-40~125
74HC2G32	Dual 2-input OR gate	2.0 - 6.0	CMOS	±5.2	9.0	50 pF	36	2	-40~125
74HCT2G32	Dual 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±4.0	13	50 pF	36	2	-40~125
74HC32	Quad 2-input OR gate	2.0 - 6.0	CMOS	±5.2	6.0	50 pF	36	4	-40~125
74HCT32	Quad 2-input OR gate	4.5 - 5.5	TTL	±4.0	9.0	50 pF	36	4	-40~125
74HC4075	Triple 3-input OR gate	2.0 - 6.0	CMOS	±5.2	8.0	50 pF	36	3	-40~125
74HCT4075	Triple 3-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±4	10	50 pF	36	3	-40~125
74LVC1G32	Single 2-input OR gate	1.65 - 5.5	CMOS/LVTTL	±32	2.1	50 pF	150	1	-40~125
74LVC1G332	Single 3-input OR gate	1.65 - 5.5	CMOS/LVTTL	±32		50 pF	150	1	-40~125
74LVC2G32	Dual 2-input OR gate	1.65 - 5.5	CMOS/LVTTL	±32	2.2	50 pF	150	2	-40~125
74LVC32A	Quad 2-input OR gate	1.2 - 3.6	CMOS/LVTTL	±24	2.1	50 pF	150	4	-40~125
74VHC32	Quad 2-input OR gate	2.0 - 5.5	CMOS	±8	3.5	50 pF	60	4	-40~125
74VHCT32	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50 pF	60	4	-40~125
HEF4071B	Quad 2-input OR gate	3.0 - 15	CMOS	±2.4	20	50 pF	10	4	-40~125
XC7SET32	Single 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.3	50 pF	60	1	-40~125
XC7SH32	Single 2-input OR gate	2.0 - 5.5	CMOS	±8	3.2	50 pF	60	1	-40~125

Level shifters/Translators

Types in **bold** represent new products

Type number	Description	V <sub>CC(A)</sub> (V)	V <sub>CC(B)</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	Number of bits	T <sub>amb</sub> (°C)
74ALVC164245	16-bit dual-supply voltage-translating transceiver (3-state)	1.5 - 5.5	1.5 - 3.6	CMOS/LVTTL	±24	2.9	50	16	-40~85
74AUP1T34	Single dual-supply translating buffer	1.1 - 3.6	1.1 - 3.6	CMOS	±1.9	15.2	30	1	-40~125
74AUP1T45	Single dual-supply voltage-translating transceiver (3-state)	1.1 - 3.6	1.1 - 3.6	CMOS	±1.9	15.6	30	1	-40~125
74AVC16T245	16-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	16	-40~125
74AVC1T1022	1-to-4 fan out buffer	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	1	-40~125
74AVC1T45	Single dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	1	-40~125
74AVC20T245	20-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	3.5	30	20	-40~125
74AVC2T245	2-bit dual-supply voltage-translating transceiver	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	2	-40~125
74AVC2T45	Dual-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	2	-40~125
74AVC32T245	32-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	32	-40~125
74AVC4T245	4-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	4	-40~125
74AVC4TD245	4-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	4	-40~125
74AVC8T245	8-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	8	-40~125
74AVCH16T245	16-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	16	-40~125
74AVCH1T45	Single dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	1	-40~125
74AVCH20T245	20-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	3.5	30	20	-40~125
74AVCH2T45	Dual-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	2	-40~125
74AVCH4T245	4-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/LVTTL	±12	2.1	30	4	-40~125
74AVCH8T245	8-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS	±12	2.1	15	8	-40~125
74AXP1T125	Dual-supply buffer/line driver (3-state)	0.7 - 2.75	1.2 - 5.5	CMOS	±12	4.8	50	1	-40~125
74AXP1T14	Dual-supply schmitt-trigger inverter	0.7 - 2.75	1.2 - 5.5	CMOS	±12	3.4	50	1	-40~125
74AXP1T32	Dual-supply 2-input or gate	0.7 - 2.75	1.2 - 5.5	CMOS	±12	3.4	50	1	-40~125
74AXP1T34	Single dual-supply voltage-translating buffer	0.7 - 2.75	1.2 - 5.5	CMOS	±12	3.4	50	1	-40~125
74AXP1T57	Schmitt-trigger inputs, Dual supply configurable multiple function gate	0.7 - 2.75	1.2 - 5.5	CMOS	±12	4.8	50	1	-40~85
74AXP2T08	Dual-supply 2-input AND gate	0.7 - 2.75	1.2 - 5.5	CMOS	±12	4.8	50	1	-40~125
74AXP2T3407	Dual-supply single buffer and single buffer with open drain	0.7 - 2.75	1.2 - 5.5	CMOS	±12	4.8	50	1	-40~125
74HC4049	Hex inverter with 15 V-tolerant inputs	2.0 - 6.0	n.a.	CMOS	±5.2	8.0	50	6	-40~125
74HC4050	Hex buffer with 15 V-tolerant inputs	2.0 - 6.0	n.a.	CMOS	±5.2	7.0	50	6	-40~125
74LVC1T45	Single dual-supply voltage-translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/LVTTL	±24	2.5	50	1	-40~125
74LVC2T45	Dual-bit dual-supply voltage-translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/LVTTL	±24	2.5	50	2	-40~125
74LVC4245	8-bit dual-supply voltage-translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/LVTTL	±24	3.5	50	8	-40~125
74LVC4245A	8-bit dual-supply voltage-translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/LVTTL	±24	3.5	50	8	-40~125
74LVC8T245	8-bit dual-supply voltage-translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/LVTTL	±24	3.5	50	8	-40~125
<b>74LVC8T595</b>	Dual supply 8-bit serial-in/serial-out or parallel-out shift register; 3-state	1.1 - 5.5	1.1 - 5.5	CMOS/LVTTL	±24	4.1	15	8	-40~125
74LVCH1T45	Single dual-supply voltage-translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/LVTTL	±24	2.5	50	1	-40~125
74LVCH2T45	Dual-bit dual-supply voltage-translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/LVTTL	±24	2.5	50	2	-40~125
74LVCH8T245	8-bit dual-supply voltage-translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/LVTTL	±24	3.5	50	8	-40~125
HEF4104B	Quad low-to-high voltage translator (3-state)	3.0 - 15	3.0 - 15	CMOS	±2.4	3.4	50	16	-40~85

## Digital comparators

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	T <sub>amb</sub> (°C)
74HC688	8-bit magnitude comparator	2.0 - 6.0	CMOS	±5.2	17	50	-40~125
74HCT688	8-bit magnitude comparator; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	-40~125
74HC85	4-bit magnitude comparator	2.0 - 6.0	CMOS	±5.2	23	50	-40~125
74HCT85	4-bit magnitude comparator; TTL-enabled	4.5 - 5.5	TTL	±4	26	50	-40~125

## Multivibrators

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	T <sub>amb</sub> (°C)
74AHC123A	Dual retriggerable monostable multivibrator with reset	2.0 - 5.5	CMOS	±8	5.1	50	-40~125
74AHCT123A	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50	-40~125
74HC123	Dual retriggerable monostable multivibrator with reset	2.0 - 6.0	CMOS	±7.8	9.0	50	-40~125
74HCT123	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	TTL	±4	26	50	-40~125
74HCT221	dual non-retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	TTL	±4	32	50	-40~125
74HC423	Dual retriggerable monostable multivibrator with reset	2.0 - 6.0	CMOS	±5.2	23	50	-40~125
74HCT423	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	TTL	±4	26	50	-40~125
74HC4538	Dual retriggerable precision monostable multivibrator	2.0 - 6.0	CMOS	±5.2	27	50	-40~125
74HCT4538	Dual retriggerable precision monostable multivibrator; TTL-enabled	4.5 - 5.5	TTL	±4	30	50	-40~125
74LV123	Dual retriggerable monostable multivibrator with reset	1.0 - 5.5	TTL	±12	20	50	-40~125
74LVC1G123	Single retriggerable monostable multivibrator	1.65 - 5.5	CMOS/LVTTL	±32	3.5	50	-40~125
HEF4047B	Monostable/astable multivibrator	3.0 - 15	CMOS	±2.4	50	50	-40~85
HEF4528B	Dual retriggerable monostable multivibrator with reset	3.0 - 15	CMOS	±2.4	40	50	-40~85
HEF4538B	Dual retriggerable precision monostable multivibrator	3.0 - 15	CMOS	±2.4	60	50	-40~85

## Parity generators-checkers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	T <sub>amb</sub> (°C)
74HC280	9-bit odd/even parity generator/checker	2.0 - 6.0	CMOS	±5.2	17	50	-40~125
74HCT280	9-bit odd/even parity generator/checker; TTL-enabled	4.5 - 5.5	TTL	±4	18	50	-40~125



## Phase-locked loops

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	F <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74HC4046A	Phase-locked loop with VCO	3.0 - 6.0	CMOS	±5.2	18	50	21	-40~125
74HCT4046A	Phase-locked loop with VCO; TTL-enabled	4.5 - 5.5	TTL	±4	23	50	19	-40~125
74HCT9046A	Phase-locked loop with bandgap controlled VCO; TTL-enabled	4.5 - 5.5	TTL	±4	23	50	19	-40~125
HEF4046B	Phase-locked loop with VCO	3.0 - 15.0	CMOS	±2.4		50	2.7	-40~125

## Printer interfaces

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	T <sub>amb</sub> (°C)
PDI1284P11	Parallel interface transceiver/buffer	3.0 - 3.6	LVTTTL	±14	13.9	50	0~70

## Bus Switches

Types in **bold** represent new products

Type number	Description	V <sub>CC</sub> (V)	V <sub>PASS</sub> (V)	Logic switching levels	R <sub>ON</sub> (Ω)	f <sub>(-3dB)</sub> (MHz)	Number of bits	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)
<b>74CB3Q3253</b>	Dual 1-of-4 FET multiplexer/demultiplexer with charge pump	2.3 - 3.6	V <sub>CC</sub>	CMOS/LVTTL	4	500	2	0.2	-40~85
<b>74CB3Q3257</b>	Quad 1-of-2 FET multiplexer/demultiplexer with charge pump	2.3 - 3.6	V <sub>CC</sub>	CMOS/LVTTL	4	500	4	0.2	-40~85
74CBTLV16211	24-bit bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	10	0.2	-40~125
74CBTLV1G125	Single bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	1	0.2	-40~125
74CBTLV3125	Quad bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	4	0.2	-40~125
74CBTLV3126	Quad bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	4	0.2	-40~125
74CBTLV3244	Octal bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	8	0.2	-40~125
74CBTLV3245	Octal bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	8	0.2	-40~125
74CBTLV3253	Dual 4:1 mux/demux	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	2	0.2	-40~125
74CBTLV3257	Quad 2:1 mux/demux	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	4	0.2	-40~125
74CBTLV3306	2-bit bus switch	2.3 - 3.6	5.0	CMOS/LVTTL	7	400	2	0.2	-40~125
74CBTLV3384	10-bit bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	10	0.2	-40~125
74CBTLV3861	10-bit bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	10	0.2	-40~125
74CBTLVD3244	Octal bus switch level translator	3.0 - 3.6	1.8	CMOS/LVTTL	7	400	8	0.2	-40~125
74CBTLVD3245	Octal bus switch level translator	3.0 - 3.6	1.8	CMOS/LVTTL	7	400	8	0.2	-40~125
74CBTLVD3384	10-bit bus switch level translator	3.0 - 3.6	1.8	CMOS/LVTTL	7	400	10	0.2	-40~125
74CBTLVD3861	10-bit bus switch level translator	3.0 - 3.6	1.8	CMOS/LVTTL	7	400	10	0.2	-40~125
CBT16210	20-bit bus switch	4.5 - 5.5	3.9	TTL	7	300	20	0.25	-40~85
CBT3125	Quad bus switch	4.5 - 5.5	3.9	TTL	7	300	4	0.25	-40~85
CBT3244A	Octal bus switch	4.5 - 5.5	3.9	TTL	7	300	8	0.25	-40~85
CBT3245A	Octal bus switch	4.5 - 5.5	3.9	TTL	7	300	8	0.25	-40~85
CBT3251	8:1 mux/demux	4.5 - 5.5	3.9	TTL	7	300	8	0.25	-40~85
CBT3253	Dual 4:1 mux/demux	4.5 - 5.5	3.9	TTL	7	300	2	0.25	-40~85
CBT3253A	Dual 4:1 mux/demux	4.5 - 5.5	3.9	TTL	7	300	2	0.25	-40~85
CBT3257A	Quad 2:1 mux/demux	4.5 - 5.5	3.9	TTL	7	300	4	0.25	-40~85
CBT3306	Dual bus switch	4.5 - 5.5	3.9	TTL	7	300	2	0.25	-40~85
CBT3861	10-bit bus switch	4.5 - 5.5	3.9	TTL	7	300	10	0.25	-40~85
CBTD16210	20-bit bus switch level translator	4.5 - 5.5	3.3	TTL	7	300	20	0.25	-40~85
CBTD3306	Dual bus switch level translator	4.5 - 5.5	3.3	TTL	7	300	2	0.25	-40~85
CBTD3384	10-bit bus switch level translator	4.5 - 5.5	3.3	TTL	7	300	10	0.25	-40~85
CBTD3861	10-bit bus switch level translator	4.5 - 5.5	3.3	TTL	7	300	10	0.25	-40~85

## Decoders/Demultiplexers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	T <sub>amb</sub> (°C)
74AHC138	3-to-8 line decoder/demultiplexer; inverting	2.0 - 5.5	CMOS	±8	4.4	50	-40~125
74AHC139	Dual 2-to-4 line decoder/demultiplexer	2.0 - 5.5	CMOS	±8	3.9	50	-40~125
74AHCT138	3-to-8 line decoder/demultiplexer; inverting; TTL-enabled	4.5 - 5.5	TTL	±8	4.4	50	-40~125
74AHCT139	Dual 2-to-4 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	-40~125
74AUP1G18	1-to-2 demultiplexer (3-state)	1.1 - 3.6	CMOS	±1.9	3.2	30	-40~125
74AUP1G19	1-to-2 decoder/demultiplexer	1.1 - 3.6	CMOS	±1.9	3.0	30	-40~125
74HC137	3-to-8 line decoder/demultiplexer with address latches; inverting	2.0 - 6.0	CMOS	±5.2	18	50	-40~125
74HC138	3-to-8 line decoder/demultiplexer; inverting	2.0 - 6.0	CMOS	±5.2	12	50	-40~125
74HC139	Dual 2-to-4 line decoder/demultiplexer	2.0 - 6.0	CMOS	±5.2	14	50	-40~125
74HC154	4-to-16 line decoder/demultiplexer	2.0 - 6.0	CMOS	±5.2	11	50	-40~125
74HC237	3-to-8 decoder/demultiplexer with address latches	2.0 - 6.0	CMOS	±5.2	18	50	-40~125
74HC238	3-to-8 decoder/demultiplexer	2.0 - 6.0	CMOS	±5.2	14	50	-40~125
74HC42	BCD to decimal decoder (1-of-10)	2.0 - 6.0	CMOS	±5.2	17	50	-40~125
74HC4511	BCD to 7-segment latch/decoder/driver with lamp test input	2.0 - 6.0	CMOS	-10	28	50	-40~125
74HC4514	4-to-16 decoder/demultiplexer with address latches	2.0 - 6.0	CMOS	±5.2	27	50	-40~125
74HC4515	4-to-16 decoder/demultiplexer with address latches; inverting	2.0 - 6.0	CMOS	±5.2	29	50	-40~125
74HCT138	3-to-8 line decoder/demultiplexer; inverting; TTL-enabled	4.5 - 5.5	TTL	±4	19	50	-40~125
74HCT139	Dual 2-to-4 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	16	50	-40~125
74HCT154	4-to-16 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	13	50	-40~125
74HCT238	3-to-8 decoder/demultiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	18	50	-40~125
74HCT4511	BCD to 7-segment latch/decoder/driver with lamp test input; TTL-enabled	4.5 - 5.5	TTL	-10	28	50	-40~125
74HCT4514	4-to-16 decoder/demultiplexer with address latches; TTL-enabled	4.5 - 5.5	TTL	±4	30	50	-40~125
74LV138	3-to-8 line decoder/demultiplexer; inverting	1.0 - 5.5	TTL	±12	12	50	-40~125
74LVC138A	3-to-8 line decoder/demultiplexer; inverting	1.2 - 3.6	CMOS/LVTTL	±24	2.7	50	-40~125
74LVC139	Dual 2-to-4 line decoder/demultiplexer	1.2 - 3.6	CMOS/LVTTL	±24	2.5	50	-40~125
74LVC1G18	1-to-2 demultiplexer (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	2.3	50	-40~125
74LVC1G19	1-to-2 decoder/demultiplexer	1.65 - 5.5	CMOS/LVTTL	±32	1.8	50	-40~125
HEF4028B	1-of-10 decoder	3.0 - 15.0	CMOS	±2.4	30	50	-40~85
HEF4543B	BCD to 7-segment latch/decoder/driver with phase input	3.0 - 15.0	CMOS	±2.4	55	50	-40~85
HEF4555B	Dual 1-to-4 line decoder/demultiplexer	3.0 - 15.0	CMOS	±2.4	30	50	-40~85

## Digital Multiplexers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load C <sub>L</sub> (pF)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)
74AHC157	Quad 2-input multiplexer	2.0 - 5.5	CMOS	±8	50	3.2	-40~125
74AHC257	Quad 2-input multiplexer (3-state)	2.0 - 5.5	CMOS	±8	50	2.9	-40~125
74AHCT157	Quad 2-input multiplexer; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.2	-40~125
74AHCT257	Quad 2-input multiplexer; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.7	-40~125
74AUP1G157	Single 2-input multiplexer	1.1 - 3.6	CMOS	±1.9	30	3.2	-40~125
74AUP1G158	Single 2-input multiplexer; inverting	1.1 - 3.6	CMOS	±1.9	30	3.2	-40~125
74AUP2G157	Single 2-input multiplexer	1.1 - 3.6	CMOS	±1.9	30	3.4	-40~125
74AXP1G157	Single 2-input multiplexer	0.7 - 2.75	CMOS	±4.5	5	2.7	-40~85
74HC151	8-input multiplexer	2.0 - 6.0	CMOS	±5.2	50	17	-40~125
74HC153	Dual 4-input multiplexer	2.0 - 6.0	CMOS	±5.2	50	17	-40~125
74HC157	Quad 2-input multiplexer	2.0 - 6.0	CMOS	±5.2	50	11	-40~125
74HC158	Quad 2-input multiplexer; inverting	2.0 - 6.0	CMOS	±5.2	50	12	-40~125
74HC251	8-input multiplexer (3-state)	2.0 - 6.0	CMOS	±5.2	50	18	-40~125
74HC253	Dual 4-input multiplexer (3-state)	2.0 - 6.0	CMOS	±7.8	50	17	-40~125
74HC257	Quad 2-input multiplexer (3-state)	2.0 - 6.0	CMOS	±7.8	50	11	-40~125
74HCT151	8-input multiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	50	19	-40~125
74HCT153	Dual 4-input multiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	50	19	-40~125
74HCT157	Quad 2-input multiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	50	13	-40~125
74HCT251	8-input multiplexer; TTL-enabled (3-state)	4.5 - 5.5	TTL	±4	50	22	-40~125
74HCT253	Dual 4-input multiplexer; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	17	-40~125
74HCT257	Quad 2-input multiplexer; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	13	-40~125
74LVC157A	Quad 2-input multiplexer	1.2 - 3.6	CMOS/LVTTL	±24	50	2.5	-40~125
74LVC1G157	Single 2-input multiplexer	1.65 - 5.5	CMOS/LVTTL	±32	50	2.2	-40~125
74LVC257A	Quad 2-input multiplexer (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.4	-40~125

## Analog Switches

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	R <sub>ON</sub> (Ω)	R <sub>ON(FLAT)</sub> (Ω)	f <sub>(-3dB)</sub> (MHz)	T <sub>HD</sub> (%)	X <sub>talk</sub> (dB)	T <sub>amb</sub> (°C)
74AHC1G66	Single-pole, single-throw analog switch	2.0 - 5.5	CMOS	40	14	280	0.015		-40~125
74AHC1G66	Single-pole, single-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	40	14	280	0.015		-40~125
74HC1G66	Single-pole, single-throw analog switch	2.0 - 9.0	CMOS	105	23	200	0.02		-40~125
74HC2G66	Dual single-pole, single-throw analog switch	2.0 - 9.0	CMOS	105	23	200	0.02	-60	-40~125
74HC4016	Quad single-pole, single-throw analog switch	2.0 - 10	CMOS	300	80	160	0.4	-60	-40~125
74HC4051	Single-pole, octal-throw analog switch	2.0 - 10	CMOS	200	20	180	0.02		-40~125
74HC4052	Dual single-pole, quad-throw analog switch	2.0 - 10	CMOS	200	20	180	0.02	-60	-40~125
74HC4053	Triple single-pole, double-throw analog switch	2.0 - 10	CMOS	200	20	170	0.02		-40~125
74HC4066	Quad single-pole, single-throw analog switch	2.0 - 10	CMOS	105	23	200	0.02	-60	-40~125
74HC4067	Single-pole, 16-throw analog switch	2.0 - 10	CMOS	200	25	100	0.02		-40~125
74HC4316	Quad single-pole, single-throw analog switch with translation	2.0 - 10	CMOS	300	80	160	0.4	-60	-40~125
74HC4351	Single-pole, octal-throw analog switch with latch	2.0 - 10	CMOS	200	20	180	0.02		-40~125
74HC4851	Single-pole, octal-throw analog switch	2.0 - 10	CMOS	220					-40~125
74HC4852	Dual single-pole, quad-throw analog switch; TTL-enabled	2.0 - 10	CMOS	220					-40~125
74HCT1G66	Single-pole, single-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	118	23	180	0.04		-40~125
74HCT2G66	Dual single-pole, single-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	118	23	180	0.04	-60	-40~125
74HCT4051	Single-pole, octal-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	225	20	170	0.04		-40~125
74HCT4052	Dual single-pole, quad-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	225	20	170	0.04	-60	-40~125
74HCT4053	Triple single-pole, double-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	225	20	160	0.04		-40~125
74HCT4066	Quad single-pole, single-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	118	23	180	0.04	-60	-40~125
74HCT4067	Single-pole, 16-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	225	25	90	0.04		-40~125
74HCT4316	Quad single-pole, single-throw analog switch with translation; TTL-enabled	4.5 - 5.5	TTL	400	50	150	0.8	-60	-40~125
74HCT4351	Single-pole, octal-throw analog switch with latch; TTL-enabled	4.5 - 5.5	TTL	225	20	170	0.04		-40~125
74HCT4851	Single-pole, octal-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	240					-40~125
74HCT4852	Dual single-pole, quad-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	240					-40~125
74LV4051	Single-pole, octal-throw analog switch	1.0 - 6.0	TTL	135	35	200	0.4	-60	-40~125
74LV4052	Dual single-pole, quad-throw analog switch	1.0 - 6.0	TTL	125	15	180	0.4	-60	-40~125
74LV4053	Triple single-pole, double-throw analog switch	1.0 - 6.0	TTL	150	30	180	0.4	-60	-40~125
74LV4066	Quad single-pole, single-throw analog switch	1.0 - 6.0	TTL	50	3.0	180	0.02	-60	-40~125
74LVC1G3157	Single-pole, double-throw analog switch	1.65 - 5.5	CMOS/ LVTTTL	15	1.5	300	0.078		-40~125
74LVC1G384	Single-pole, single-throw analog switch	1.65 - 5.5	CMOS/ LVTTTL	15	1.5	440	0.001		-40~125
74LVC1G53	Single-pole, double-throw analog switch	1.65 - 5.5	CMOS/ LVTTTL	15	1.5	300	0.078		-40~125
74LVC1G66	Single-pole, single-throw analog switch	1.65 - 5.5	CMOS/ LVTTTL	15	1.5	440	0.001		-40~125
74LVC2G3157	Dual single-pole, double-throw analog switch	1.65 - 5.5	CMOS/ LVTTTL	15	1.5	300	0.078	-54	-40~125
74LVC2G53	Single-pole, double-throw analog switch	1.65 - 5.5	CMOS/ LVTTTL	15	1.5	300	0.078		-40~125
74LVC2G66	Dual single-pole, single-throw analog switch	1.65 - 5.5	CMOS/ LVTTTL	15	1.5	440	0.005	-56	-40~125
74LVC4066	Quad single-pole, single-throw analog switch	1.65 - 5.5	CMOS/ LVTTTL	15	1.5	440	0.005	-58	-40~125
74LVCV2G66	Dual single-pole, single-throw analog switch; overvoltage tolerant	2.3 - 5.5	CMOS/ LVTTTL	15	3.0	210	0.01	-55	-40~125
HEF4016B	Quad single-pole, single-throw analog switch	3.0 - 15	CMOS	350	65	90	0.04	-50	-40~85
HEF4051B	Single-pole, octal-throw analog switch	3.0 - 15	CMOS	175	30	70	0.04	-50	-40~85
HEF4052B	Dual single-pole, quad-throw analog switch	3.0 - 15	CMOS	175	30	70	0.04	-50	-40~85
HEF4053B	Triple single-pole, double-throw analog switch	3.0 - 15	CMOS	175	30	70	0.04	-50	-40~85
HEF4066B	Quad single-pole, single-throw analog switch	3.0 - 15	CMOS	175	20	90	0.04	-50	-40~85
HEF4067B	Single-pole, 16-throw analog switch	3.0 - 15	CMOS	175	20	13	0.04	-50	-40~85

## Standard logic functions

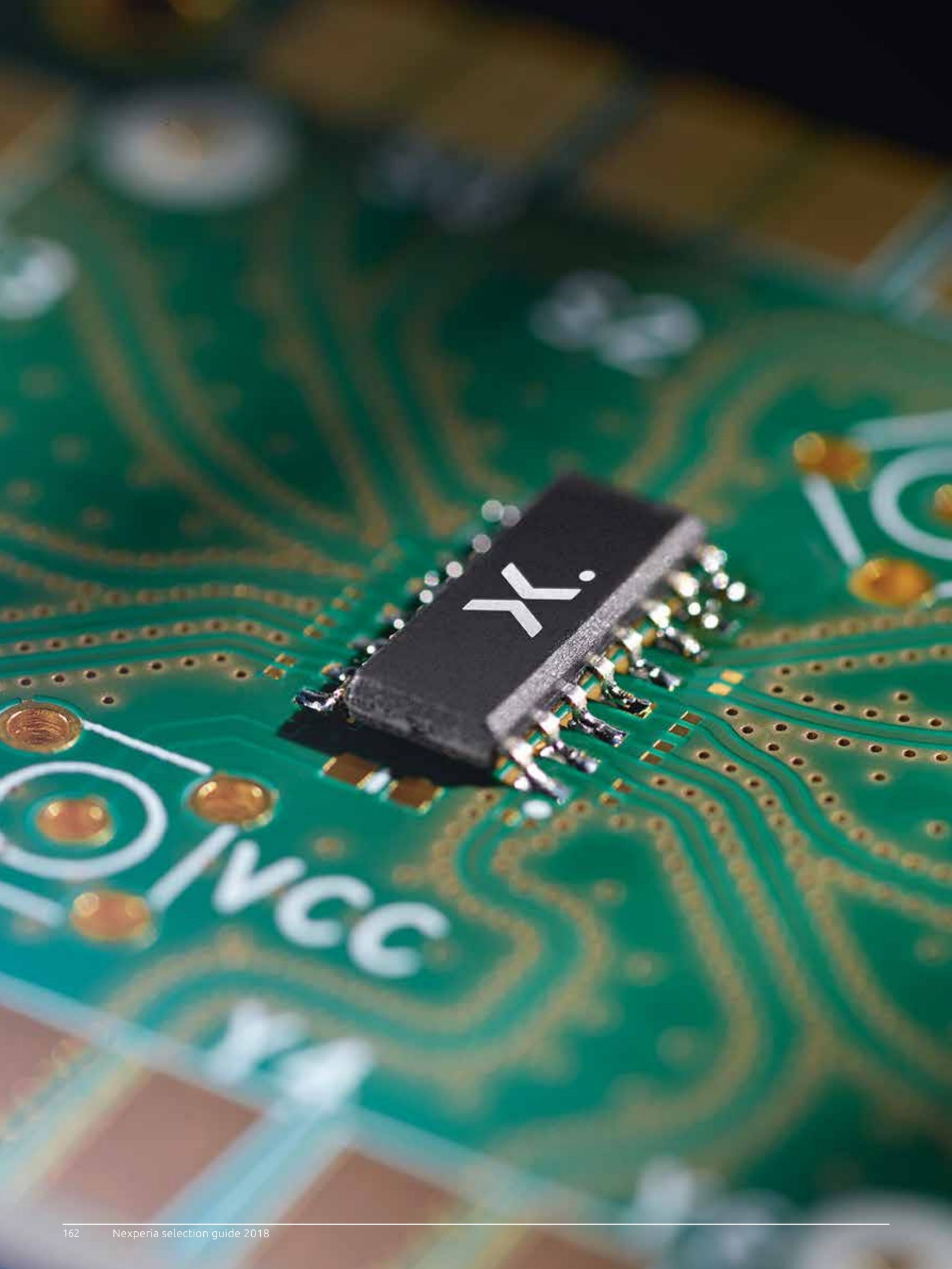
**74 XXX XXX XXX**

Logic family	Function number	Package type
AHC(T)		BQ DQFN
ALVC		BX DQFN
ALVT		D SO
AUP		DB SSOP
AVC(M)		DC VSSOP
CBT(D)		DG TSSOP
CBTLV(D)		DGG TSSOP
HC(T)		DL SSOP
HEF4000B		DP TSSOP
LV		FC BGA
LVC		EV BGA
LVT		GU DQFN
NPIC		P TSSOP
VHC(T)		T SO
XC7		TS SSOP
		TT TSSOP

## Mini logic functions

**74 XXX XG XT XXX XXX**

Logic family	Gate format	Translator format	Function number	Package type
AHC(T)	1G Single-gate			DC PicoGate
AUP	2G Dual-gate			DP PicoGate
AVC(M)	3G Triple-gate			GD MicroPak
AXP				GF MicroPak
CBT(D)		<b>Translator format</b>		GM MicroPak
CBTLV(D)				GN MicroPak
HC(T)	1T Single-translator			GS MicroPak
LVC	2T Dual-translator			GT MicroPak
XC7	3T Triple-translator			GV PicoGate
	4T Quad-translator			GW PicoGate
				GX MicroPak



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














## Package details and packing methods

### Package details and packing methods WLCSP

Basic Type	Length x width x height	# of balls	Pitch	Package	Package name
IP4369CX4	0.76 x 0.76 x 0.5	4	0.4		WLCSP4
PMCM440VNE	0.78 x 0.78 x 0.35	4	0.4		WLCSP4
PMCM4401VNE	0.78 x 0.78 x 0.35	4	0.4		WLCSP4
PMCM440VPE	0.78 x 0.78 x 0.35	4	0.4		WLCSP4
PMCM4401VPE	0.78 x 0.78 x 0.35	4	0.4		WLCSP4
PCMF1USB3S	1.17 x 0.77 x 0.57	5	0.4		WLCSP5
PESD1USB3S	1.17 x 0.77 x 0.57	5	0.4		WLCSP5
SOT1454-1	0.65 x 0.44 x 0.27	6	0.23		WLCSP
PCMF2USB3S	1.17 x 1.57 x 0.57	10	0.4		WLCSP10
PESD2USB3S	1.17 x 1.57 x 0.57	10	0.4		WLCSP10
PCMF3USB3S	1.17 x 2.37 x 0.57	15	0.4		WLCSP15
PESD3USB3S	1.17 x 2.37 x 0.57	15	0.4		WLCSP15
IP3319CX6	1.34 x 0.95 x 0.57	6	0.4		WLCSP6
IP4340CX15	1.56 x 1.56 x 0.47	15	0.4		WLCSP15

### Packing details glass diodes, single ended and through hole packages

Pins/leads	Package	Packing method and tape/reel/tube dimensions	Package	Ordering code (12 NC ending)	Packing quantity
2	SOD27	26 mm tape ammo pack, axial		-143	5000 pcs
		52 mm tape ammo pack, axial		-133	10000 pcs
		52 mm reel pack, axial		-113	10000 pcs
	SOD66	52 mm tape ammo pack, axial		-133	10000 pcs
		52 mm reel pack, axial		-113	10000 pcs
	SOD68	26 mm tape ammo pack, axial		-143	5000 pcs
52 mm reel pack, axial		-113		10000 pcs	
52 mm tape ammo pack, axial		-133		10000 pcs	
3	SOT78 (TO-220)	Rail packing, 50 pcs/tube, tube length = 520 mm		-127	20 tubes x 50 pcs
	I2PAK (SOT226)	Rail packing, 50 pcs/tube, tube length = 520 mm		-127	20 tubes x 50 pcs

## Package cross reference list – Part 1

Type	Competitor	Nexperia	Pins/Leads
μQFN-10L	ST	DFN2510A-10 (SOT1176)	10
μQFN-2L	ST	DFN1006-2 (SOD882)	2
6 Lead DFN	ON Semi	DFN2020-6 (SOT1118)	6
CL2	Toshiba	DSN0402-2 (SOD992)	2
CLP0603	Vishay	DSN0603-2 (SOD962)	2
CMAK/ CMPAK	Renesas	SOT323	3
CMPAK-5(T)	Renesas	SOT353	5
CMPAK-6	Renesas	SOT363	6
CMPAK/ CMAK	Renesas	SOT323	3
CP4	Toshiba	SOT143B	4
CPT3	Rohm	DPAK (SOT428)	3
CS6	Toshiba	DFN1010-6 (SOT891)	6
CST3	Toshiba	DFN1006-3 (SOT883)	3
CST3	Toshiba	DFN1006B-3 (SOT883B)	3
CTS2 (FSC)	Toshiba	DFN1006-2 (SOD882)	2
CTS2 (FSC)	Toshiba	DFN1006D-2 (SOD882D)	2
D2PAK	ON Semi	D2PAK (SOT404)	3
D2PAK	Vishay	D2PAK (SOT404)	3
D2PAK	Toshiba	D2PAK (SOT404)	3
D2PAK	Infineon	D2PAK (SOT404)	3
D2PAK	ST	D2PAK (SOT404)	3
D2PAK 3	ON Semi	D2PAK (SOT404)	3
D2PAK-3	OnSemi	D2PAK (SOT404)	3
D2PAK-7	ST	D2PAK-7 (SOT427)	7
D2PAK*	Diodes Inc.	D2PAK (SOT404)	3
D2PAK7P	Infineon	D2PAK-7 (SOT427)	7
DFN-5	OnSemi	LFPAK56 (SOT669)	4
DFN-8	OnSemi	LFPAK56D (SOT1205)	8
DFN1006-3	Diodes Inc.	DFN1006-3 (SOT883)	3
DFN1006H4-3	Diodes Inc.	DFN1006-3 (SOT883)	3
DFN1411*	Diodes Inc.	DFN1010D-3 (SOT1215)	3
DFN2	ST	DSN0603-2 (SOD962)	2
DPAK	ON Semi	DPAK (SOT428)	3
DPAK	Toshiba	DPAK (SOT428)	3
DPAK	OnSemi	DPAK (SOT428)	3
DPAK	Infineon	DPAK (SOT428)	3
DPAK	ST	DPAK (SOT428)	3
DPAK(S)	Renesas	DPAK (SOT428)	3
DSN2, 0.4 x 0.2	ON Semi	DSN0402-2 (SOD992)	2
DSN2, 0.6 x 0.3	ON Semi	DSN0603-2 (SOD962)	2
DSN2, 1.0 x 0.6	ON Semi	DSN1006-2 (SOD993)	2
DSN2, 1.0 x 0.6	ON Semi	DFN1006D-2 (SOD882D)	2
DSN2, 1.6 x 0.8	ON Semi	DFN1608D-2 (SOD1608)	2
DSN2, 1.6 x 0.8	ON Semi	DFN1608D-2 (SOD1608)	2
EMD2	Rohm	SOD523	2
EMD3/EMT3	Rohm	DFN1006-3 (SOT883)	3
EMD5/EMT5	Rohm	SOT665	5
EMD6/EMT6/WEMT6	Rohm	SOT666	6
EMT3	Rohm	DFN1006-3 (SOT883)	3

Types with \* show footprint compatibility only

Type	Competitor	Nexperia	Pins/Leads
EMT3/EMD3	Rohm	DFN1006-3 (SOT883)	3
EMT3F*	Rohm	DFN1006-3 (SOT883)	3
EMT5*	Rohm	SOT666	6
EMT5/EMD5	Rohm	SOT665	5
EMT6	Rohm	SOT666	6
EMT6/EMD6/WEMT6	Rohm	SOT666	6
ES6	Toshiba	SOT666	6
ES6 ESV	Toshiba	SOT666	6
ESC/TESC	Toshiba	SOD523	2
ESM	Toshiba	DFN1006-3 (SOT883)	3
ESV	Toshiba	SOT665	5
ESV	Toshiba	SOT666	6
FM8	Toshiba	SOT96	8
FS6*	Toshiba	DFN1010B-6 (SOT1216)	6
GMD2	Rohm	DSN0603-2 (SOD962)	2
H2PAK-2	ST	D2PAK (SOT404)	3
H2PAK-6	ST	D2PAK-7 (SOT427)	7
HSMT8	Rohm	LFPAK33 (SOT1210)	8
HSON-8	Renesas	LFPAK56 (SOT669)	4
HSON-8 Dual	Renesas	LFPAK56D (SOT1205)	8
HSOP8 (Dual)	Rohm	LFPAK56D (SOT1205)	8
HSOP8 (Single)	Rohm	LFPAK56 (SOT669)	4
HUML2020L8 (Dual)	Rohm	DFN2020-6 (SOT1118)	6
HUML2020L8 (Single)	Rohm	DFN2020MD-6 (SOT1220)	6
I2PAK	OnSemi	I2PAK (SOT226)	3
I2PAK	ST	I2PAK (SOT226)	3
KMD2	Rohm	DFN1608D-2 (SOD1608)	2
LDPAK(S)-1	Renesas	D2PAK (SOT404)	3
LFPAK	Renesas	LFPAK (SOT669)	5
LG A 1.0 x 0.6mm	Texas Instruments	DFN1006B-3 (SOT883B)	3
LLD	Renesas	SOD80C	2
LLDS	Rohm	SOD80C	2
LLP1006-2L	Vishay	DFN1006-2 (SOD882)	2
LLP1006-2L	Vishay	DFN1006D-2 (SOD882D)	2
LLP1006-2M	Vishay	DFN1006-2 (SOD882)	2
LLP1006-2M	Vishay	DFN1006D-2 (SOD882D)	2
LLP75-7L	Vishay	DFN1616-6 (SOT1189)	6
LPDS/LPTS	Rohm	D2PAK (SOT404)	3
LPTS	Rohm	D2PAK (SOT404)	3
LPTS/LPDS	Rohm	D2PAK (SOT404)	3
M-Flat	Toshiba	SOD128	2
Micro 3	Int. Rectifier	SOT23	3
Micro 6	Int. Rectifier	SOT457	6
Micro FOOT 0.8 x 0.8*	Vishay	DFN1010D-3 (SOT1215)	3
Micro FOOT 1 x 1.2*	Vishay	DFN1010D-3 (SOT1215)	3
Micro FOOT 1 x 1.5*	Vishay	DFN1010D-3 (SOT1215)	3
Micro FOOT 1 x 1*	Vishay	DFN1010D-3 (SOT1215)	3
Micro FOOT 1.6 x 1.6*	Vishay	DFN2020MD-6 (SOT1220)	6
Micro FOOT*	Vishay	DFN2020MD-6 (SOT1220)	6

## Package cross reference list – Part 2

Type	Competitor	Nexperia	Pins/Leads
MicroFET	Fairchild	DFN2020MD-6 (SOT1220)	6
MicroFET 1.6 x 1.6*	Fairchild	DFN2020MD-6 (SOT1220)	6
MiniMelf	Diodes Inc.	SOD80C	2
MiniMelf	ST	SOD80C	2
MiniMelf	Vishay	SOD80C	2
MP-25(K)	Renesas	TO-220 (SOT78)	3
MP-25SK	Renesas	I2PAK (SOT226)	3
MP-25ZT	Renesas	D2PAK-7 (SOT427)	7
MP-25ZT	Renesas	D2PAK (SOT404)	3
MP-3Z	Renesas	DPAK (SOT428)	3
MP6	Renesas	DSN0603-2 (SOD962)	2
MPAK	Renesas	SOT23	3
MPAK	Renesas	SOT23	3
MPAK-4R	Renesas	SOT143B	4
MPT3	Rohm	SOT89	3
PG-TD SON-8	Infineon	LFPAK (SOT669)	5
PG-TDSON-8	Infineon	LFPAK56D (SOT1205)	8
PG-TDSON-8	Infineon	LFPAK56 (SOT669)	4
PG-TO220-3	Infineon	TO-220 (SOT78)	3
PG-TO252-3	Infineon	DPAK (SOT428)	3
PG-TO262-3	Infineon	I2PAK (SOT226)	3
PG-TO263-3	Infineon	D2PAK (SOT404)	3
PG-TO263-7	Infineon	D2PAK-7 (SOT427)	7
PG-TSDSON-8	Infineon	LFPAK33 (SOT1210)	8
PMDT	Rohm	SOD128	2
PMDU	Rohm	SOD123W	2
Power DI3333-8	Diodes Inc.	LFPAK33 (SOT1210)	8
Power DI5060-8	Diodes Inc.	LFPAK56D (SOT1205)	8
Power DI5060-8	Diodes Inc.	LFPAK56 (SOT669)	4
Power FLAT 3.3 x 3.3	ST	LFPAK33 (SOT1210)	8
Power FLAT 5x6 Dual	ST	LFPAK56D (SOT1205)	8
Power FLAT 5x6 Dual	ST	LFPAK56 (SOT669)	4
PowerDI123	Diodes Inc.	SOD123F	2
PowerDI123	Diodes Inc.	SOD123W	2
PowerDI323	Diodes Inc.	SOD323F	2
PowerDi5	Diodes Inc.	CFP15 (SOT1289)	3
PowerFLAT (6 x 5)	ST	LFPAK56 (SOT669)	5
PowerFLAT (6 x 5)	ST	LFPAK56D (SOT1205)	5
PowerPAK 1212-8	Vishay	LFPAK33 (SOT1210)	8
PowerPAK SC-70	Vishay	DFN2020-6 (SOT1118)	6
PowerPAK SC-70	Vishay	DFN2020MD-6 (SOT1220)	6
PowerPAK SC-70	Vishay	DFN2020MD-6 (SOT1220)	6
PowerPak SC-70-6L	Vishay	DFN2020-6 (SOT1118)	6
PowerPak SC-75-6L*	Vishay	DFN2020MD-6 (SOT1220)	6
PowerPAK SC-75*	Vishay	DFN2020MD-6 (SOT1220)	6
PowerPAK SC706L	Vishay	DFN2020-3 (SOT1061)	3
PowerPAK SO-8	Vishay	LFPAK56 (SOT669)	5
PowerPAK SO-8(L)	Vishay	LFPAK56 (SOT669)	4
PowerPAK SO-8L Dual	Vishay	LFPAK56D (SOT1205)	8

Types with \* show footprint compatibility only

Type	Competitor	Nexperia	Pins/Leads
PW-Mini	Toshiba	SOT89	3
S-Flat	Toshiba	SOD123F	2
S-Flat	Toshiba	SOD123W	2
S-Mini	Toshiba	SOT23	3
S-Mini TSM	Toshiba	SOT23	3
S08	Vishay	SOT96	8
SC-70	ON Semi	SOT323	3
SC-70, 3 leads	Vishay	SOT323	3
SC-74 TSOP-6	ON Semi	SOT457	6
SC-75	ON Semi	DFN1006-3 (SOT883)	3
SC-75	Semtech	DFN1006-3 (SOT883)	3
SC-75A	Vishay	DFN1006-3 (SOT883)	3
SC-88	ON Semi	SOT363	6
SC-88A	ON Semi	SOT353	5
SC-89	Semtech	SOT666	6
SC2	Toshiba	DSN0603-2 (SOD962)	2
SC59	Diodes Inc.	SOT23	3
SC70	ON Semi	SOT323	3
SC70-3	Vishay	SOT323	3
SC70-3	AOS	SOT323	3
SC70-5L	Semtech	SOT353	5
SC70-6	Vishay	SOT363	6
SC70-6	AOS	SOT363	6
SC70-6	Fairchild	SOT363	6
SC70-6L	Semtech	SOT363	6
SC74 TSOP6	Infineon	SOT457	6
SC75	Infineon	DFN1006-3 (SOT883)	3
SC75	ON Semi	DFN1006-3 (SOT883)	3
SC75A	Vishay	DFN1006-3 (SOT883)	3
SC79	Infineon	SOD523	2
SC88/SC 7 0-6/SOT 363 6 LEAD	ON Semi	SOT363	6
SC89	Fairchild	SOT666	6
SC89-3	Vishay	DFN1006-3 (SOT883)	3
SC89-3	ON Semi	DFN1006-3 (SOT883)	3
SC89-3	Fairchild	DFN1006-3 (SOT883)	3
SC89-6	Vishay	SOT666	6
SC89-6	AOS	SOT666	6
SC89-6	Fairchild	SOT666	6
SC89-6lead	Vishay	SOT666	6
SLP0402P2X3	Semtech	DSN0402-2 (SOD992)	2
SLP1006P2	Semtech	DFN1006-2 (SOD882)	2
SLP1006P2T	Semtech	DFN1006D-2 (SOD882D)	2
SLP1006P3	Semtech	DFN1006-3 (SOT883)	3
SLP1006P3T	Semtech	DFN1006B-3 (SOT883B)	3
SLP1510N6	Semtech	DFN1410-6 (SOT886)	6
SLP1610N2	Semtech	DFN1608D-2 (SOD1608)	2
SLP1610P4	Semtech	DFN2510A-10 (SOT1176)	10
SLP1616P6	Semtech	DFN1616-6 (SOT1189)	6
SLP1713P8	Semtech	DFN1714-8 (SOT1166)	8

## Package cross reference list – Part 3

Type	Competitor	Nexperia	Pins/Leads
SLP1713P8	Semtech	DFN1714U-8 (SOT983)	8
SLP2513P12	Semtech	DFN2514-12 (SOT1167)	12
SLP3313P16	Semtech	DFN3314-16 (SOT1168)	16
SM6 VS-6	Toshiba	SOT457	6
SMA flat	ST	SOD128	2
SMD TO-263	Renesas	D2PAK (SOT404)	3
SMD0402	Rohm	DSN0402-2 (SOD992)	2
SMD6/SMT6	Rohm	SOT457	6
SMD6/SMZ6	Rohm	SOT457	6
SMFPAK-6	Renesas	SOT666	6
SMPAK	Renesas	DFN1006-3 (SOT883)	3
SMPC TO-277A	Vishay	CFP15 (SOT1289)	3
SMT3	Rohm	SOT23	3
SMT5*	Rohm	SOT457	6
SMT6	Rohm	SOT457	6
SMZ6/SMD6	Rohm	SOT457	6
SO-8 FL	ON Semi	LFPAK56 (SOT669)	5
SO-8FL Dual	OnSemi	LFPAK56D (SOT1205)	8
SO-8FL Dual	OnSemi	LFPAK56 (SOT669)	4
SOD-123	ST	SOD123F	2
SOD-123-FL	ON Semi	SOD123F	2
SOD-123-FL	ON Semi	SOD123W	2
SOD-323	ON Semi	SOD323	2
SOD-323	Diodes Inc.	SOD323	2
SOD-323	ST	SOD323	2
SOD-523	ON Semi	SOD523	2
SOD-523	ST	SOD523	2
SOD323	Infineon	SOD323	2
SOD323	Vishay	SOD323	2
SOD323	Semtech	SOD323	2
SOD523	Diodes Inc.	SOD523	2
SOD523	Vishay	SOD523	2
SOD523	Semtech	SOD523	2
SOD882	ST	DFN1006-2 (SOD882)	2
SOD882T	ST	DFN1006D-2 (SOD882D)	2
SOD923-2*	ON Semi	DFN1006-2 (SOD882)	2
SOIC-8 NB	ON Semi	SOT96	8
SON 2x2	Texas Instruments	DFN2020MD-6 (SOT1220)	6
SON 3x3*	Texas Instruments	DFN2020MD-6 (SOT1220)	6
SOP-8	Renesas	SOT96	8
SOP/DSOP Advance	Toshiba	LFPAK56 (SOT669)	4
SOP8	Rohm	SOT96	8
SOT 143	Infineon	SOT143B	4
SOT-143	Semtech	SOT143B	4
SOT-143	Diodes Inc.	SOT143B	4
SOT-223	ON Semi	SOT223	4
SOT-223	Diodes Inc.	SOT223	4
SOT-223	OnSemi	SOT223	3
SOT-223	Infineon	SOT223	3

Types with \* show footprint compatibility only

Type	Competitor	Nexperia	Pins/Leads
SOT-223	ST	SOT223	3
SOT-23	ON Semi	SOT23	3
SOT-23	Diodes Inc.	SOT23	3
SOT-323	Diodes Inc.	SOT323	3
SOT-323	ST	SOT323	3
SOT-363	Diodes Inc.	SOT363	6
SOT-553	ON Semi	SOT665	5
SOT-563	ON Semi	SOT666	6
SOT-89	ON Semi	SOT89	3
SOT063*	ON Semi	DFN101 OB-6 (SOT1216)	6
SOT223	Vishay	SOT223	4
SOT223	Infineon	SOT223	4
SOT223	Fairchild	SOT223	4
SOT223	ON Semi	SOT223	4
SOT223	Diodes Inc.	SOT223	4
SOT223	Diodes Inc.	SOT223	3
SOT23	Infineon	SOT23	3
SOT23	ST	SOT23	3
SOT23	Vishay	SOT23	3
SOT23	Semtech	SOT23	3
SOT23	Diodes Inc.	SOT23	3
SOT23	AOS	SOT23	3
SOT23	ON Semi	SOT23	3
SOT23-3	Diodes Inc.	SOT23	3
SOT23-3	AOS	SOT23	3
SOT23-3	ON Semi	SOT23	3
SOT23-5	AOS	SOT457	6
SOT23-5	Diodes Inc.	SOT457	6
SOT23-6	Diodes Inc.	SOT457	6
SOT23-6	ST	SOT457	6
SOT23-6	Diodes Inc.	SOT457	6
SOT23-6L	Semtech	SOT457	6
SOT23F	Toshiba	SOT23	3
SOT23F	Diodes Inc.	SOT23	3
SOT26	Diodes Inc.	SOT457	6
SOT323	Infineon	SOT323	3
SOT323	Diodes Inc.	SOT323	3
SOT323	Fairchild	SOT323	3
SOT353	Diodes Inc.	SOT353	5
SOT353	Vishay	SOT353	5
SOT353	Diodes Inc.	SOT363	6
SOT363	Infineon	SOT363	6
SOT363	Diodes Inc.	SOT363	6
SOT523	Diodes Inc.	DFN1006-3 (SOT883)	3
SOTS23F	Fairchild	DFN1006-3 (SOT883)	3
SOTS563	Diodes Inc.	SOT666	6
SOTS563-6	ON Semi	SOT666	6
SOTS563F	Fairchild	SOT666	6
SOT666	Infineon	SOT666	6



## Package cross reference list – Part 4

Type	Competitor	Nexperia	Pins/Leads
SOT723-3*	ON Semi	DFN1010D-3 (SOT1215)	3
SOT723*	ON Semi	DFN1010D-3 (SOT1215)	3
SOT89	Infineon	SOT89	3
SOT89	Diodes Inc.	SOT89	3
SOT89-3L	Diodes Inc.	SOT89	3
SOT963	ON Semi	DFN1010-6 (SOT891)	6
SOT963*	Diodes Inc.	DFN1010B-6 (SOT1216)	6
SRP-F	Renesas	SOD123W	2
SS CSP2	Toshiba	DFN1006-3 (SOT883)	3
SSD3/SST3	Rohm	SOT23	3
SSM	Toshiba	DFN1006-3 (SOT883)	3
SSOT3	Fairchild	SOT23	3
SSOT6	Fairchild	SOT457	6
SSOT6 FLMP	Fairchild	SOT457	6
SST3	Rohm	SOT23	3
SST3/SSD3	Rohm	SOT23	3
ST01005	STM	DSN0402-2 (SOD992)	2
Stmite flat	ST	SOD123W	2
T0263	Diodes Inc.	D2PAK(SOT404)	3
T0263-3	Infineon	D2PAK (SOT404)	3
Thin PowerPAK SC-70	Vishay	DFN2020-6 (SOT1118)	6
Thin PowerPAK SC-70	Vishay	DFN2020MD-6 (SOT1220)	6
Thin PowerPAK SC70	Vishay	DFN2020MD-6 (SOT1220)	6
Thin PowerPAK SC75*	Vishay	DFN2020MD-6 (SOT1220)	6
TO-220	ST	TO-220 (SOT78)	3
TO-220	Vishay	TO-220 (SOT78)	3
TO-220	Toshiba	TO-220 (SOT78)	3
TO-220-3	OnSemi	TO-220 (SOT78)	3
TO-220-3L	OnSemi	TO-220 (SOT78)	3
TO-220AB	Vishay	TO-220 (SOT78)	3
TO-220F-3FS	OnSemi	TO-220 (SOT78)	3
TO-220FM	Rohm	TO-220 (SOT78)	3
TO-220S	Renesas	D2PAK (SOT404)	3
TO-220SM	Toshiba	D2PAK (SOT404)	3
TO-252	Renesas	DPAK (SOT428)	3
TO-252	Vishay	DPAK (SOT428)	3
TO-252 (MP-3ZK)	Renesas	DPAK (SOT428)	3
TO-252 reverse, TO-252	Vishay	DPAK (SOT428)	3
TO-252-3/-3-23	Infineon	DPAK (SOT428)	3
TO-252, TO-252 reverse	Vishay	DPAK (SOT428)	3
TO-262	Renesas	I2PAK (SOT226)	3
TO-262	Vishay	I2PAK (SOT226)	3
TO-262-2L	OnSemi	I2PAK (SOT226)	3
TO-262-3L	OnSemi	I2PAK (SOT226)	3
TO-263	Renesas	D2PAK-7 (SOT427)	7
TO-263	Renesas	D2PAK (SOT404)	3
TO-263	Vishay	D2PAK (SOT404)	3
TO-263 3-lead	Vishay	D2PAK (SOT404)	3
TO-263-2L	OnSemi	D2PAK (SOT404)	3

Type	Competitor	Nexperia	Pins/Leads
TO-263-7L	Vishay	D2PAK-7 (SOT427)	7
TO-263AB	Vishay	D2PAK (SOT404)	3
TO220	Infineon	TO-220 (SOT78)	3
TO220-3	Diodes Inc.	TO-220 (SOT78)	3
TO252	Diodes Inc.	DPAK (SOT428)	3
TO262	Infineon	I2PAK (SOT226)	3
TO263	Diodes Inc.	D2PAK (SOT404)	3
TP-FA	OnSemi	DPAK (SOT428)	3
TSLP-2-1	Infineon	DFN1006-2 (SOD882)	2
TSLP-2-7/-17	Infineon	DFN1006D-2 (SOD882D)	2
TSLP-3-1, -15	Infineon	DFN1006B-3 (SOT883B)	3
TSLP-3-4	Infineon	DFN1006-3 (SOT883)	3
TSLP-9-1	Infineon	DFN2510A-10 (SOT 1176)	10
TSMT5*	Rohm	SOT457	6
TSMT6	Rohm	SOT457	6
TSNP-2-2	Infineon	DFN1608D-2 (SOD 1608)	2
TSON Advance	Toshiba	LFPAK33 (SOT1210)	8
TSOP-6	Renesas	SOT457	6
TSOP-6/ TSOP6	Vishay	SOT457	6
TSOP6	Vishay	SOT457	6
TSOP6	AOS	SOT457	6
TSOP6	ON Semi	SOT457	6
TSSLP-2-1	Infineon	DSN0603-2 (SOD962)	2
TSST8*	Rohm	DFN2020MD-6 (SOT1220)	6
TUMT3	Rohm	SOT323	3
TUMT5*	Rohm	DFN2020-6 (SOT1118)	6
TUMT6*	Rohm	DFN2020-6 (SOT1118)	6
U-DFN2020-3 Type B 2.0 x 2.0 x 0.6	Diodes Inc.	DFN2020-3 (SOT1061)	3
U-DFN2020-6	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
U-DFN2523-6*	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
UDFN 1.6 x 1.6	ON Semi	DFN1616-6 (SOT1189)	6
UDFN 1.7 x 1.35, 0.4P	ON Semi	DFN1714U-8 (SOT983)	8
UDFN-6 WDFN6	ON Semi	DFN2020MD-6 (SOT1220)	6
UDFN10 2.5 x 1, 0.5P	ON Semi	DFN2510A-10 (SOT1176)	10
UDFN12 2.5 x 1.35, 0.4P	ON Semi	DFN2514-12 (SOT1167)	12
UDFN2020-6 Type B	Diodes Inc.	DFN2020-6 (SOT1118)	6
UDFN2020-6 Type E	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
UDFN6	Toshiba	DFN2020-6 (SOT1118)	6
UDFN6	ON Semi	DFN2020MD-6 (SOT1220)	6
UDFN6B	Toshiba	DFN2020MD-6 (SOT1220)	6
UF6	Toshiba	SOT363	6
UF6/ USV/ US6	Toshiba	SOT363	6
UFP	Renesas	SOD523	2
UMD2	Rohm	SOD323F	2
UMD3/UMT3	Rohm	SOT323	3
UMD5/UMT5	Rohm	SOT353	5
UMD6/ UMT6	Rohm	SOT363	6
UMLP 1.6 x 1.6*	Fairchild	DFN2020MD-6 (SOT1220)	6
UMT3	Rohm	SOT323	3

Types with \* show footprint compability only

## Package cross reference list – Part 5

Type	Competitor	Nexperia	Pins/Leads
UMT3F*	Rohm	SOT323	3
UMT5/UMD5	Rohm	SOT353	5
UMT6	Rohm	SOT363	6
UMT6/UMD6	Rohm	SOT363	6
UPAK (SOT89)	Renesas	SOT89	3
URP	Renesas	SOD323	2
US-Flat	Toshiba	SOD323F	2
US6	Toshiba	SOT363	6
US6/UF6/USV	Toshiba	SOT363	6
use	Toshiba	SOD323	2
USM	Toshiba	SOT323	3
USV	Toshiba	SOT353	5
USV	Toshiba	SOT363	6
USV/US6/UF6/	Toshiba	SOT363	6
VESM*	Toshiba	DFN1010D-3 (SOT1215)	3
VML0806*	Rohm	DFN1006B-3 (SOT883B)	3
VML1006	Rohm	DFN1006-3 (SOT883)	3
VMN2*	Rohm	DFN1006-2 (SOD882)	2
VMN2*	Rohm	DFN1006D-2 (SOD882D)	2
VMN3*	Rohm	DFN1006-3 (SOT883)	3
VMT3*	Rohm	DFN1010D-3 (SOT1215)	3
VMT6*	Rohm	DFN101 OB-6 (SOT1216)	6
VS6	Toshiba	SOT457	6
VSON-5	Renesas	SOT665	5
W-DFN3020-8*	Diodes Inc.	DFN2020-6 (SOT1118)	6
WDFN-8	OnSemi	LFPK33 (SOT1210)	8
WDFN3	ON Semi	DFN2020-3 (SOT1061)	3
WDFN6	ON Semi	DFN2020-6 (SOT1118)	6
WDFN6	ON Semi	DFN2020MD-6 (SOT1220)	6
WEMT6	Rohm	SOT666	6
WEMT6/EMT6/EMD6	Rohm	SOT666	6
WLCSP 1 x 1*	Fairchild	WLCSP4	3
WLCSP-4*	Fairchild	WLCSP4	3
WLCSP-4*	ON Semi	WLCSP4	3
WLCSP1.6 x 1.6*	AOS	WLCSP6	6
WLCSP2	ON Semi	DSN0603-2 (SOD962)	2
WLL-2-2	Infineon	DSN0402-2 (SOD992)	2
WLP1.5x 1.5*	Texas Instruments	DFN2020MD-6 (SOT1220)	6
WLPI.Ox 1.0*	Texas Instruments	DFN1010D-3 (SOT1215)	3
WLPI.Ox 1.5*	Texas Instruments	DFN2020MD-6 (SOT1220)	6
X1 -DFN 1006-3	Diodes Inc.	DFN1006-3 (SOT883)	3
X1-DFN1212-3*	Diodes Inc.	DFN1010D-3 (SOT1215)	3
X1-DFN1616-6*	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
X2-DFN0806-3	Diodes Inc.	DFN1006-3 (SOT883)	3
X2-DFN1006-2	Diodes Inc.	DFN1006D-2 (SOD882D)	2
X2-DFN1006-3	Diodes Inc.	DFN1006B-3 (SOT883B)	3
X2-DFN1010-3	Diodes Inc.	DFN1010D-3 (SOT1215)	3
X2-DFN1310-6*	Diodes Inc.	DFN1010B-6 (SOT1216)	6
X2-DFN2015-3*	Diodes Inc.	DFN2020MD-6 (SOT1220)	6

Types with \* show footprint compatibility only

Type	Competitor	Nexperia	Pins/Leads
X2-DFN2020-6	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
X3-DFN0603-2	Diodes Inc.	DSN0603-2 (SOD962)	2
X3DFN-2	ON Semi	DSN0603-2 (SOD962)	2
XDFN3	ON Semi	DFN1006-3 (SOT883)	3
XI-DFN1006-2	Diodes Inc.	DFN1006-2 (SOD882)	2
μ8FL	OnSemi	LFPK33 (SOT1210)	8

Package cross reference matrix – Part 1

Pins/ leads	Nexperia	Industry standard names	Size (l x w x h) (mm)	P <sub>tot</sub> (mW)	Package	Competitor synonyms									
						Rohm	Toshiba	ON Semi	Renesas	Infineon	Diodes Inc	ST	Vishay	Semtech	
2	DSN0402-2 (SOD992)		0.4 x 0.2 x 0.12			SMD0402	CL2	DSN2 0.4 x 0.2		WLL-2-2		ST01005		SLP- 0402P2X3	
	DSN1006-2 (SOD993)		1.0 x 0.6 x 0.3					DSN2 1.0 x 0.6							
	DSN1006U-2 (SOD995)		1.0 x 0.6 x 0.3					DSN2 1.0 x 0.6							
	DFN1006-2 (SOD882)		1.0 x 0.6 x 0.48	250		(VMN2)	CTS2 (fSC)	(SOD923-2)		TSLP-2-1	XI-DFN1006-2	SOD 882 uQFN-2L	LLP1006-2M LLP1006-2L	SLP1006P2	
	DFN1006D-2 (SOD882D)		1.0 x 0.6 x 0.37	250		(VMN2)	CTS2 (fSC)	DSN2 1.0 x 0.6		TSLP-2-7/ -17	X2- DFN1006-2	SOD882T	LLP1006-2L LLP1006-2M	SLP1006P2T	
	DFN1608D-2 (SOD1608)		1.6 x 0.8 x 0.37	780		KMD2		DSN2 1.6 x 0.8		TSNP-2-2				SLP1610N2	
	DSN0603-2 (SOD962)		0.6 x 0.3 x 0.3	525		GMD2	SC2	DSN2, X3DFN-2 WLCSP2	MP6	TSSLP-2-1	X3- DFN0603-2	DFN2	CLP0603	SLP- 0603P2X3	
	SOD80C	Mini- Melf	3.5 x 1.5 x 1.5	300					LLD		MiniMelf	MiniMelf	MiniMelf		
	SOD123F		2.6 x 1.6 x 1.1	830			S-Flat	SOD-123-FL			PowerDI123	SOD-123			
	SOD123W		2.6 x 1.7 x 1.0	900		PMDU	S-Flat	SOD-123-FL	SRP-F		PowerDI123	Strmite flat			
	SOD128		3.8 x 2.5 x 1.0	1000		PMDT	M-Flat					SMA flat			
	SOD323	SC-76	1.7 x 1.25 x 0.95	400			USC	SOD-323	URP	SOD323	SOD-323	SOD-323	SOD323	SOD323	
	SOD323F	SC-90	1.7 x 1.25 x 0.7	830		UMD2	US-Flat				PowerDI323				
	SOD523	SC-79	1.2 x 0.8 x 0.6	500		EMD2	ESC/ TESC	SOD-523	UFP	SC79	SOD523	SOD-523	SOD523	SOD523	
3	CFP15 (SOT1289)		5.8 x 4.3 x 0.78	1200							PowerDI5		SMPC TO-277A		
	DFN1006-3 (SOT883)	SC-101	1.0 x 0.6 x 0.48	250		VML1006	SS CSP2	XDFN3		TSLP-3-4	X1-DFN 1006-3			SLP1006P3	
	DFN1006B-3 (SOT883B)		1.0 x 0.6 x 0.37	250		VML1006	CST3	XDFN3		TSLP-3-1, -15	X2- DFN1006-3			SLP1006P3T	
	DFN1010D-3 (SOT1215)		1.1 x 1.0 x 0.37	325		(VMT3)	(VESM)	(SOT723)			X2- DFN1010-3				
	DFN2020-3 (SOT1061)	HU- SON3	2.0 x 2.0 x 0.62	1300				WDFN3			U-DFN2020-3 Type B 2.0 x 2.0 x 0.6		PowerPAK SC706L		
	DFN2020D-3 (SOT1061D)		2.0 x 2.0 x 0.62	1300				WDFN3			U-DFN2020-3 Type B 2.0 x 2.0 x 0.6		PowerPAK SC706L		
	DPAK (SOT428)		6.6 x 6.1 x 2.3			CPT3	DPAK	DPAK, TP-FA	TO-252 (MP-32K) DPAK(S)	TO-252- 3/-3-2 3 DPAK, PG- TO252-3	TO252	DPAK	TO- 252,TO-252 reverse		
	D2PAK (SOT404)		11.0 x 11.0 x 4.3			LPDS/ LPTS	TO- 220SM D2PAK	D2PAK D2PAK 3 TO-263-2L	TO-220S/ SMD TO-263 LDPAK(S)-(1) MP-25Z	D2PAK, PG- TO263-3	T0263 (D2PAK)	D2PAK, H2PAK-2	TO-263 3-lead TO-263AB / D2PAK TO-263		
	SOT23		2.9 x 1.3 x 1.0	250		SSD3/ SST3	S-Mini TSM	SOT-23	MPAK	SOT23	SOT-23	SOT23	SOT23	SOT23	SOT23
	SOT89	SC-62	4.5 x 2.5 x 1.5	1300		MPT3	PW-Mini	SOT-89	UPAK (SOT89)	SOT89	SOT89				
SOT323	SC-70	2.0 x 1.25 x 0.95	200		UMD3/ UMT3 TUMT3	USM	SC-70	CMAK/ CMPAK	SOT323	SOT-323	SOT-323	SC-70 3 leads	SOT-323		

Types in brackets (...) show footprint compatibility only

## Package cross reference matrix – Part 2

Pins/ leads	Nexperia	Industry standard names	Size (L x w x h) (mm)	P <sub>tot</sub> (mW)	Package	Competitor synonyms									
						Rohm	Toshiba	ON Semi	Renesas	Infineon	Diodes Inc	ST	Vishay	Semtech	
3	TO-220 (SOT78)		15.6 x 10 x 4.4			TO-220FM	TO-220	TO-220-3L, TO-220F-3FS, TO-220-3	MP-25(K)	PG- TO220-3, TO220	TO220-3	TO-220	TO-220, TO- 220AB		
	I2PAK (SOT226)		11 x 10 x 4.3					I2PAK, TO-262-2L, TO-262-3L	MP-25SK, TO-262	PG- TO262-3, TO262		I2PAK	TO-262		
	SOT223		6.5 x 3.5 x 1.65					SOT-223		SOT-223	SOT223	SOT-223			
4	LFPAK56 (SOT669)	Power- S08	4.9 x 4.45 x 1.0	3000		HSOP8 (Single)	SOP / DSOP Advance	SO-8 FL, DFN-5	LFPAK56, HSOP-8	PG-TD- SON-8	Power- Di5060-8	Power- FLAT (6x5)	PowerPAK SO-8(L)		
	SOT143B		2.9 x 1.3 x 1.0	250			CP4		MPAK-4R	SOT143	SOT-143			SOT-143	
	SOT223	SC-73	6.5 x 3.5 x 1.65	1700				SOT-223		SOT223	SOT-223		SOT223		
5	SOT353	SC-88 A	2.0 x 1.25 x 0.95	300		UMD5/ UMT5	USV	SC-88 A	CMPAK- 5C0		SOT353		SOT353	SC70-5L	
	SOT665		1.6 x 1.2 x 0.55	300		EMD5/ EMT5	ESV	SOT-553	VSON-5						
6	DFN1010-6 (SOT891)	x SON6	1.0 x 1.0 x 0.48				CS6	SOT963							
	DFN1010B-6 (SOT1216)		1.1 x 1.0 x 0.37	350		(VMT6)	(F56)	(SOT063)			(SOT963)				
	DFN1410-6 (SOT886)	x SON6	1.45 x 1.0 x 0.48	250										SLP1510N6	
	DFN1616-6 (SOT1189)	H x SON6	1.6 x 1.6 x 0.48					UDFN 1.6 x 1.6					LLP75-/L	SLP1616P6	
	DFN2020-6 (SOT1118)		2.0 x 2.0 x 0.62	1300		HU- ML2020L8 (Dual)	UDFN6	6 Lead DFN WDFN6			UDFN2020- 6 Type B		PowerPAK SC-70 Thin PowerPAK SC-70		
	DFN2020D-6 (SOT1118D)		2.0 x 2.0 x 0.62	1300		HU- ML2020L8 (Dual)	UDFN6	6 Lead DFN WDFN6			UDFN2020- 6 Type B		PowerPAK SC-70 Thin PowerPAK SC-70		
	DFN- 2020MD-6 (SOT1220)		2.0 x 2.0 x 0.62	1250		HU- ML2020L8 (Single)	UDFN6B	UDFN-6 WDFN6			UDFN2020- 6 Type E		PowerPAK SC-70 Thin PowerPAK SC-70		
	SOT363	SC-88	2.0 x 1.25 x 0.95	300		UMD6/ UMT6	US6 UF6 USV	SC-88	CMPAK-6	SOT363	SOT-363		SC70-6	SC70-6L	
	SOT457	SC-74	2.9 x 1.5 x 1.0	750		SMD6/ SMT6	SM6 VS-6	SC-74 TSOP-6	TSOP-6	SC74 TSOP6	SOT23-6 SOT26		TSOP6 TSOP-6	SOT23-6L	
SOT666		1.6 x 1.2 x 0.55	300		EMD6/ EMT6 WEMT6	ES6 ESV	SOT-563	SMFPAK-6	SOT666	SOT563		SC89- 6lead	SC-89		
7	D2PAK-7 (SOT427)		11 x 10 x 4.3						MP-25ZT, 7pin TO-263	D2PAK7P, PG-TO263-7		D2PAK-7, H2PAK-6	TO-263-7L		
8	LFPAK33 (SOT1210)		3.3 x 3.3 x 0.85			HSMT8	TSON Advance	µ8FL, WDFN-8		PG-TSD- SON-8	Power Di3333-8	Power FLAT 3.3 x 3.3	PowerPAK 1212-8		
	LFPAK56D (SOT1205)		4.9 x 4.45 x 1.0	3000		HSOP8 (Dual)		SO-8FL Dual, DFN-8	HSOP-8 dual	PG-TD- SON-8	Power Di5060-8	Power FLAT 5x6 Dual	PowerPAK SO-8L Dual		
	SOT96	S08	4.9 x 3.9 x 1.75	1500		SOP8	FM8	SOIC-8 NB	SOP-8				S08		
	DFN1714-8 (SOT 1166)	HUSON8	1.7 x 1.35 x 0.52												SLP1713P8
	DFN1714U-8 (SOT983)	H x SON8	1.7 x 1.35 x 0.48					UDFN 1.7 x 1.35, 0.4P							SLP1713P8
10	DFN2510-10 (SOT 1165)	x SON10	2.5 x 1.0 x 0.48					UDFN10 2.5 x 1, 0.5P		TSLP-9-1		pQFN-10L		SLP1610P4	

Types in brackets (...) show footprint compatibility only

## Package cross reference matrix – Part 3

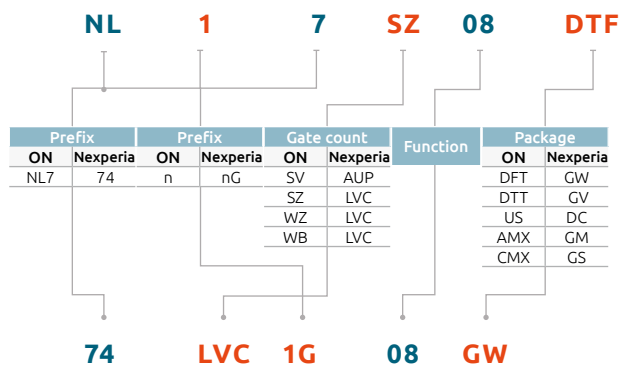
Pins/leads	Nexperia	Industry standard names	Size (L x w x h) (mm)	P <sub>tot</sub> (mW)	Package	Competitor synonyms								
						Rohm	Toshiba	ON Semi	Renesas	Infineon	Diodes Inc	ST	Vishay	Semtech
10	DF-N2510A-10 (SOT1176)	x SON10	2.5 x 1.0 x 0.48					UDFN10 2.5 x 1, 0.5P		TSLP-9-1		pQFN-10L		SLP1610P4
	DFN2626-10 (SOT 1197)		2.6 x 2.6 x 0.48					UDFN10 2.6 x 2.6, 0.5P						SLP2626P10
12	DFN2512-12 (SOT 1158)	H x - SON12	2.5 x 1.2 x 0.48					UDFN12, 2.5 x 1.2, 0.4P						
	DFN2514-12 (SOT 1167)	HU-SON12	2.5 x 1.35 x 0.53					UDFN12, 2.5 x 1.35, 0.4P						SLP2513P12
16	DFN3312-16 (SOT 1159)	H x - SON16	3.3 x 1.2 x 0.48					UDFN 16, 3.5 x 1.2, 0.4P						
	DFN3314-16 (SOT 1168)	HU-SON16	3.3 x 1.35 x 0.53											SLP3313P16

Types in brackets (...) show footprint compatibility only

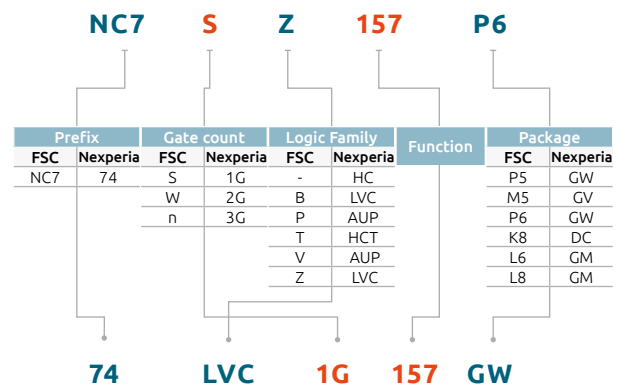
## Competitive cross reference - Logic

This cross reference allows you to match a competitor's part number to a Nexperia part number. Once you have the equivalent part number, check the Nexperia website [www.nexperia.com/logic](http://www.nexperia.com/logic) to confirm that the particular configuration is released.

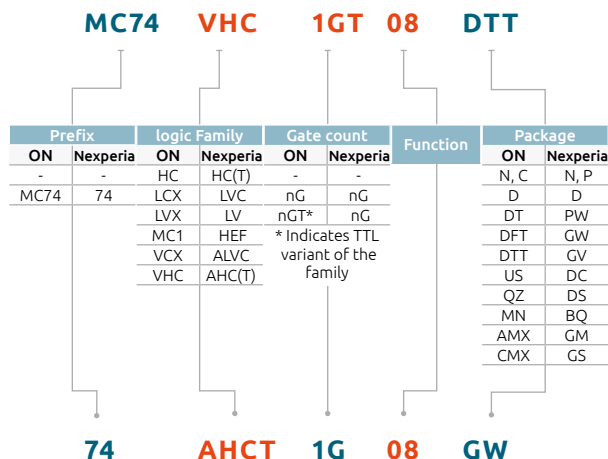
### On semiconductor low pin count logic



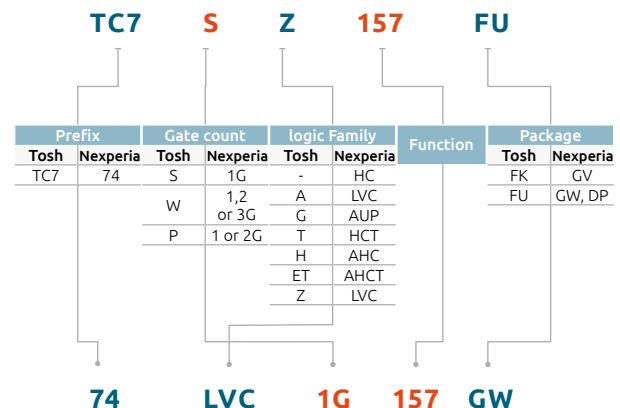
### Fairchild semiconductor tiny logic



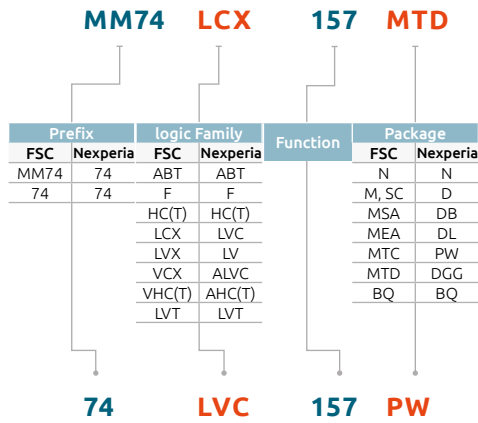
### On semiconductors logic



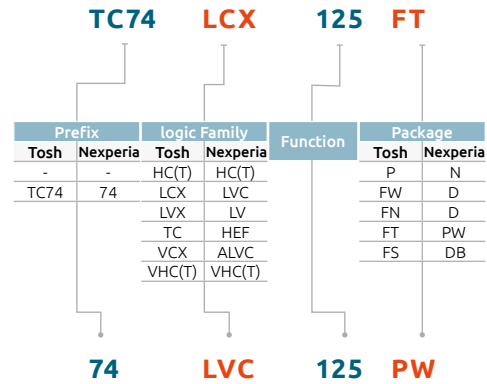
### Toshiba one gate



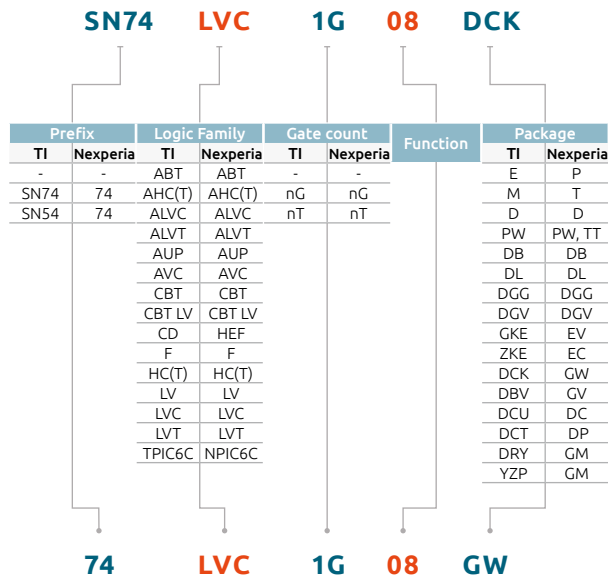
Fairchild semiconductor standard logic



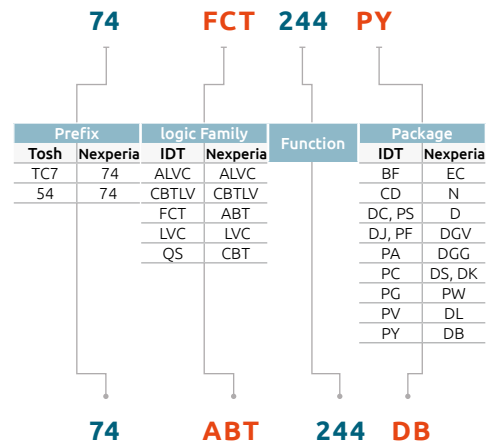
Toshiba standard logic



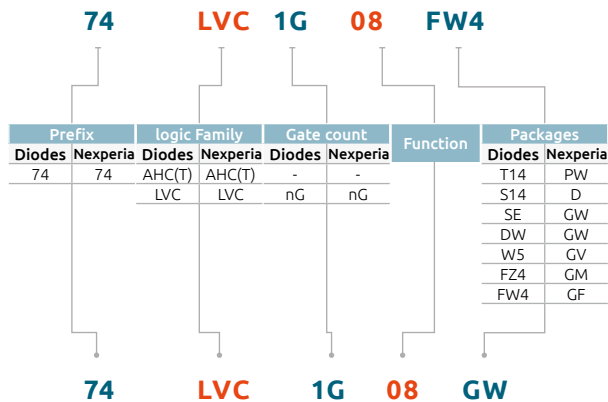
Texas instruments logic



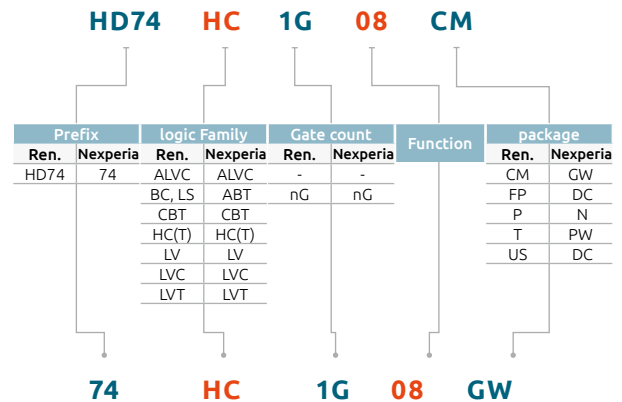
IDT logic



Diodes Inc. logic



Renesas logic



Product orientation (tape and reel pack)

2 pin packages	Orientation in tape	Package	Packing 12NC ending	
			DFN1006-2 (SOD882)	315
			DFN1006D-2 (SOD882D)	315
			DFN1608D-2 (SOD1608)	315
			DSN0603-2 (SOD962)	315
			DSN0402-2 (SOD992)	315
			DSN1006-2 (SOD993)	315
			DSN1006U-2 (SOD995)	315
			DSN1608-2 (SOD963&964)	315
			SOD80	115, 135
			SOD123F	115
			CFP3 (SOD123W)	115
			SOD123	115, 118
			CFP5 (SOD128)	115
			SOD323	115, 135
	SOD323F	115		
	SOD523	115, 135, 315, 335		

3 pin packages	Orientation in tape	Package	Packing 12NC ending		Orientation in tape	Package	Packing 12NC ending	
		SOT89	146				DFN1010D-3 (SOT1215)	147
							DFN2020-3 (SOT1061)	115, 135
							DFN2020D-3 (SOT1061D)	115, 135
							SOT89	115, 135
							SOT663	115
							CFP15 (SOT1289)	139, 146
							DPAK (SOT428)	118
							D2PAK (SOT404)	118
	Orientation in tape	Package	Packing 12NC ending		Orientation in tape	Package	Packing 12NC ending	
	DFN1006-3 (SOT883)	315		SOT89	147			
	DFN1006B-3 (SOT883B)	315						
	SOT23	185, 215, 235						
	SOT323	115, 135						
	SOT416	115, 135						

4 pin packages	Orientation in tape	Package	Packing 12NC ending		Orientation in tape	Package	Packing 12NC ending	
		WLCSP4 (0808)	084				SOT89	115, 135
	Orientation in tape	Package	Packing 12NC ending		Orientation in tape	Package	Packing 12NC ending	
		SOT143B	215, 235					
		SOT223	115, 135					
		DFN1010-4 (SOT1194)	115					

5 pin packages	Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
		LPAK56 (SOT669)	115		SOT353	115, 135
		WLCSP5 (1208)	087		SOT665	115
	Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
		SOT753	125			
		X2SON5 (SOT1226)	125			
		UMTS (SOT353-1)	125			
		SOS (SOT753)	125			

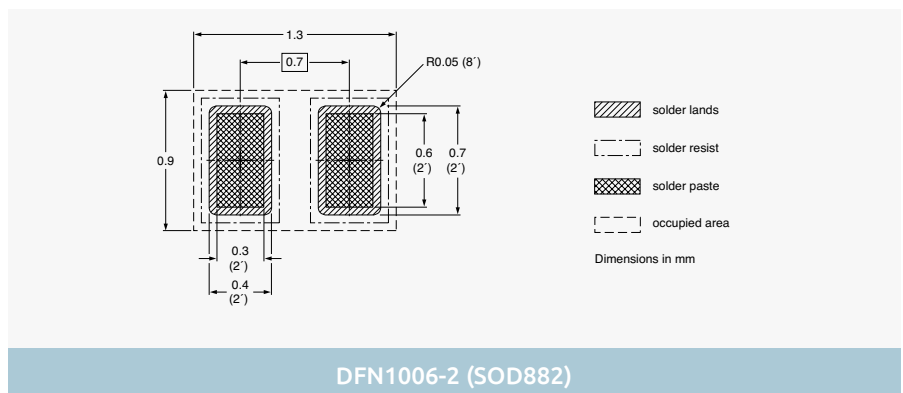
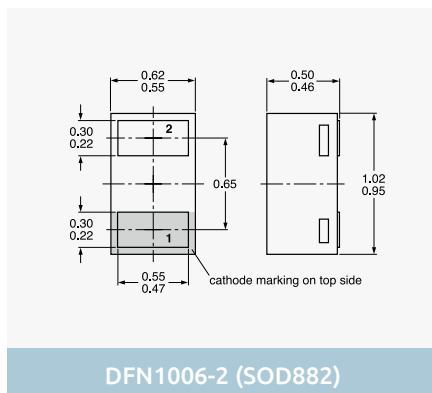
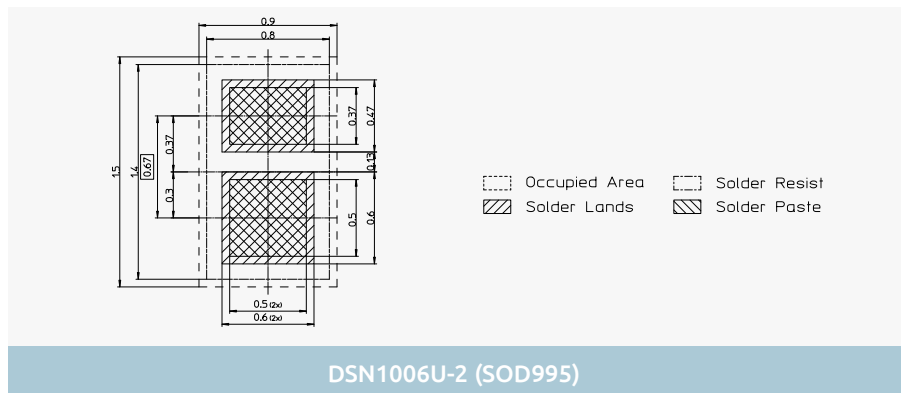
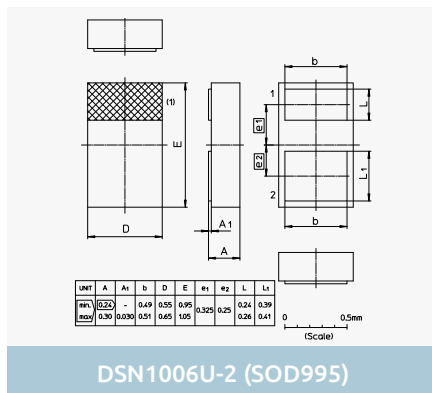
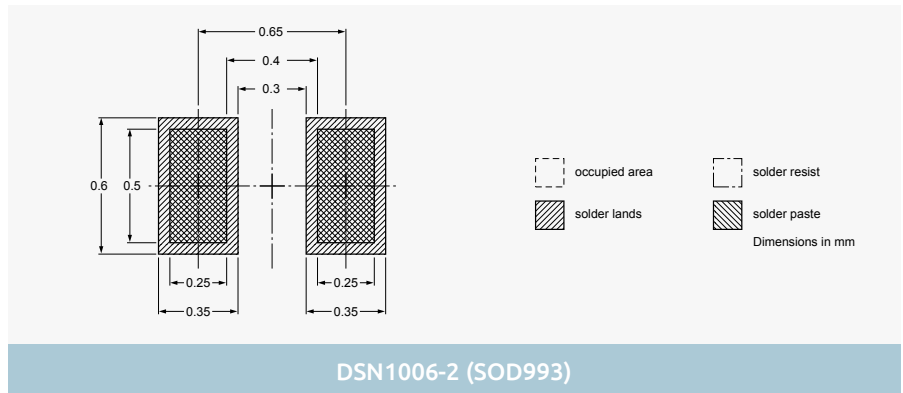
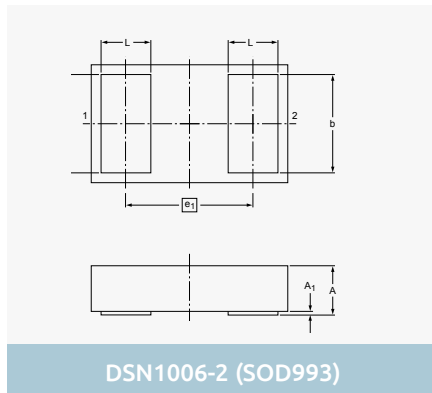
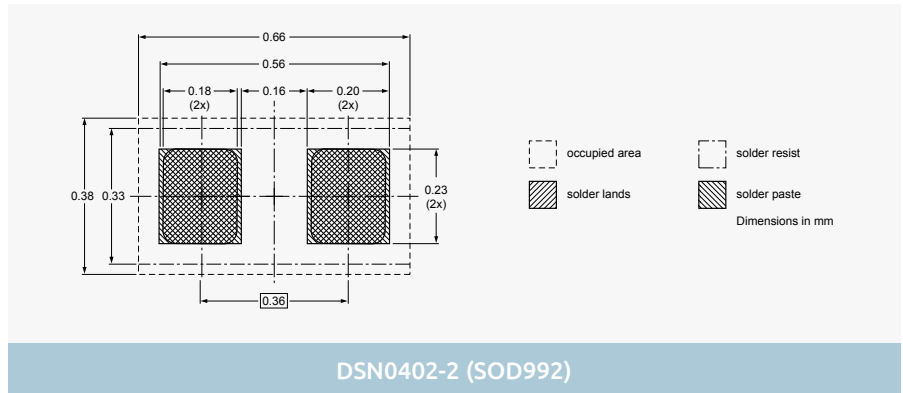
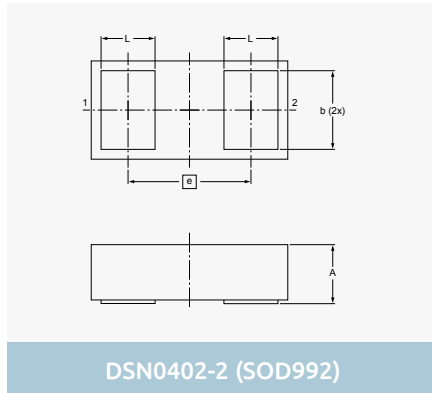
6 pin packages	Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
		DFN1410-6 (SOT886)	115		DFN1412-6 (SOT1268)	147
		DFN1616-6 (SOT1189)	115		DFN2020-6 (SOT1118)	115
		DFN2020MD-6 (SOT1220)	184		DFN2020D-6 (SOT1118D)	115
		LPAK33 (SOT1210)	115		DFN2020MD-6 (SOT1220)	115
		LPAK56D (SOT1205)	115		SOT363	115, 135
		WLCSP6 (1510)	023		SOT457	115, 135
		X2SON6 (SOT1115)	125		SOT666	115, 315
		XSON6 (SOT1202)	125		X2SON6 (SOT1255)	147
		XSON6 (SOT886)	125			
Orientation in tape		Package	Packing 12NC ending		Orientation in tape	Package
	DFN1010-6 (SOT891)	132				
	DFN1010E-6 (SOT1202)	132				
	DFN1410-6 (SOT886)	132				
	DFN2020MD-6 (SOT1220)	125				
	SOT363	125, 165				
	SOT457	125, 165				
	XSON6 (SOT891)	125				
	SC-88 (SOT363)	125				
SC-74 (SOT457)	125					



## Packing methods

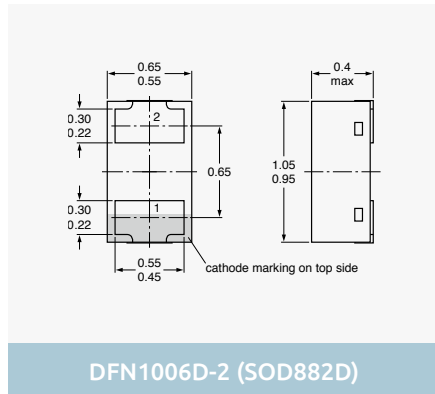
multi I/O pin packages	Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
			DFN2110-9 (SOT1178)	115		
		DFN2111-7 (SOT1358)	471			
		DFN2510A-10 (SOT1176)	115			
		DFN2520-9 (SOT1333)				
		DFN2520-9 (SOT1333)				
		DFN2520-9 (SOT1333)				
		DFN2520-9 (SOT1333)				
		DFN5050-32 (SOT617-3)				
		XSON8 (SOT1116)	115			
		X2SON8 (SOT1233)	115			
		XSON8 (SOT1203)	115			
		XSON8 (SOT1089)	115			
		XSON8 (SOT833-1)	115			
		TSSOP8 (SOT530-1)	118			
		SO8 (SOT96-1)	118			
		X2QFN10 (SOT1430-1)	471			
		XQFN10 (SOT1337-1)	115			
		XSON10 (SOT1081-2)	115			
		TSSOP10 (SOT552-1)	118			
		XQFN10 (SOT1160-1)	115			
		XQFN12 (SOT1174-1)	115			
		DHVQFN14 (SOT762-1)	115			
		TSSOP14 (SOT402-1)	118			
		SSOP14 (SOT337-1)	118			
		SSOP16 (SOT519-1)	118			
		TSSOP16 (SOT403-1)	118			
		SSOP16 (SOT338-1)	118			
		SO16 (SOT109-1)	118			
		TSSOP20 (SOT360-1)	118			
		SO20 (SOT163-1)	118			
		DHXQFN20 (SOT1045-2)	115			
		DHVQFN20 (SOT764-1)	115			
		SSOP20 (SOT339-1)	118			
		SO24 (SOT137-1)	118			
		DHVQFN24 (SOT815-1)	118			
		TSSOP24 (SOT355-1)	118			
		SSOP24 (SOT340-1)	118			
		TSSOP48 (SOT362-1)	118			
		TSSOP48 (SOT480-1)	118			
		SSOP48 (SOT370-1)	118			
	TSSOP56 (SOT364-1)	118				
	SSOP56 (SOT371-1)	518				
	VFBA56 (SOT702-1)	518				
	LFBA96 (SOT536-1)	518				
	Orientation in tape	Package	Packing 12NC ending		Orientation in tape	Packing 12NC ending
		XQFN8 (SOT902-2)	125			
		VSSOP8 (SOT765-1)	125			
		TSSOP8 (SOT505-2)	125			

2-pin SMD packages

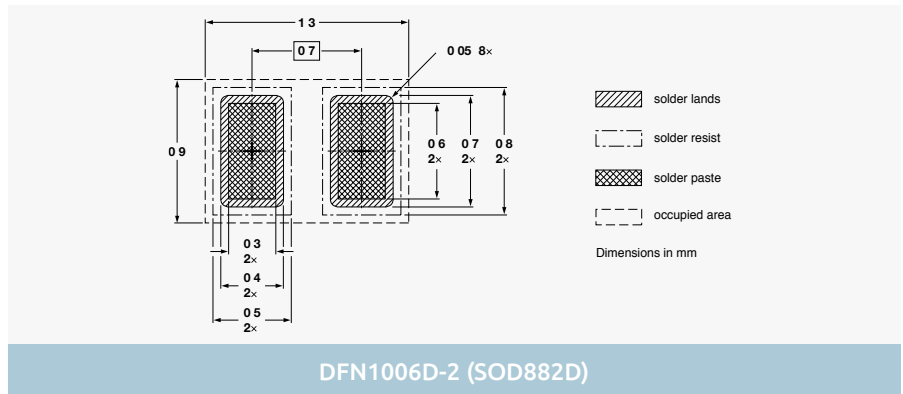


Dimensions in mm

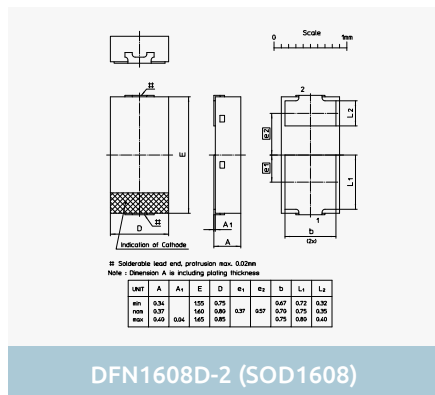
## 2-pin SMD packages



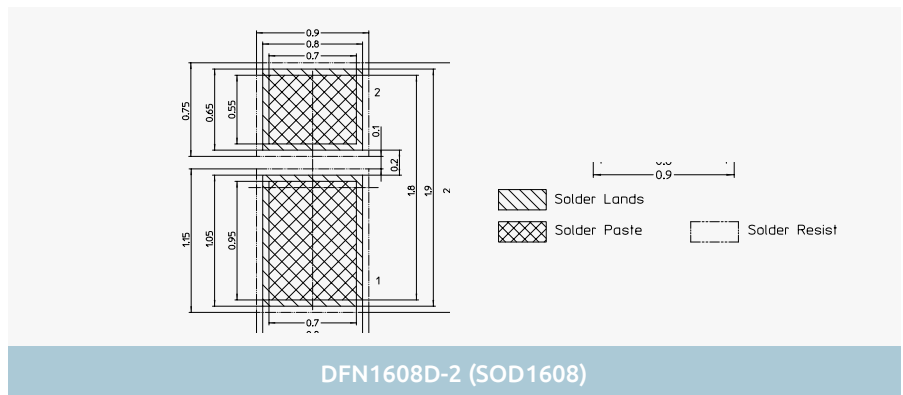
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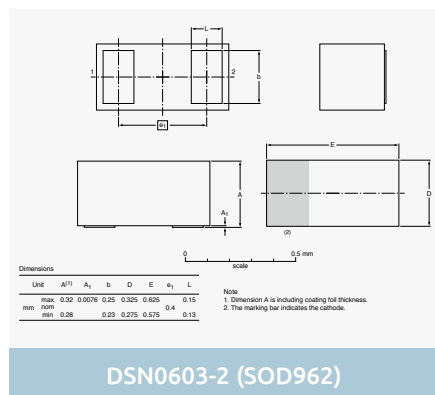
DFN1006D-2 (SOD882D)



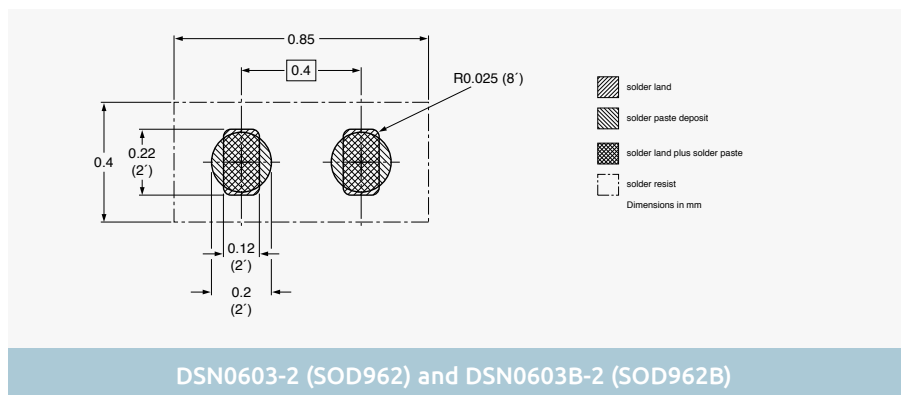
DFN1608D-2 (SOD1608)



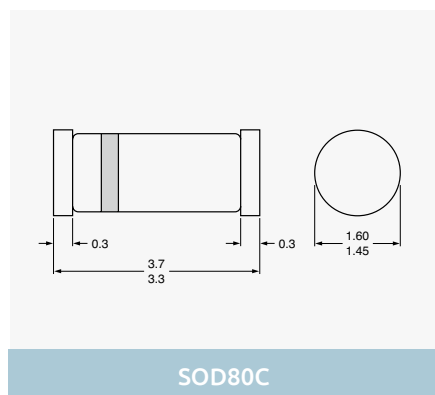
DFN1608D-2 (SOD1608)



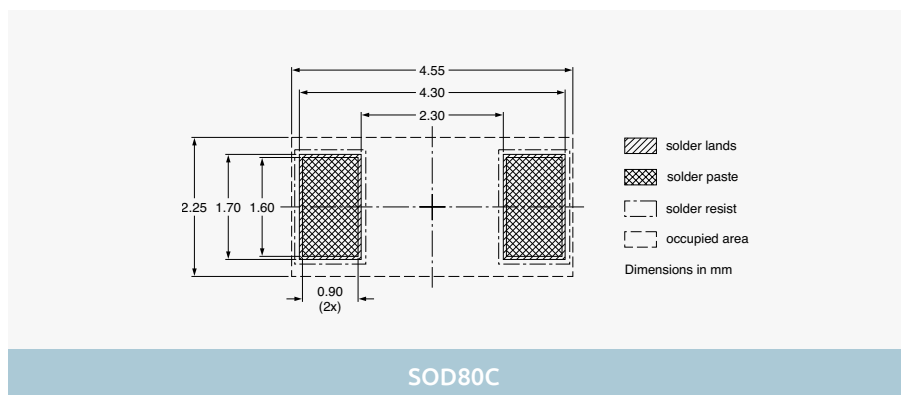
DSN0603-2 (SOD962)



DSN0603-2 (SOD962) and DSN0603B-2 (SOD962B)



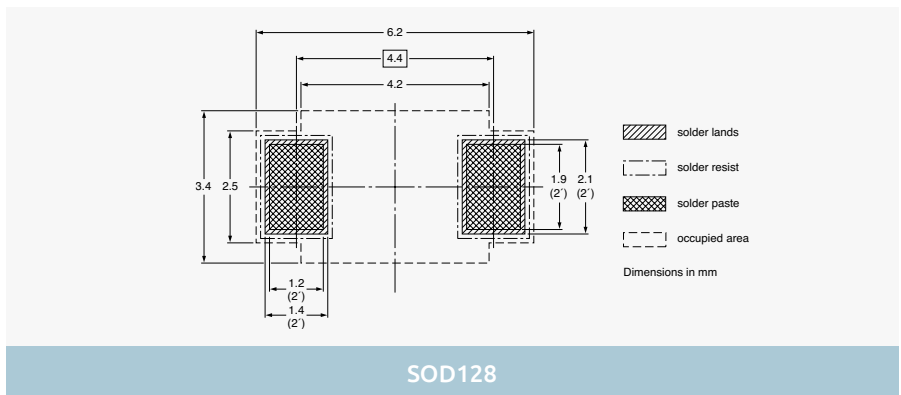
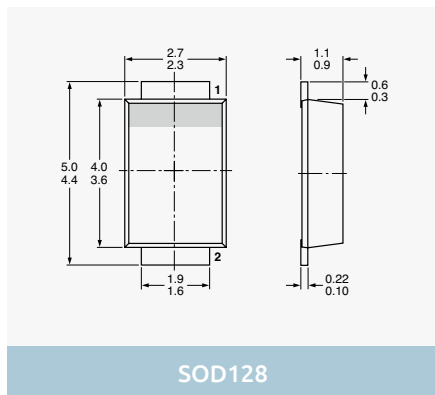
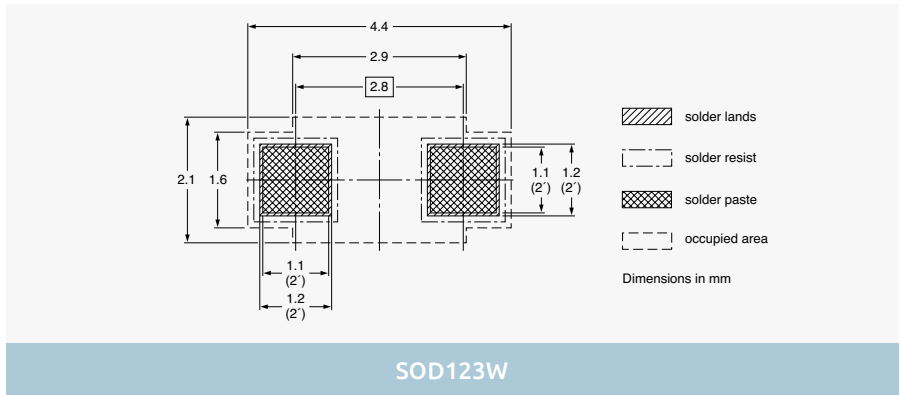
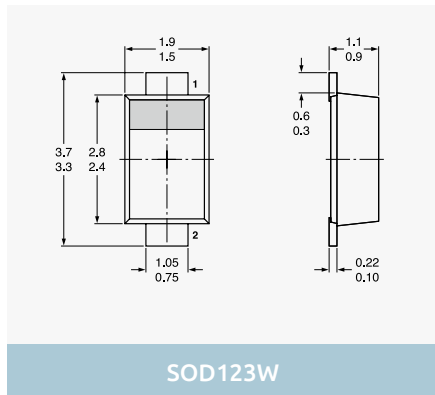
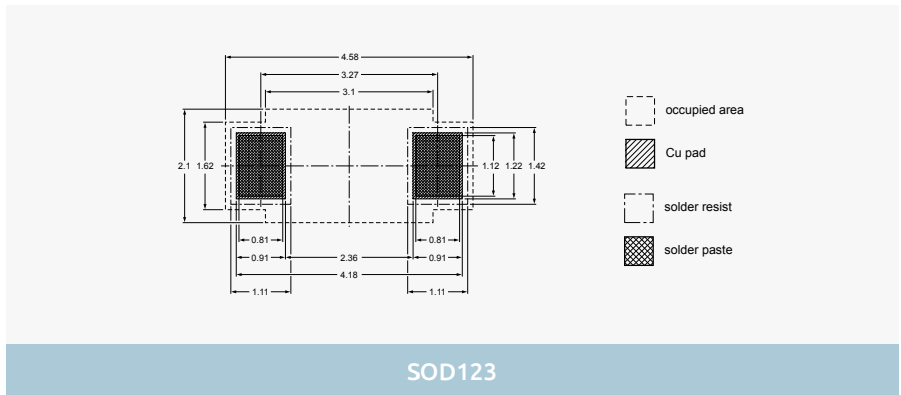
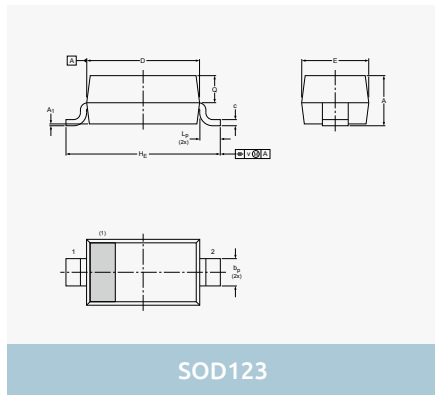
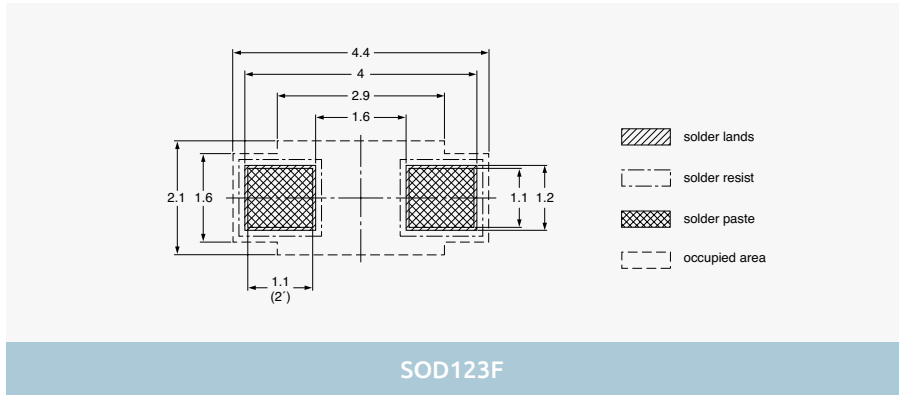
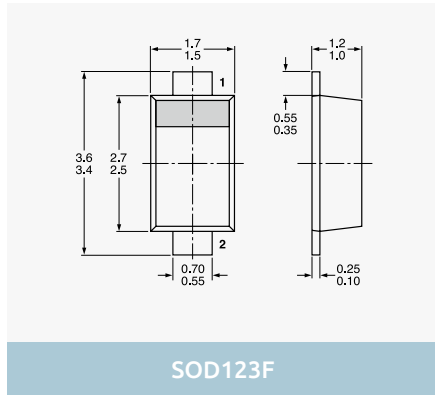
SOD80C



SOD80C

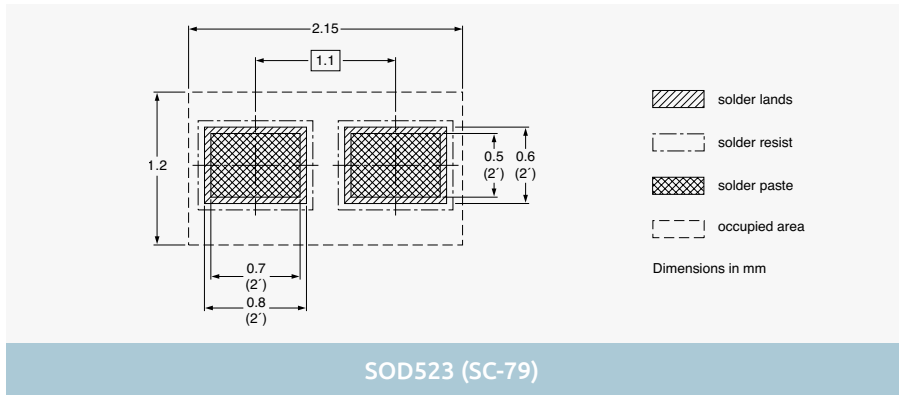
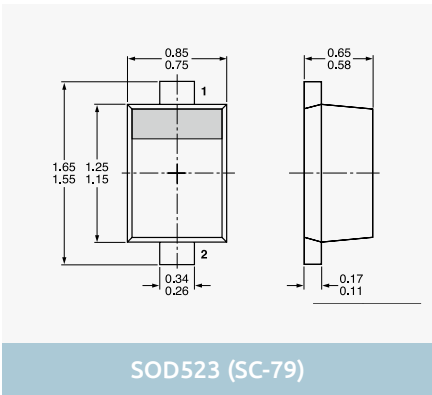
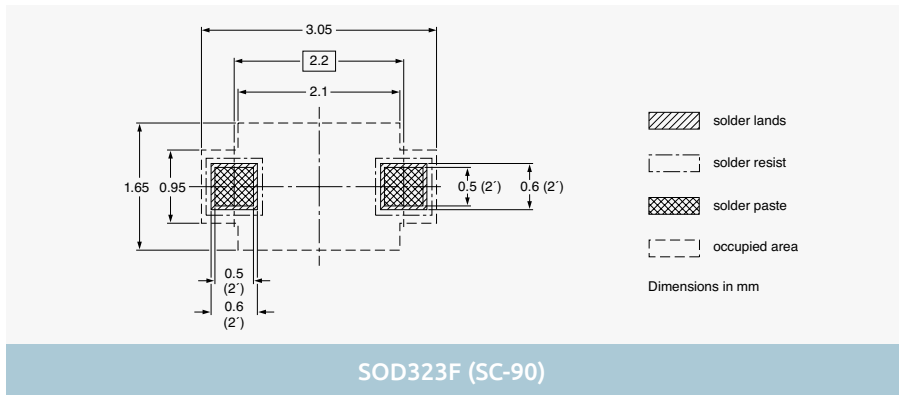
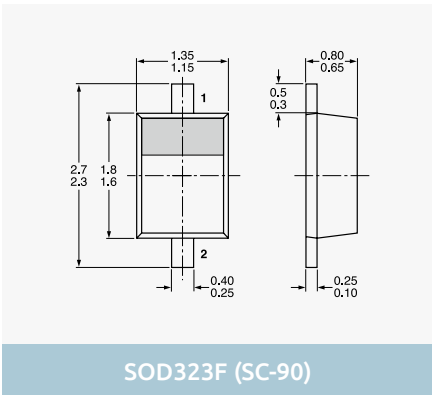
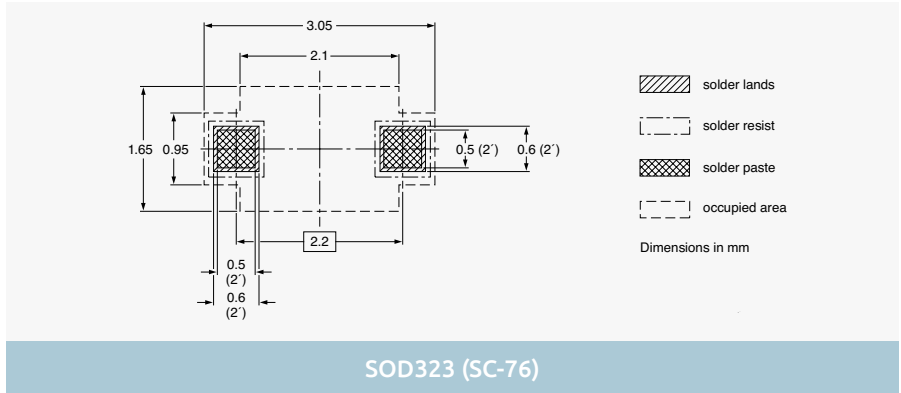
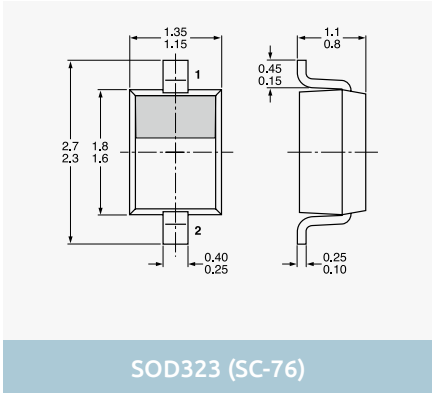
Dimensions in mm

2-pin SMD packages

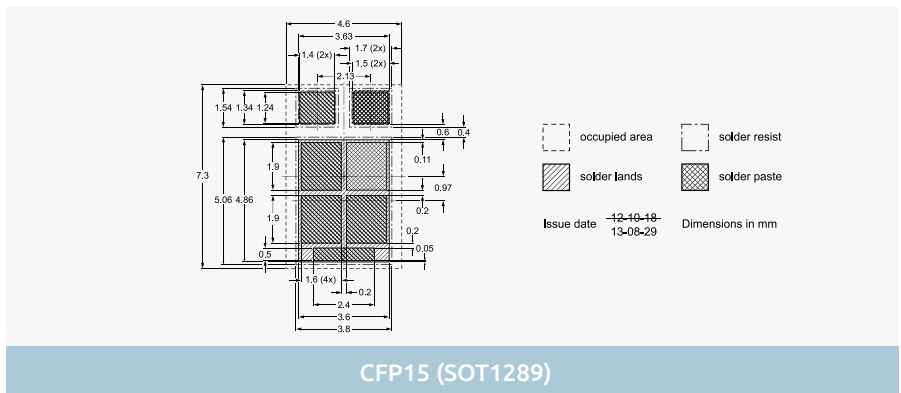
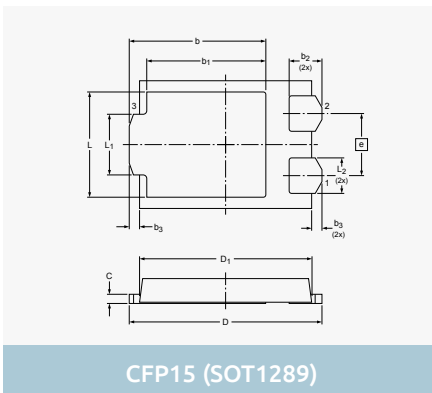


Dimensions in mm

## 2-pin SMD packages

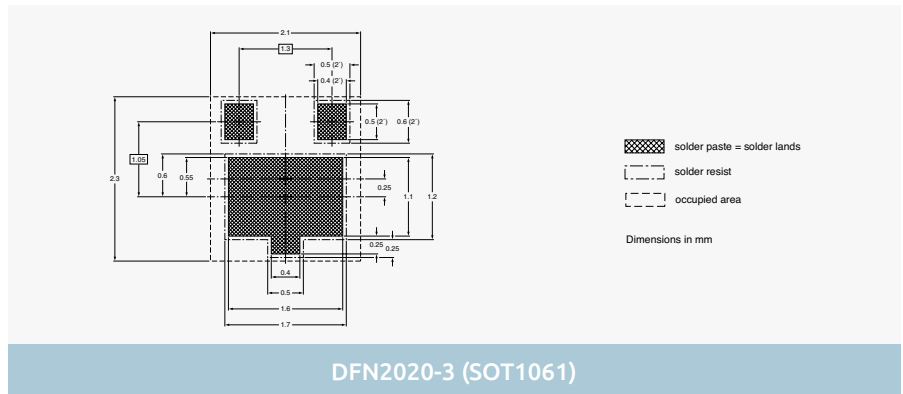
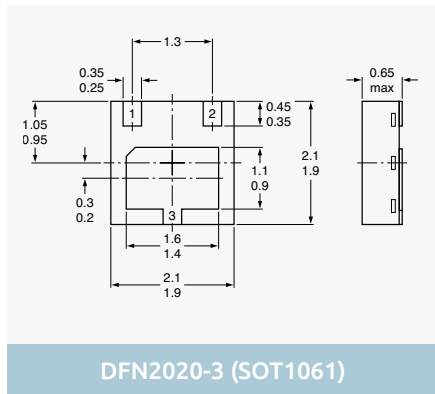
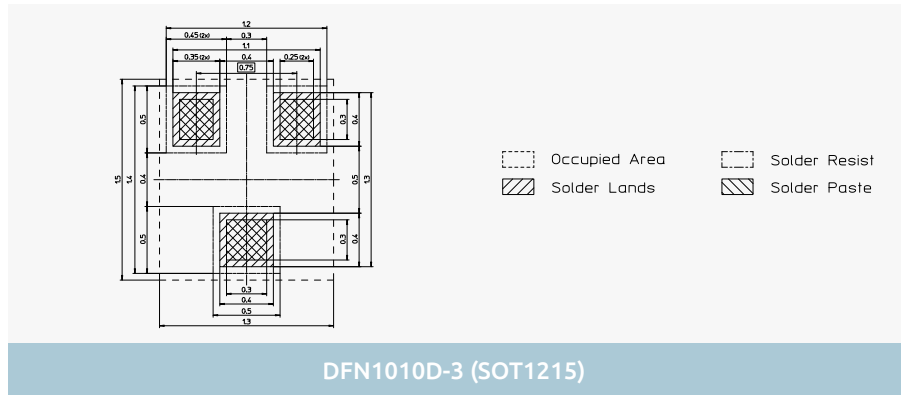
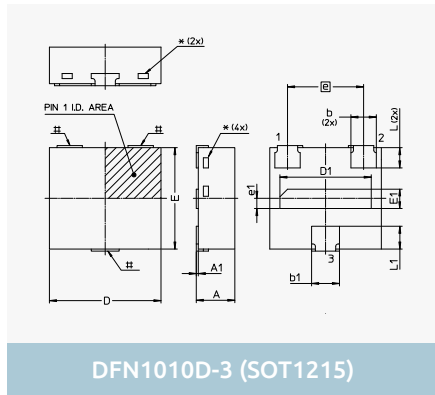
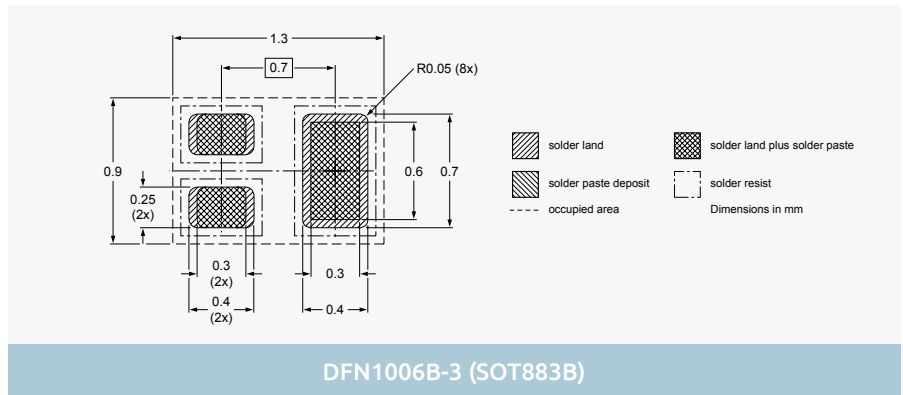
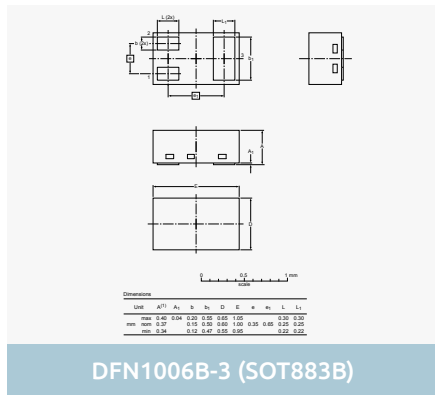
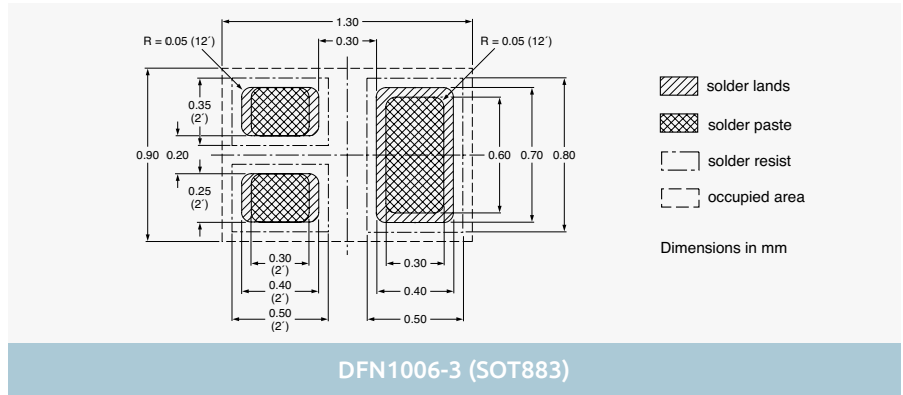
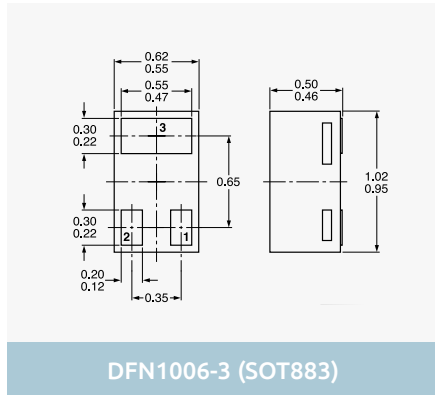


## 3-pin SMD packages



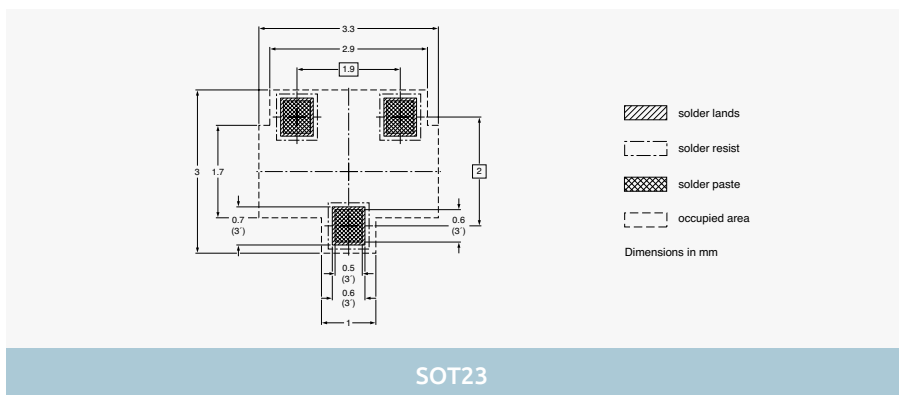
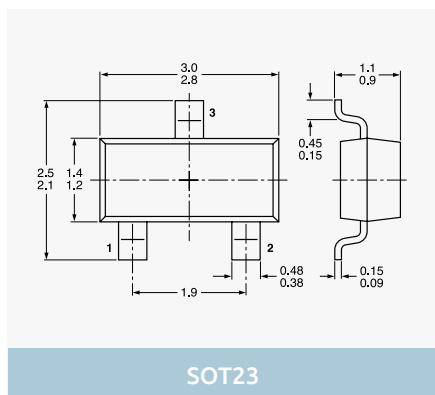
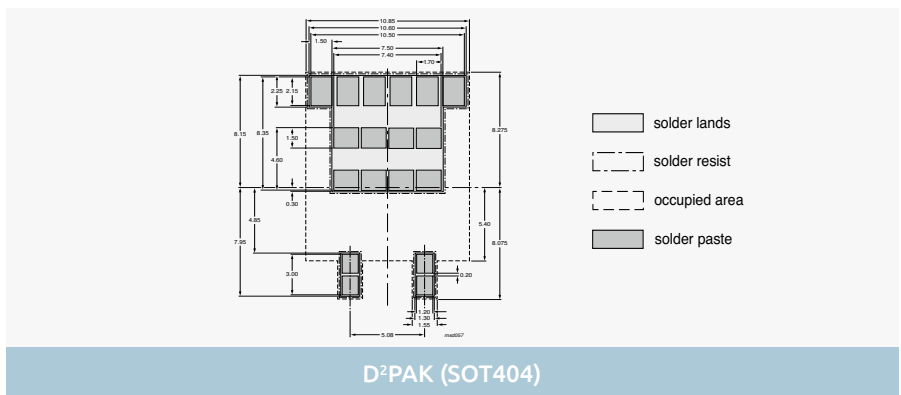
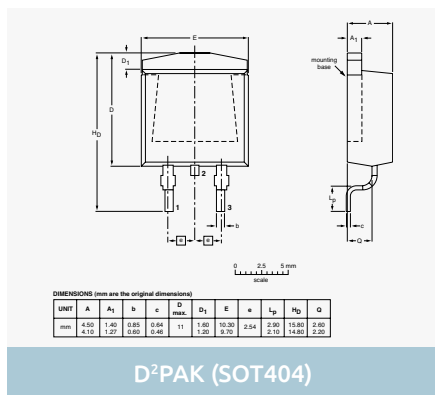
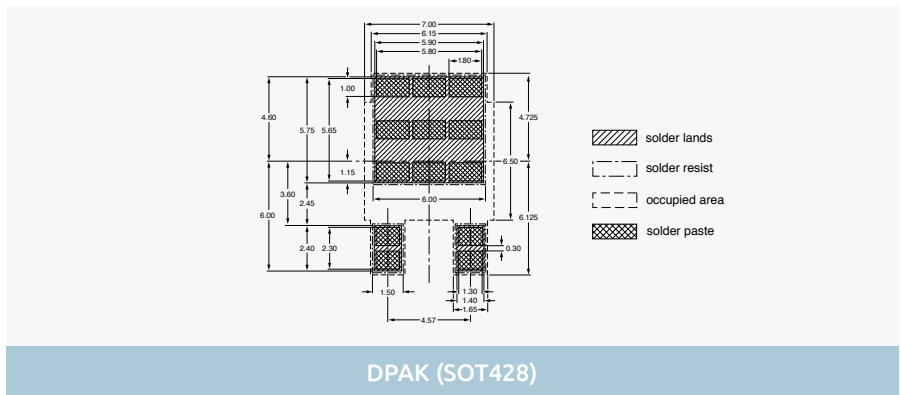
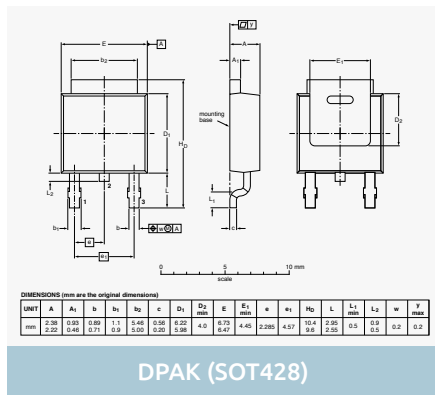
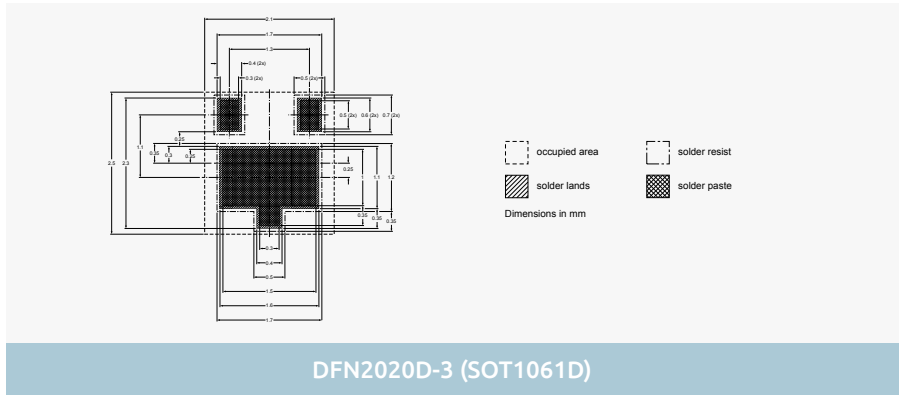
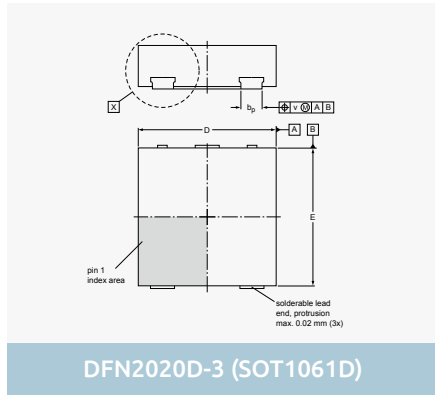
Dimensions in mm

### 3-pin SMD packages



Dimensions in mm

### 3-pin SMD packages

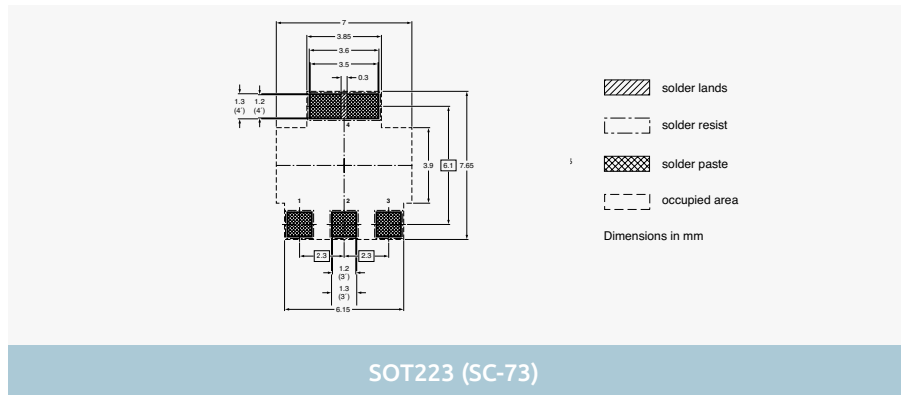
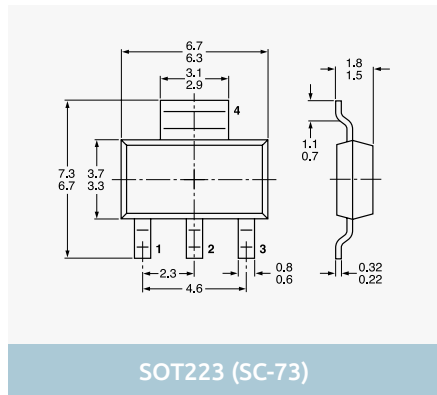
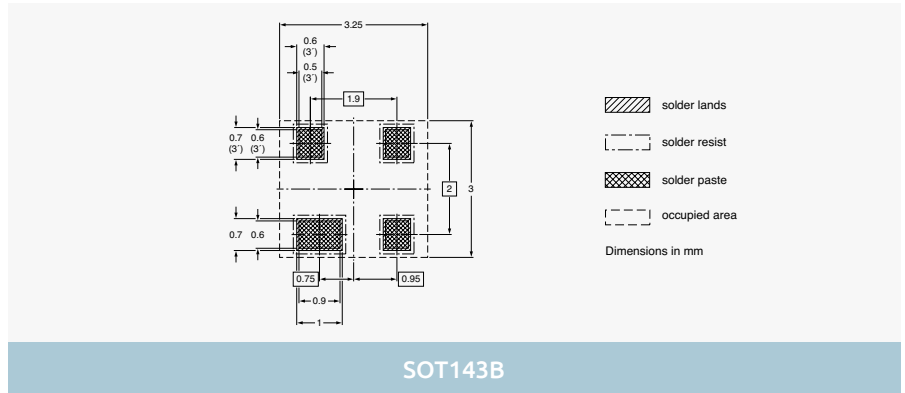
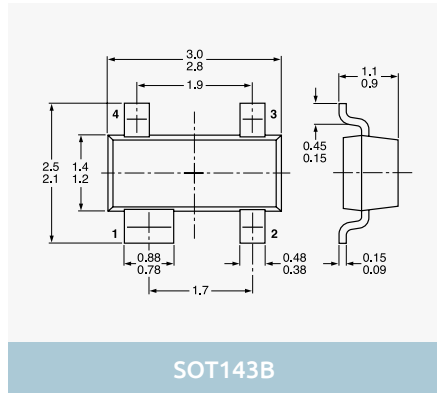


Dimensions in mm

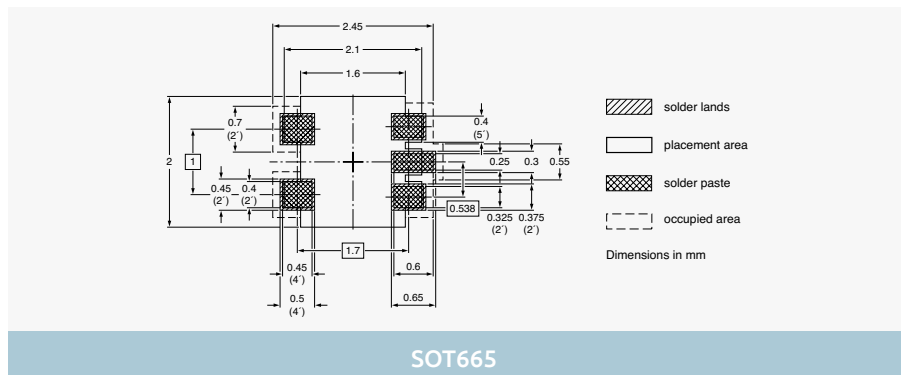
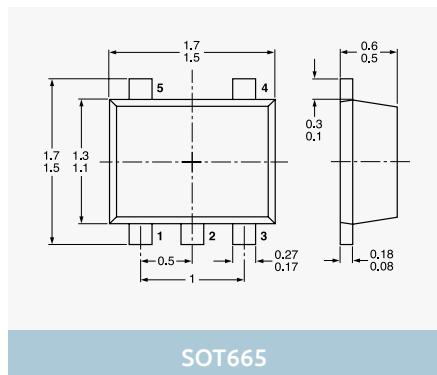
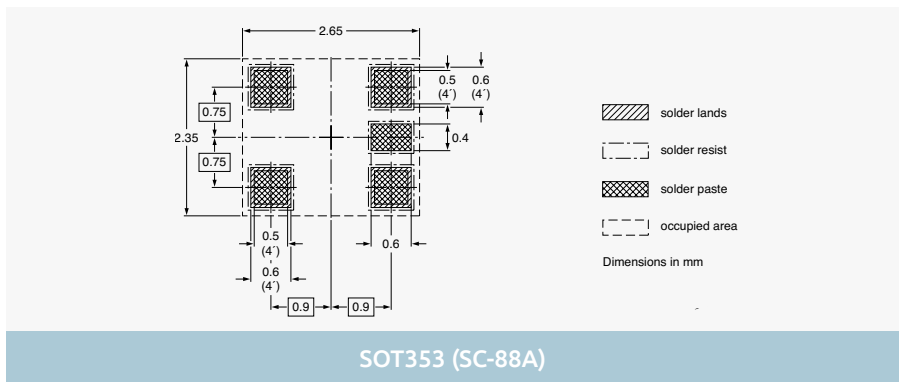
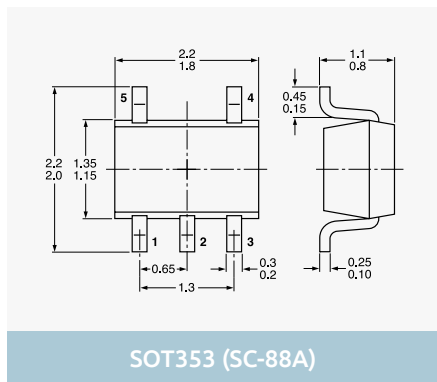




### 4-pin SMD packages



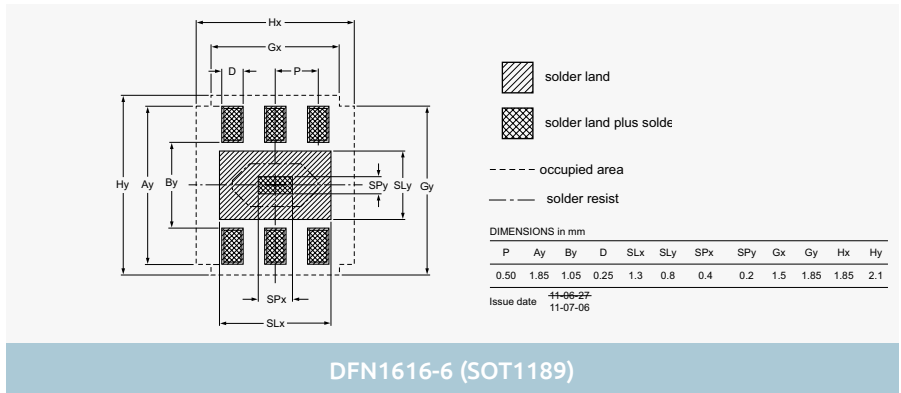
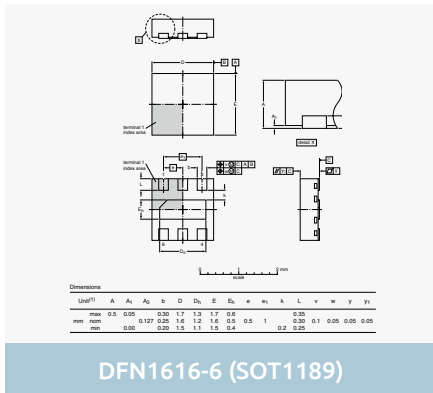
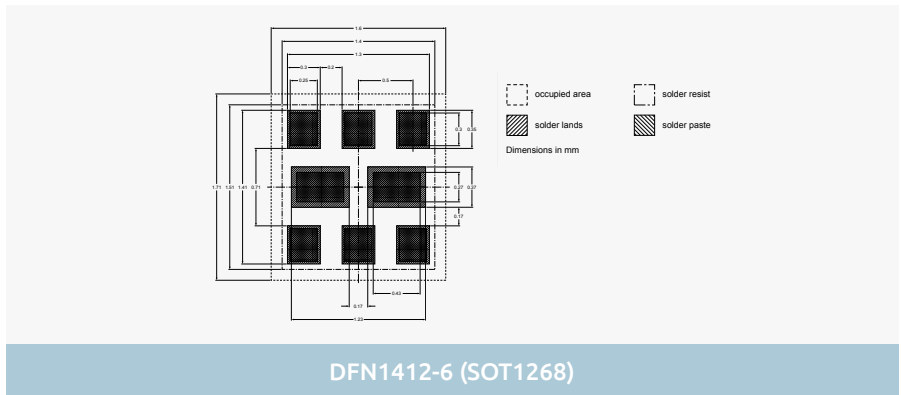
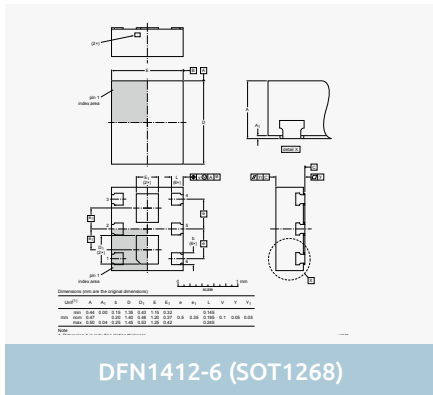
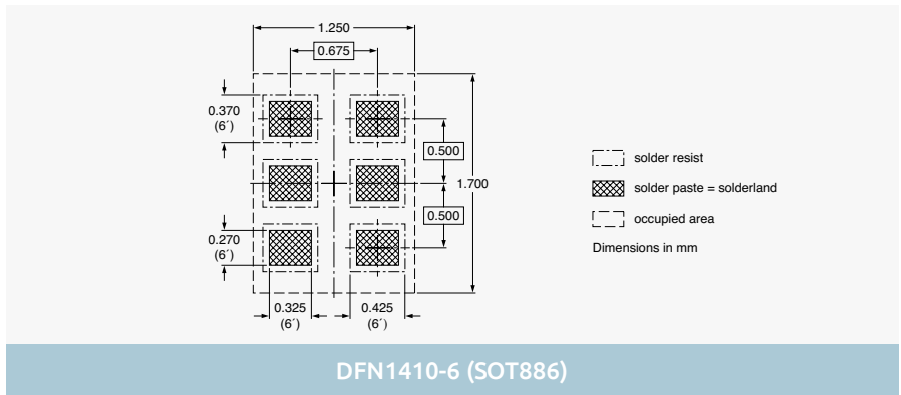
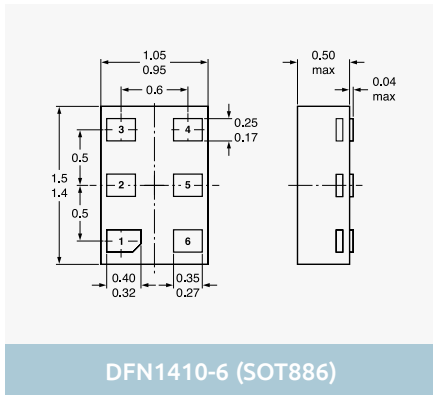
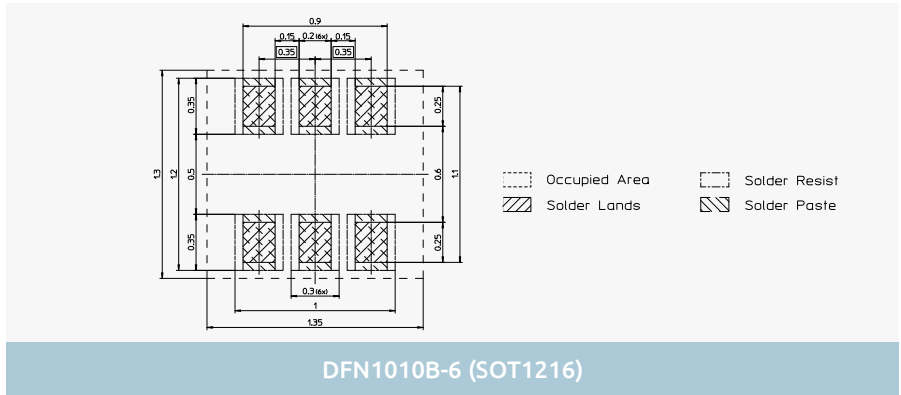
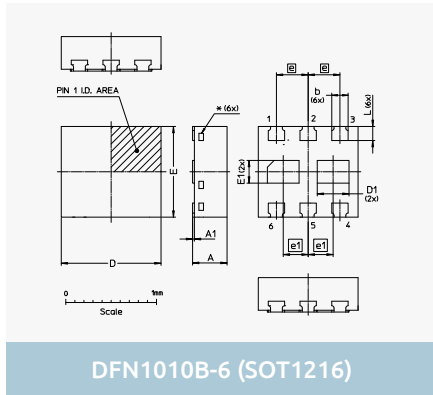
### 5-pin SMD packages



Dimensions in mm



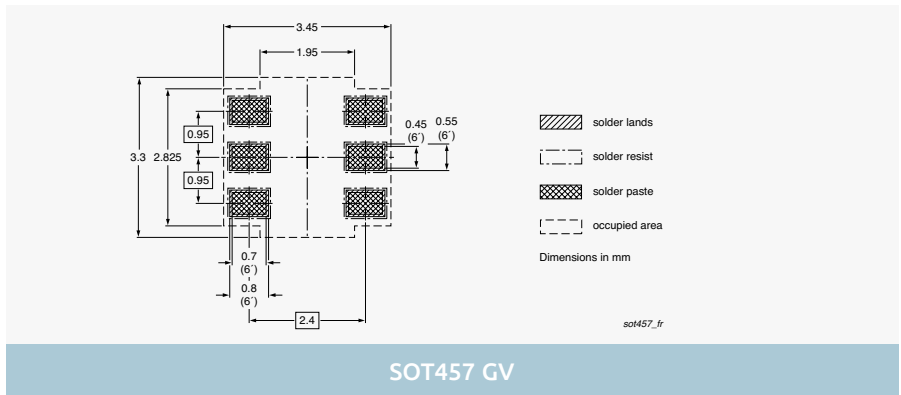
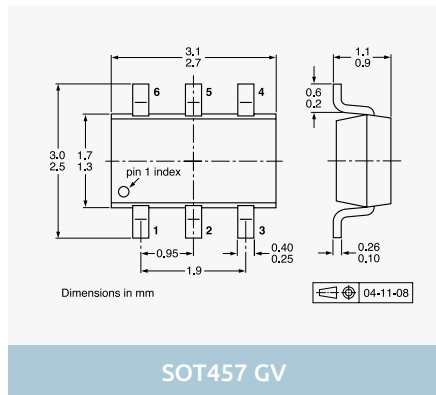
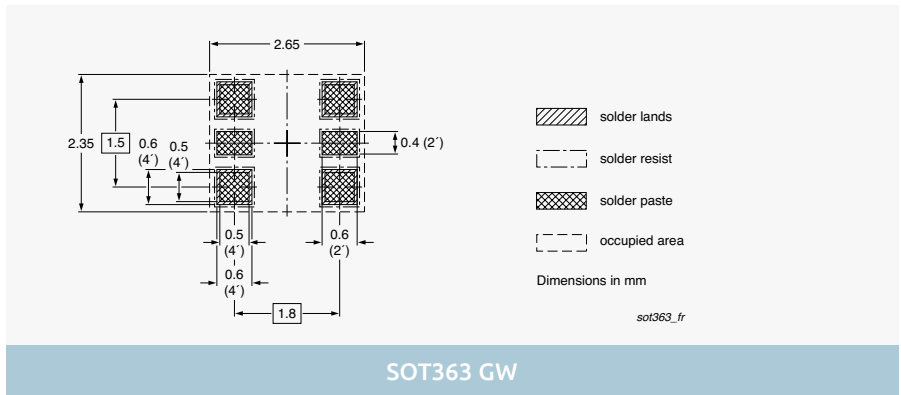
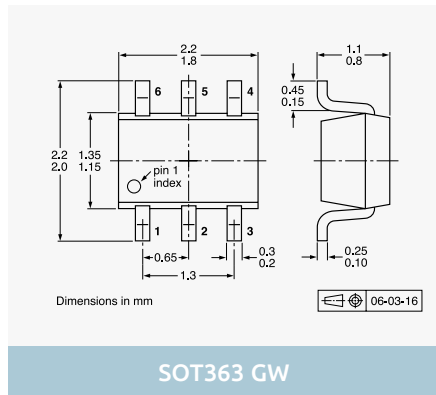
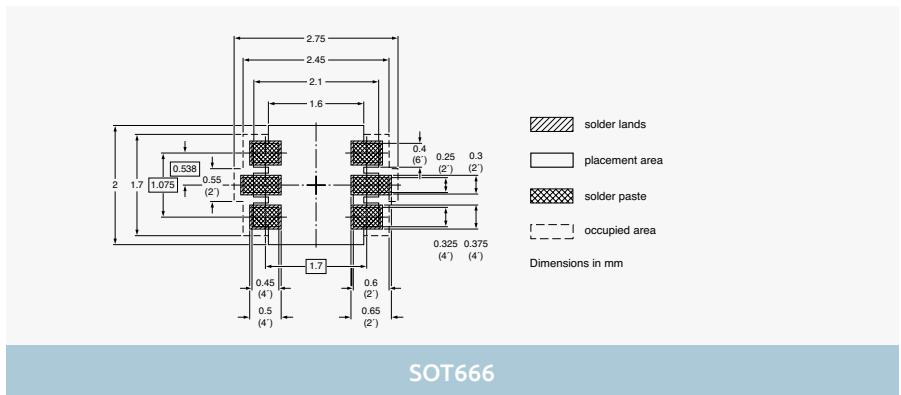
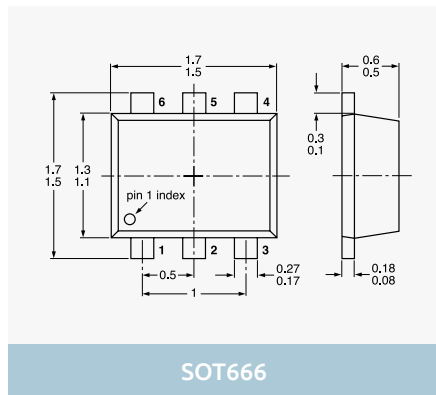
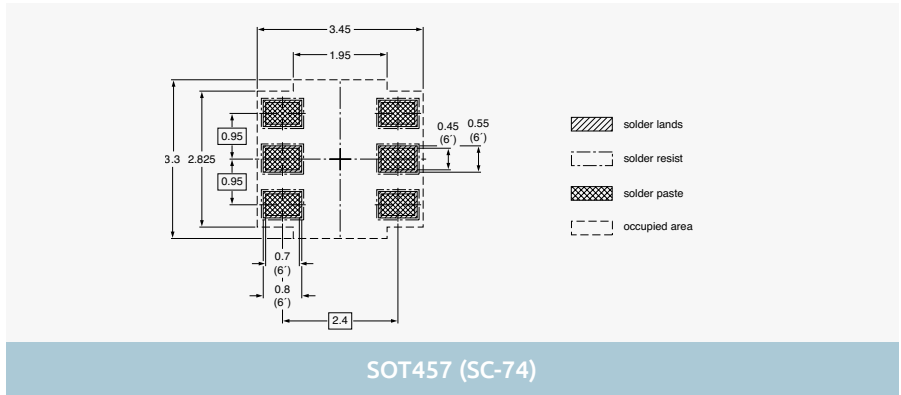
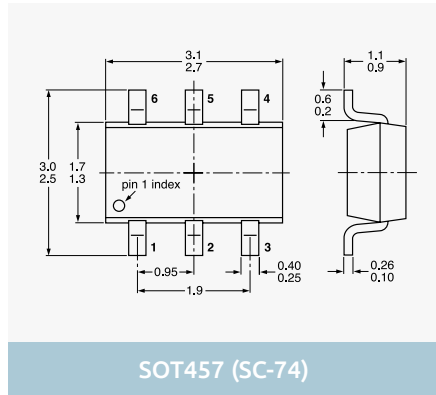
6-pin SMD packages



Dimensions in mm

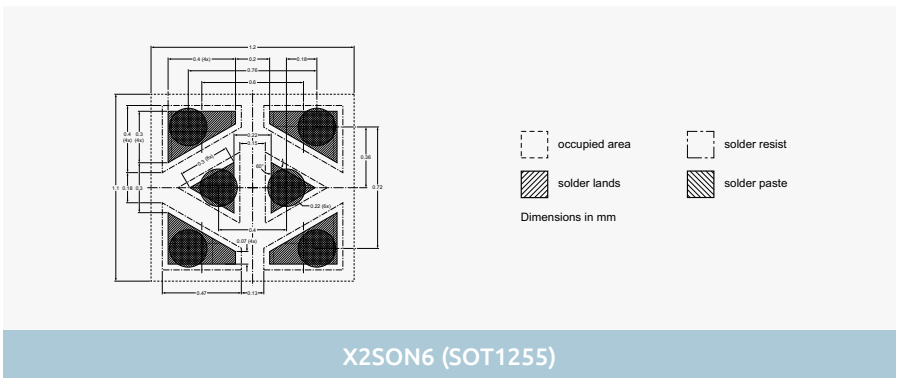
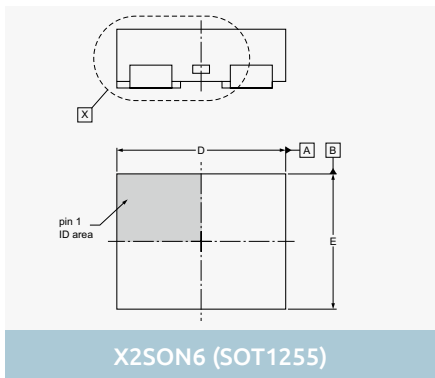
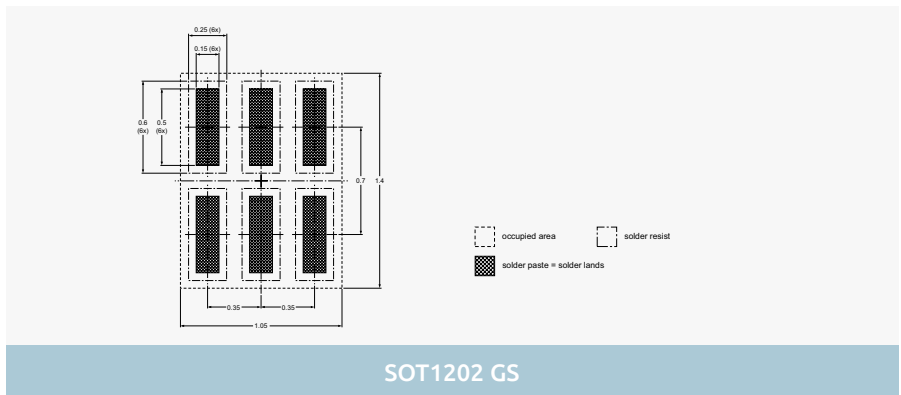
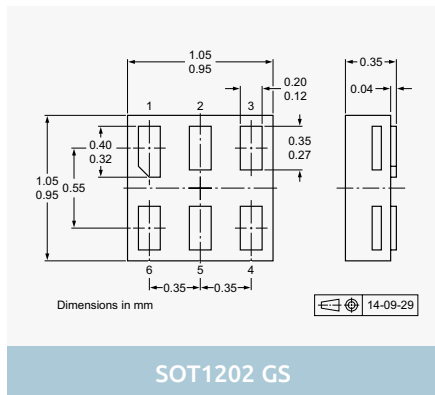
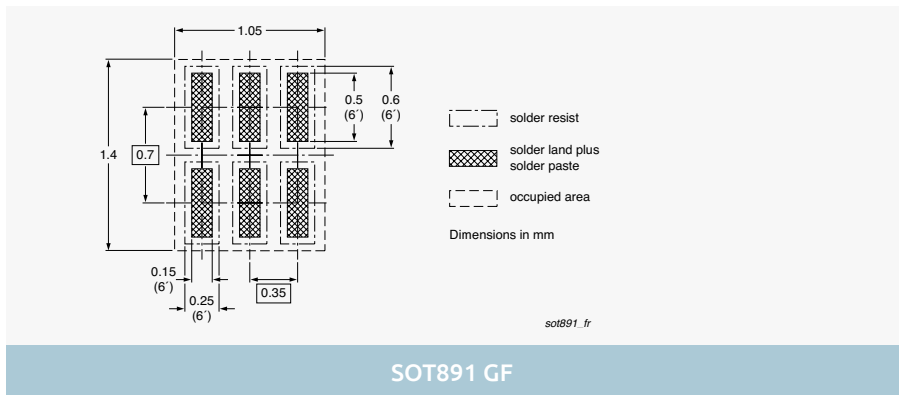
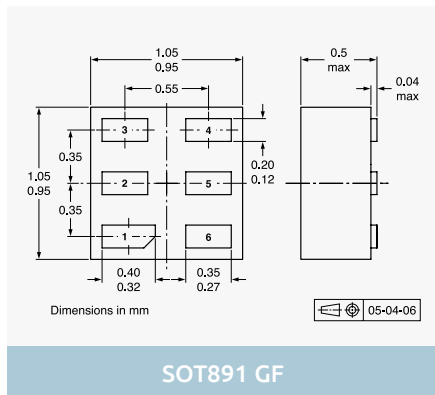
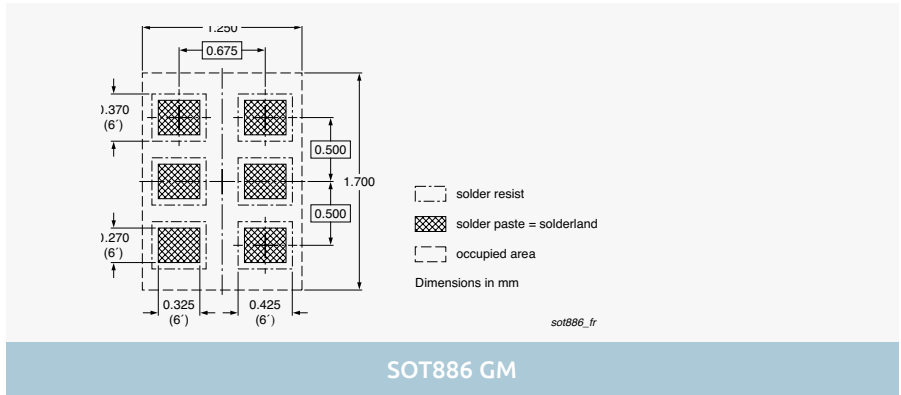
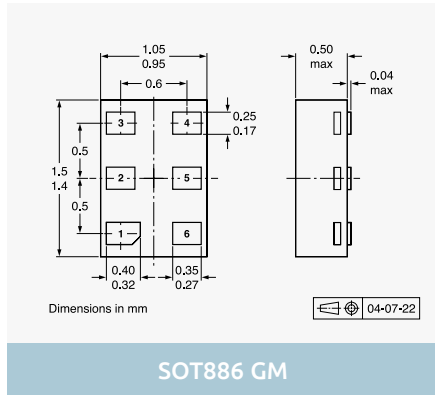


6-pin SMD packages



Dimensions in mm

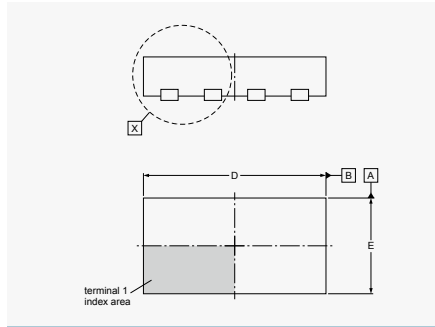
6-pin SMD packages



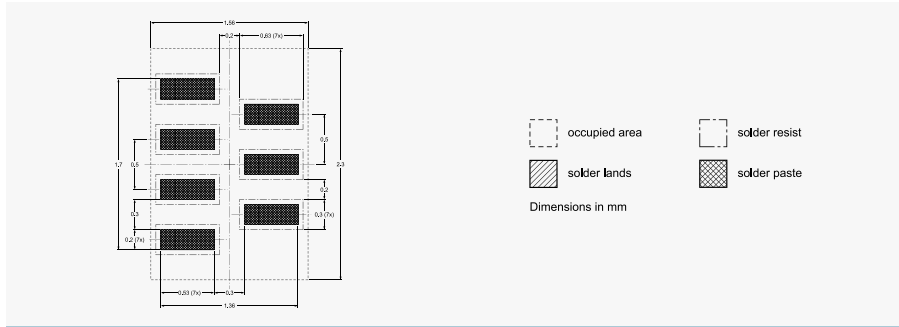
Dimensions in mm

# Minimized outline drawings and reflow soldering footprint

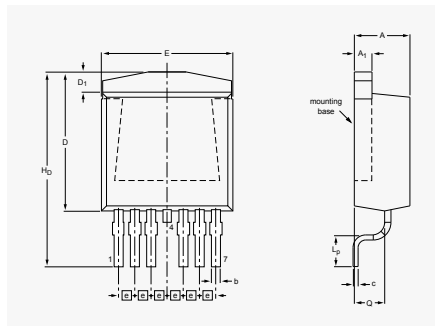
## 7-pin SMD packages



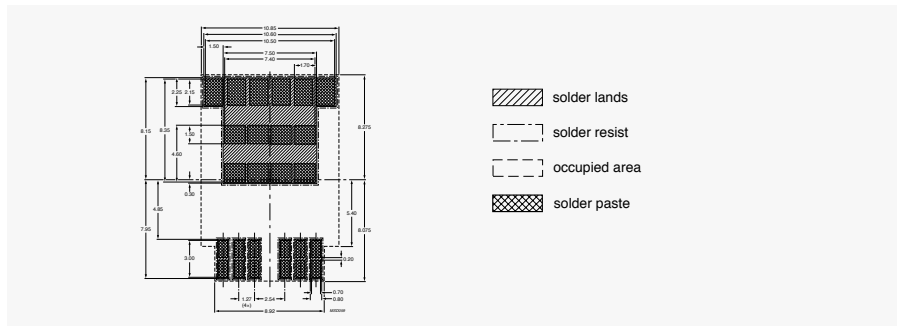
DFN2111-7 (SOT1358)



DFN2111-7 (SOT1358)

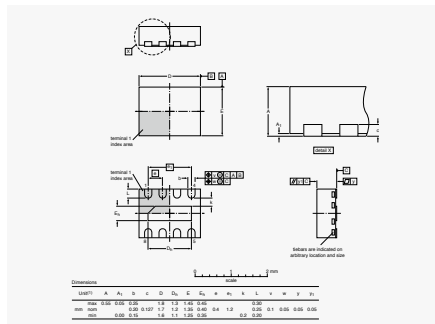


D2PAK-7 (SOT428)

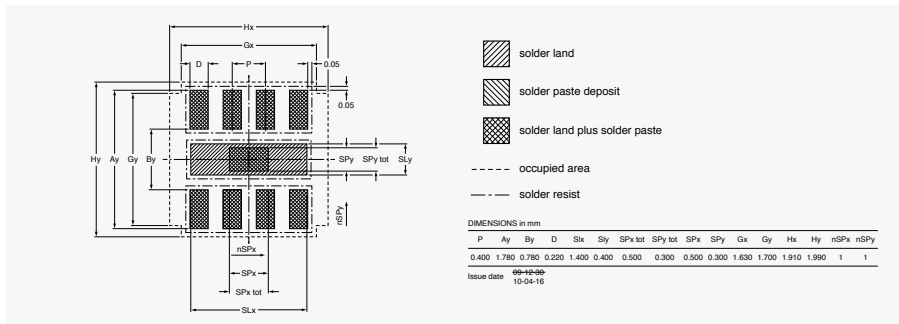


D2PAK-7 (SOT428)

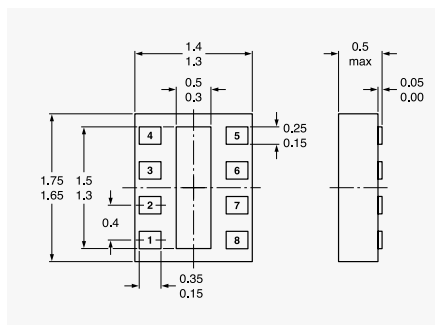
## 8-pin SMD packages



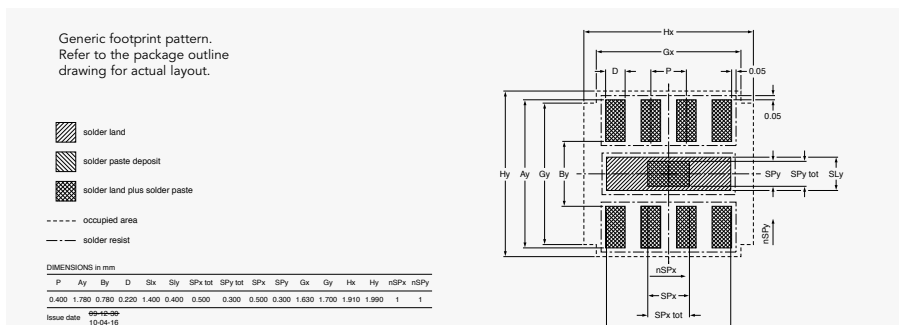
DFN1714-8 (SOT1166)



DFN1714-8 (SOT1166)



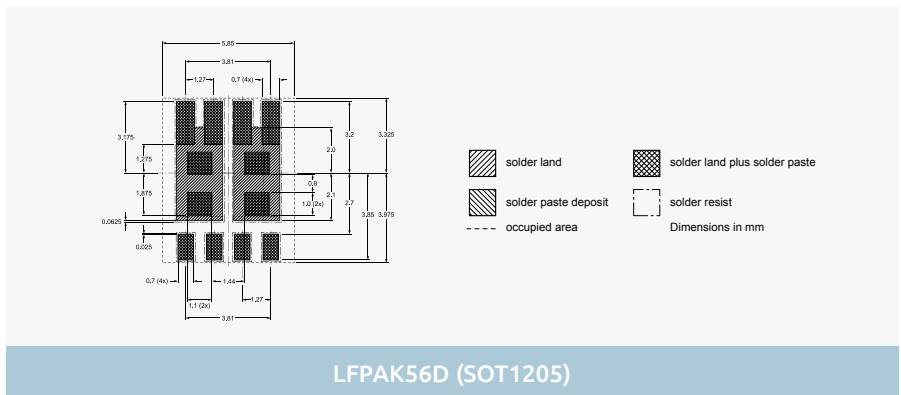
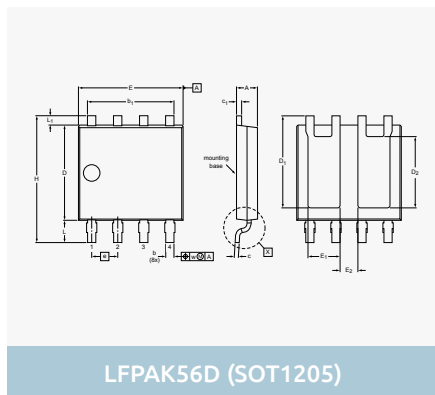
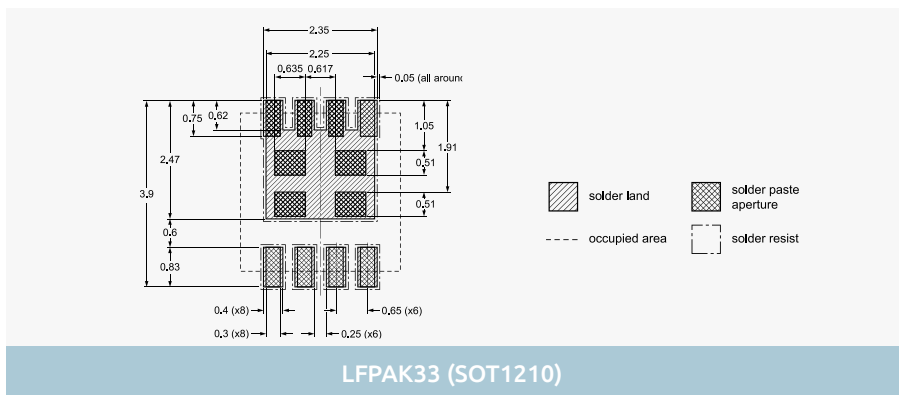
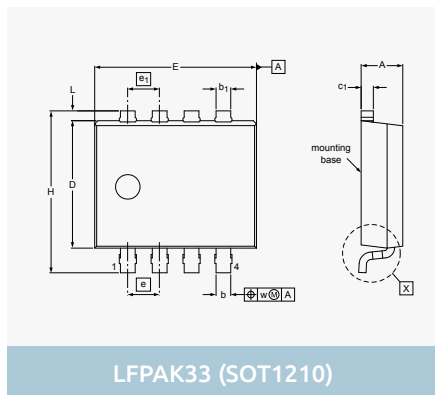
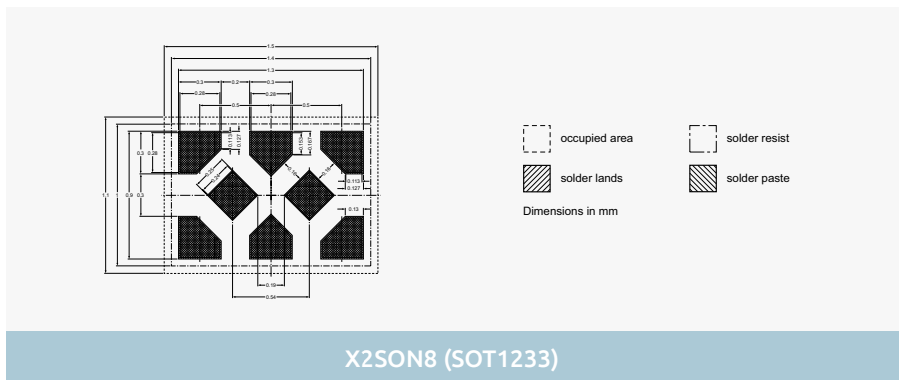
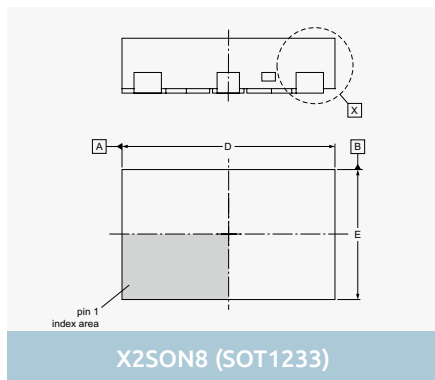
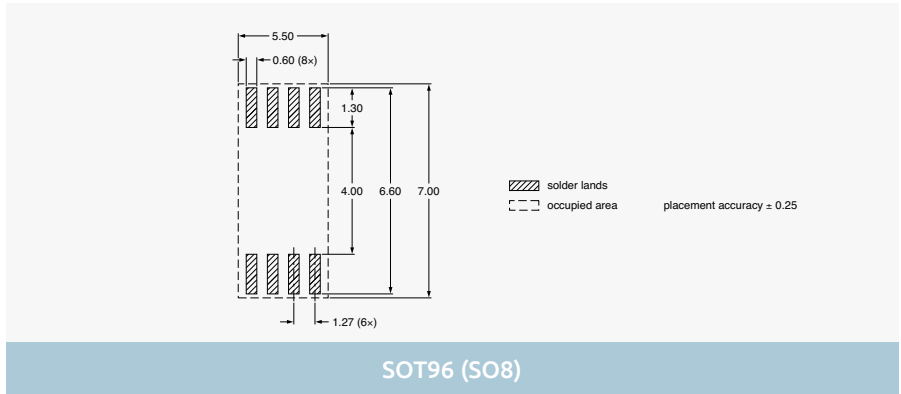
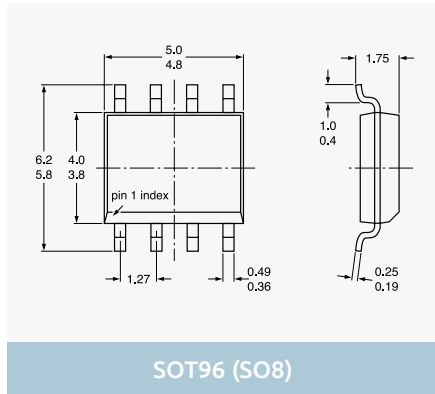
DFN1714U-8 (SOT983)



DFN1714U-8 (SOT983)

Dimensions in mm

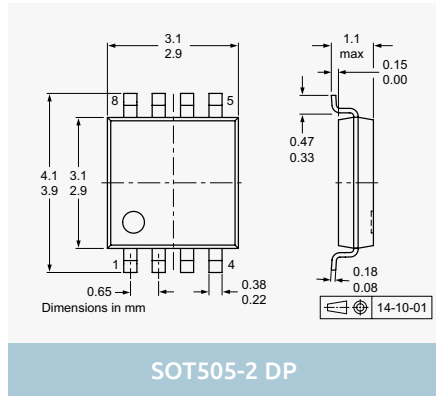
8-pin SMD packages



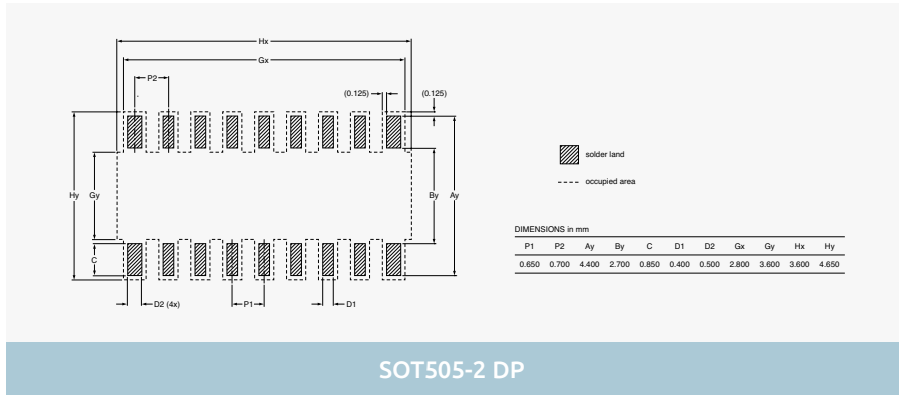
Dimensions in mm



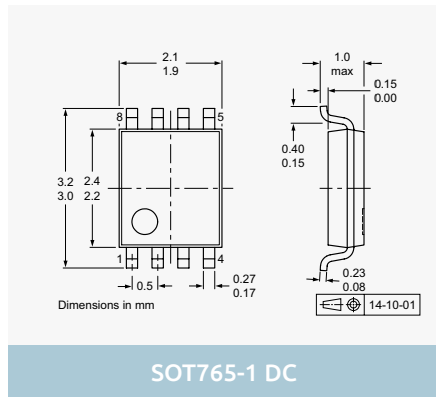
8-pin SMD packages



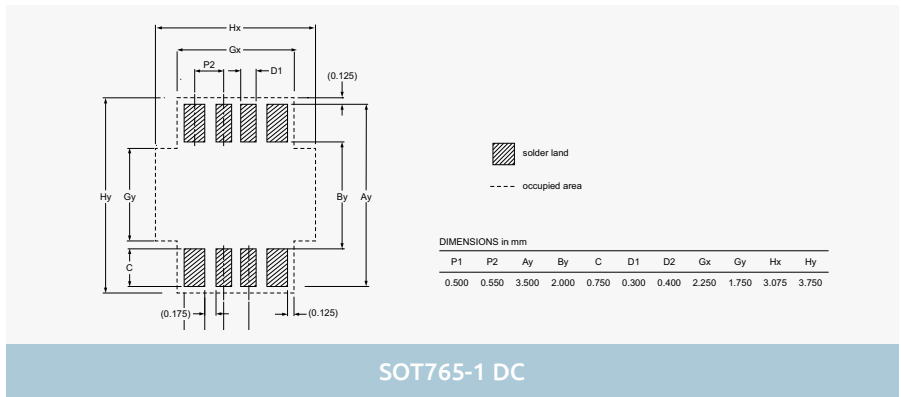
SOT505-2 DP



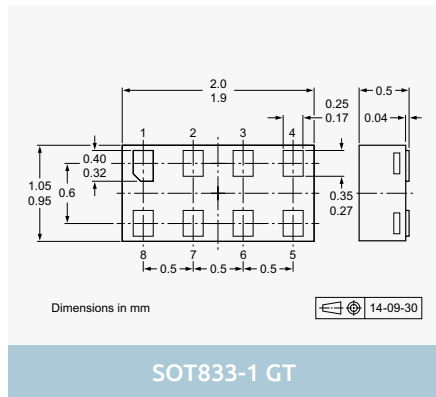
SOT505-2 DP



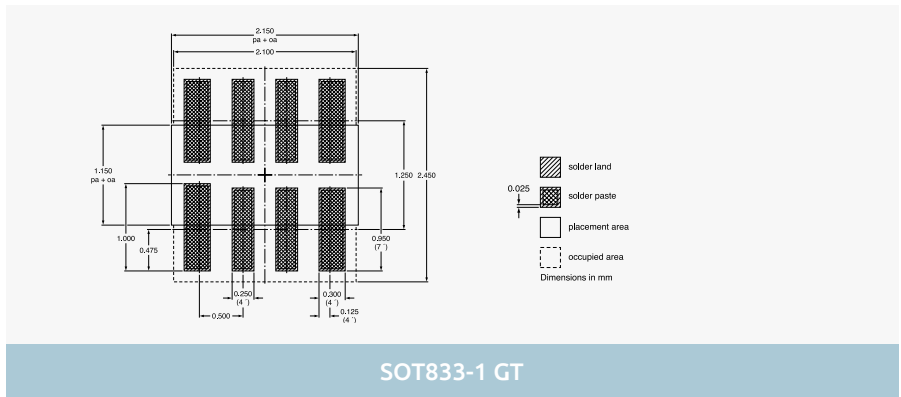
SOT765-1 DC



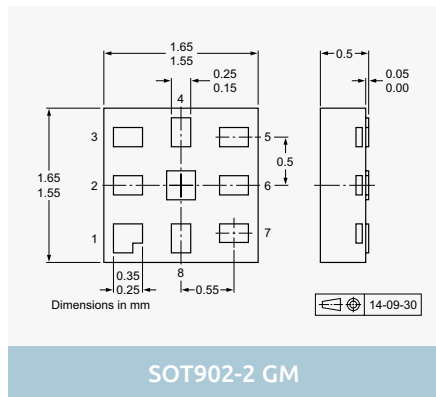
SOT765-1 DC



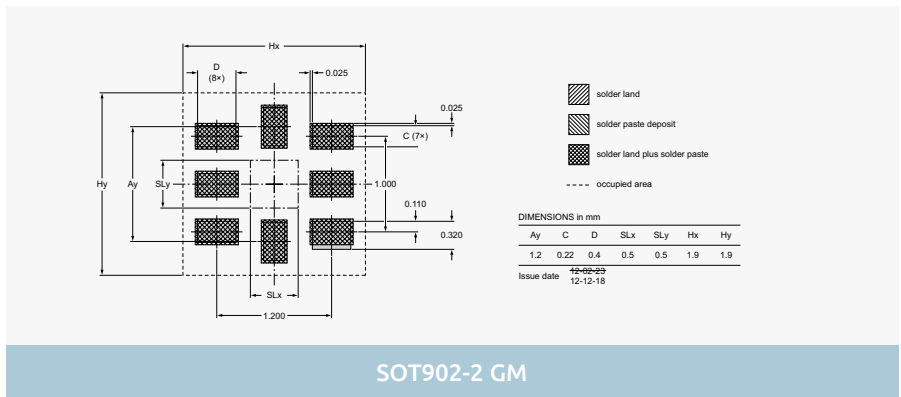
SOT833-1 GT



SOT833-1 GT



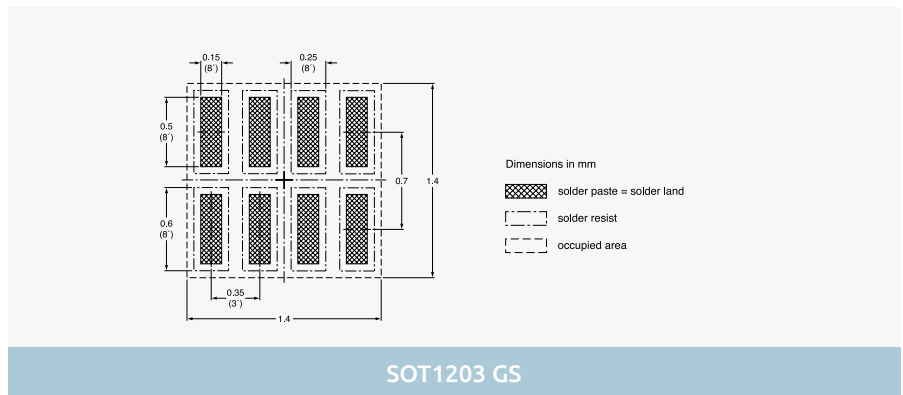
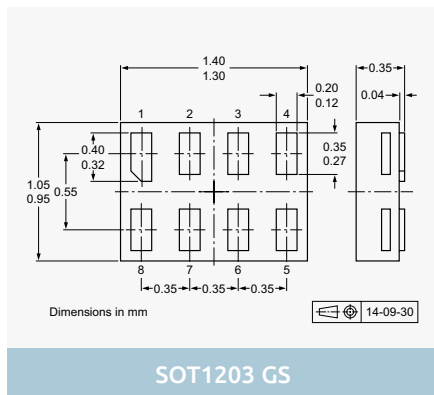
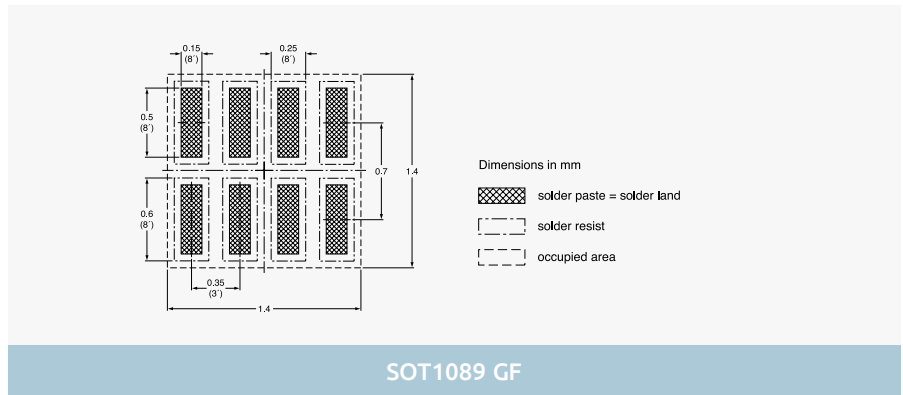
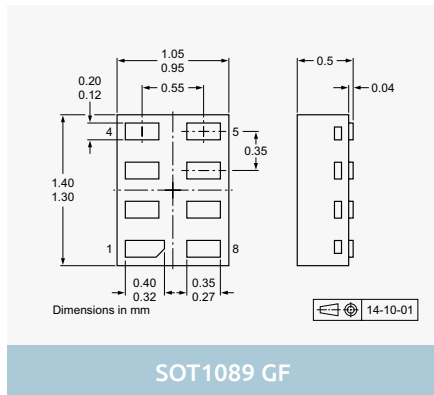
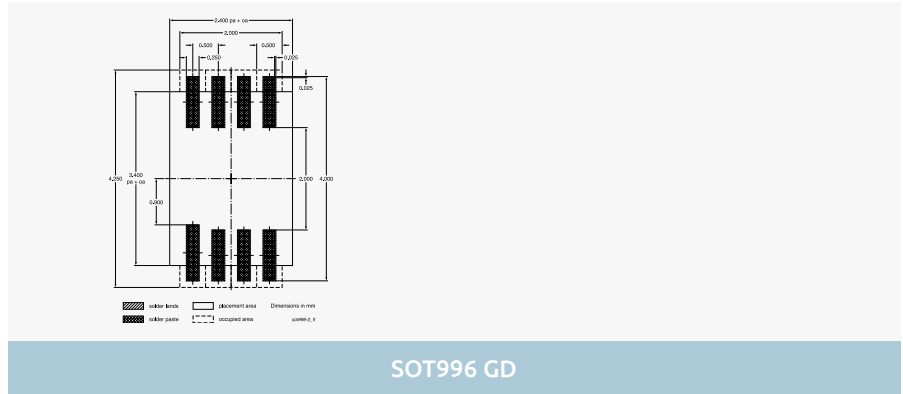
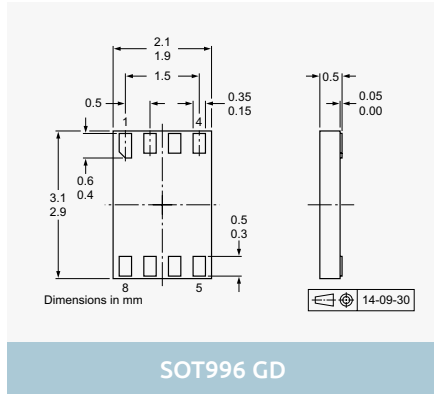
SOT902-2 GM



SOT902-2 GM

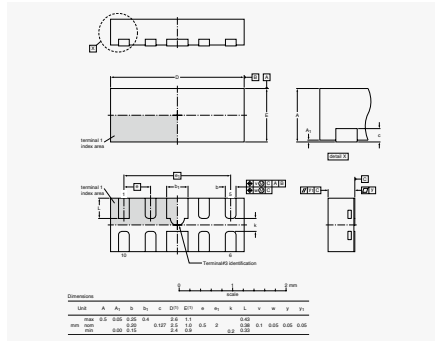
Dimensions in mm

## 8-pin SMD packages

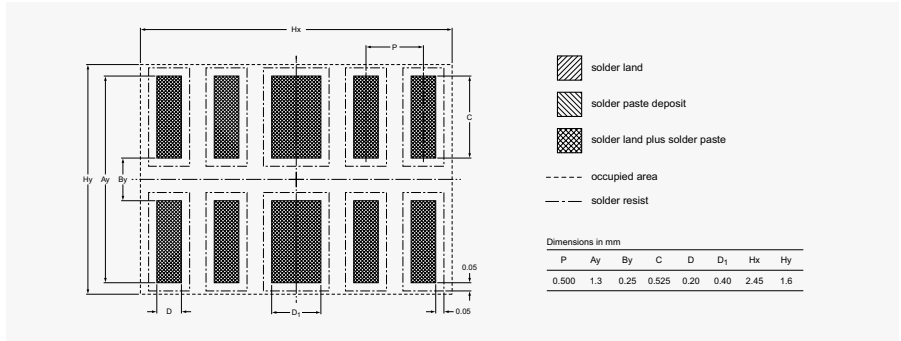


Dimensions in mm

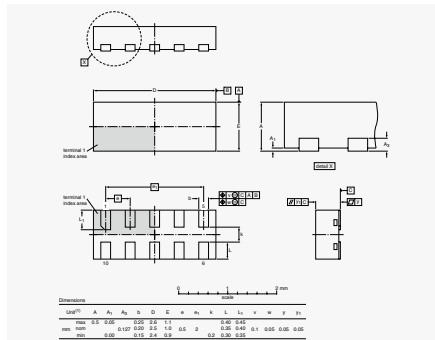
More than 8-pin SMD packages



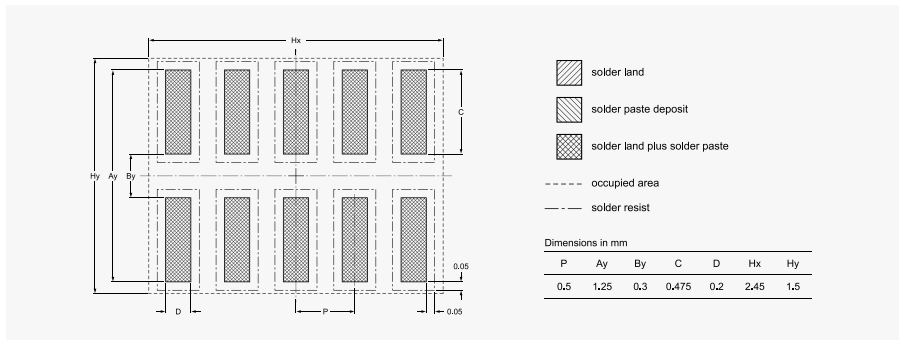
DFN2510-10 (SOT1165)



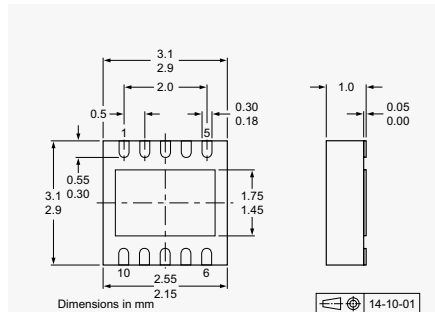
DFN2510-10 (SOT1165)



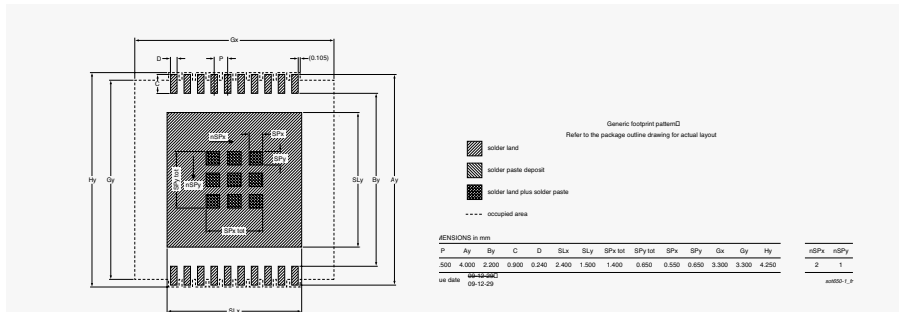
DFN2510A-10 (SOT1176)



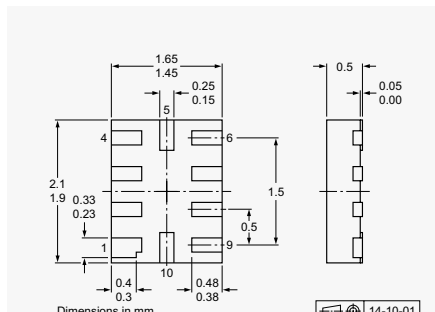
DFN2510A-10 (SOT1176)



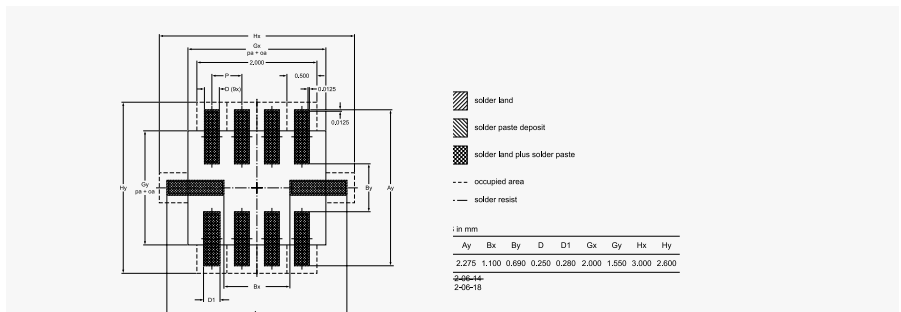
SOT650-1 TK



SOT650-1 TK



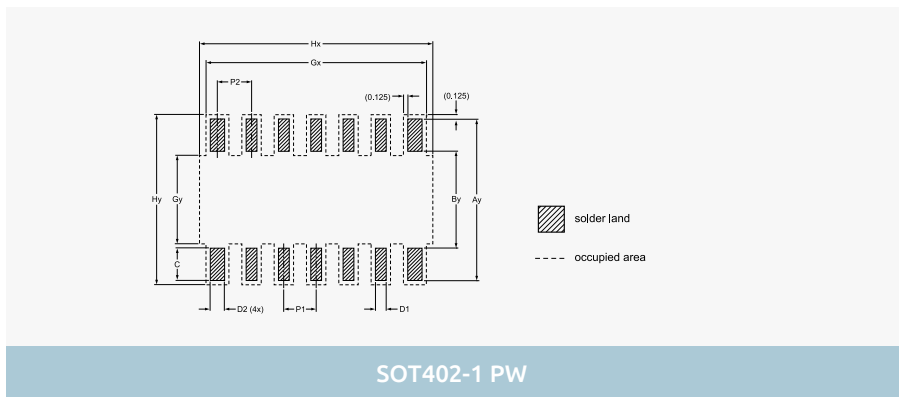
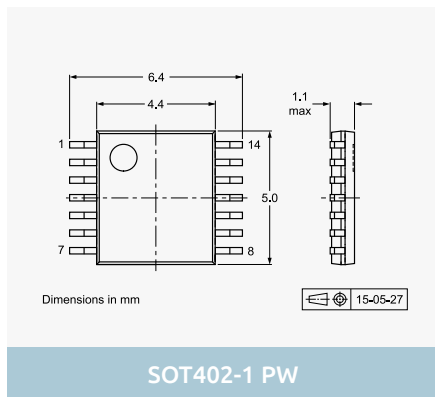
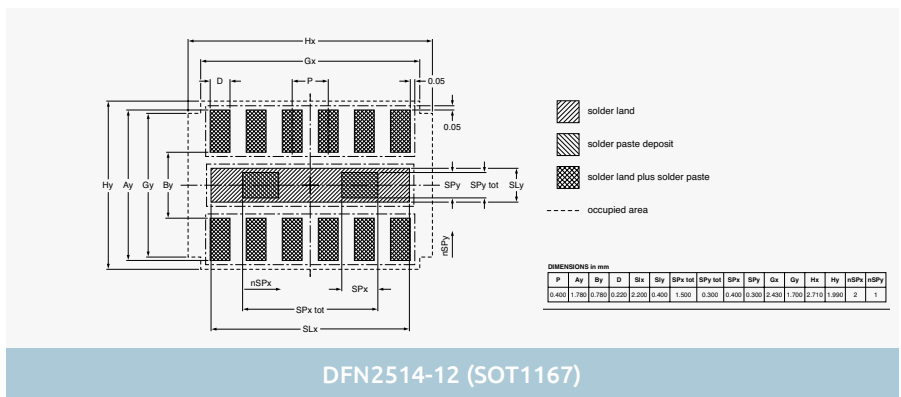
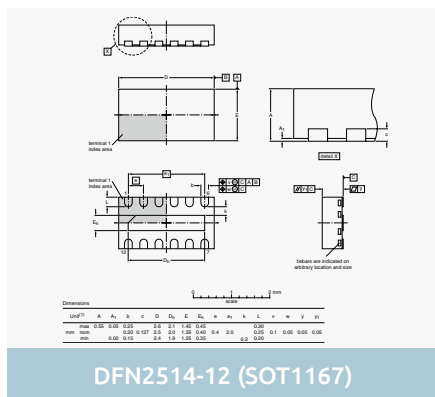
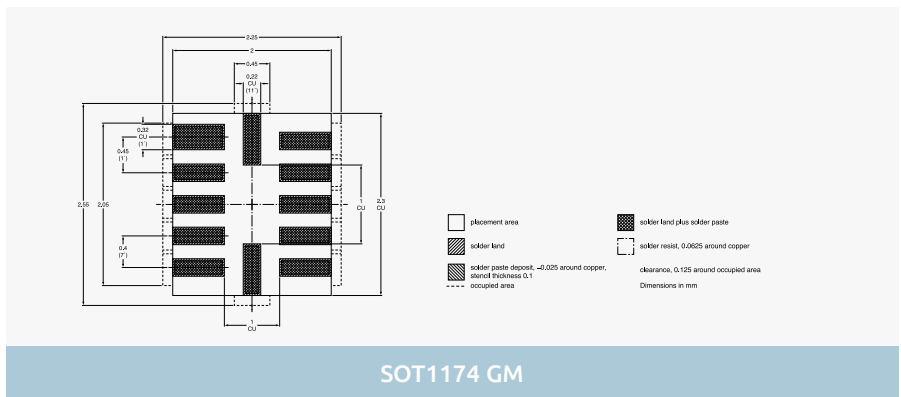
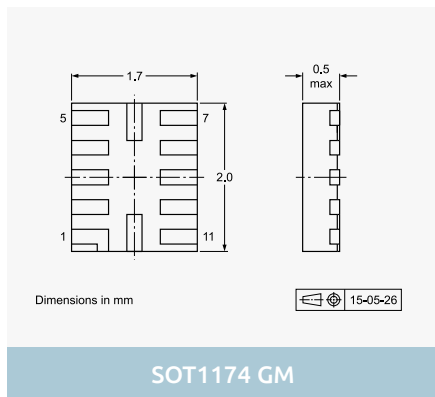
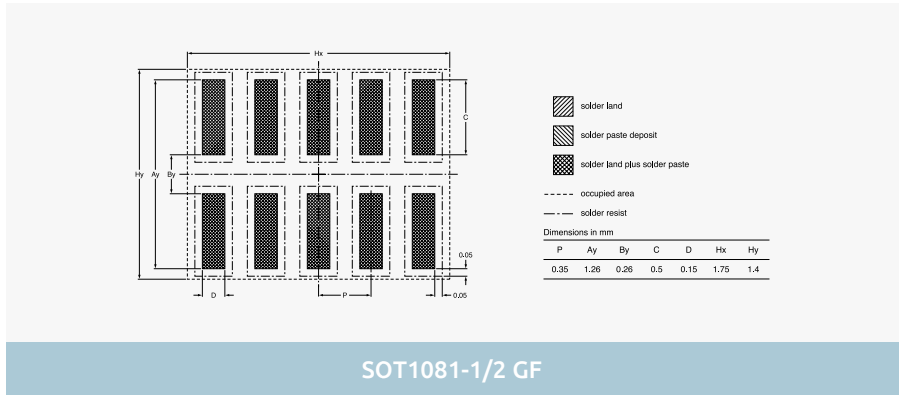
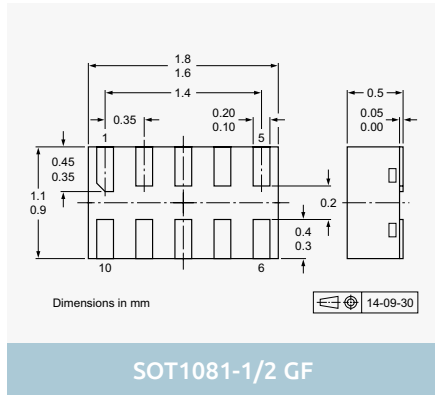
SOT1049-3 GM



SOT1049-3 GM

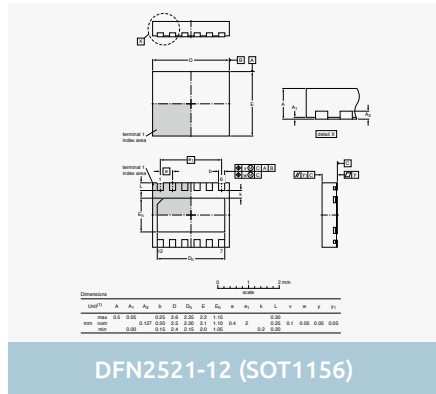
Dimensions in mm

More than 8-pin SMD packages

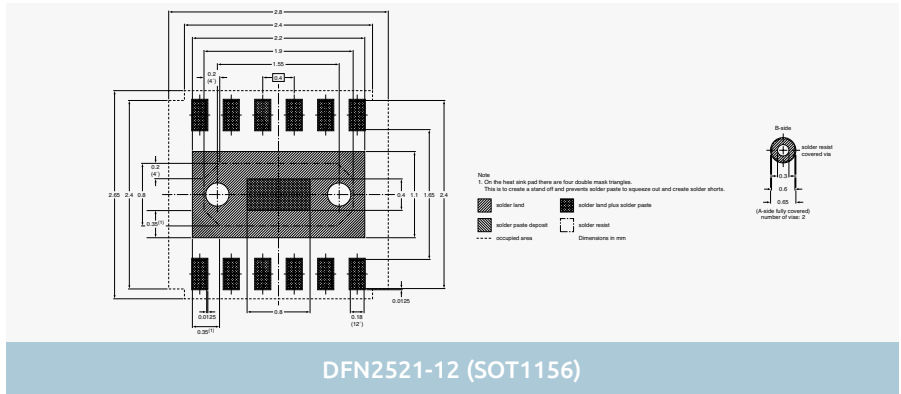


Dimensions in mm

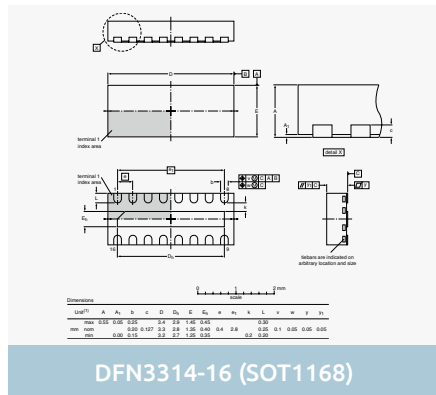
More than 8-pin SMD packages



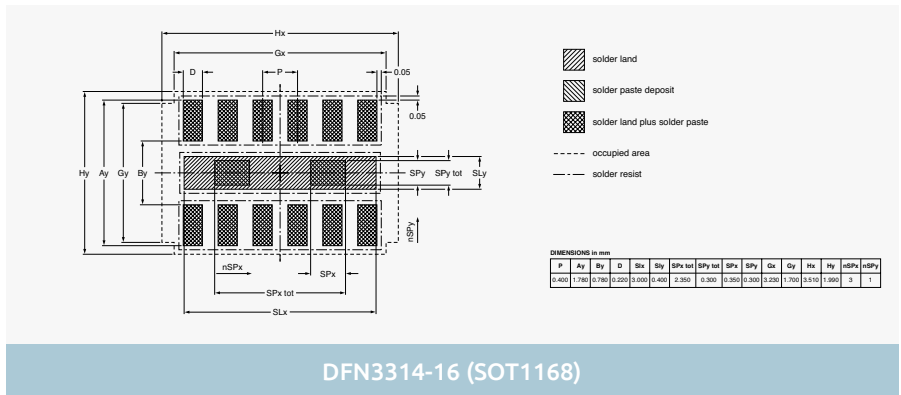
DFN2521-12 (SOT1156)



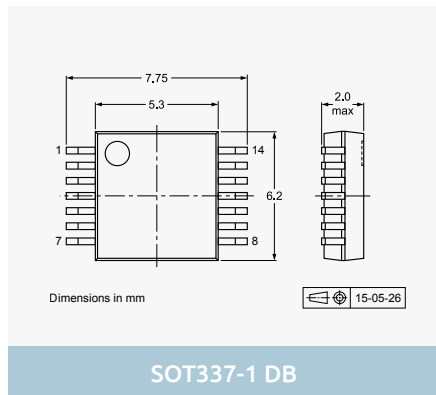
DFN2521-12 (SOT1156)



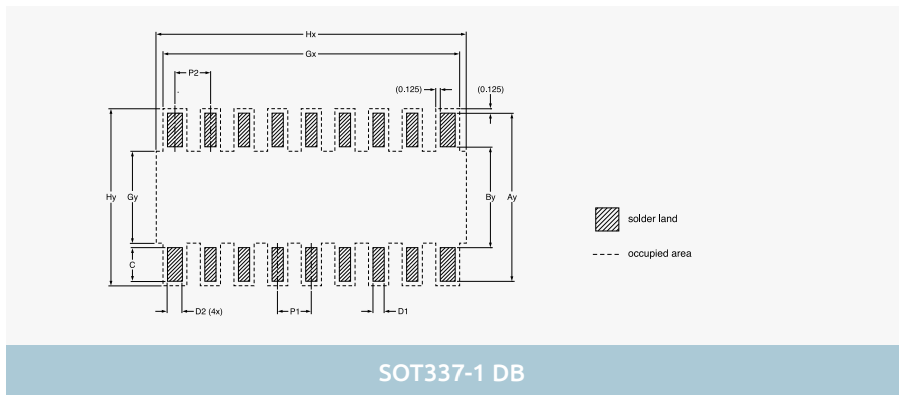
DFN3314-16 (SOT1168)



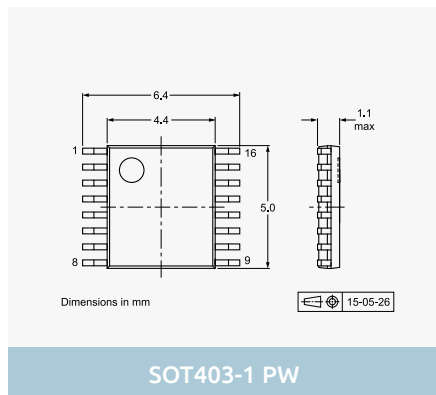
DFN3314-16 (SOT1168)



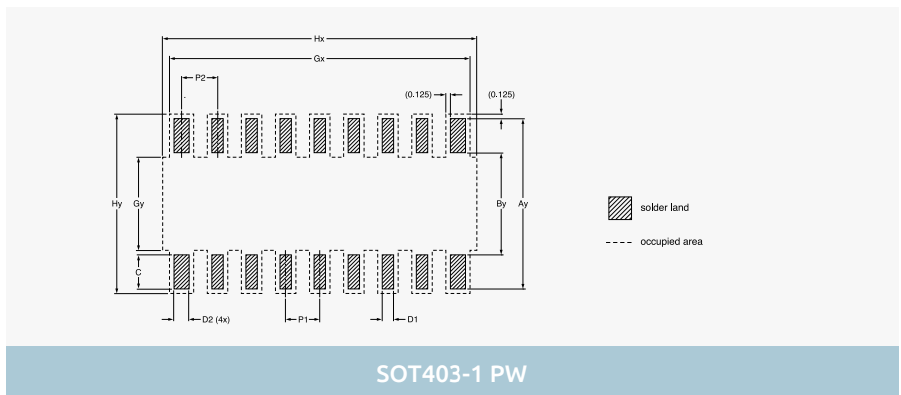
SOT337-1 DB



SOT337-1 DB



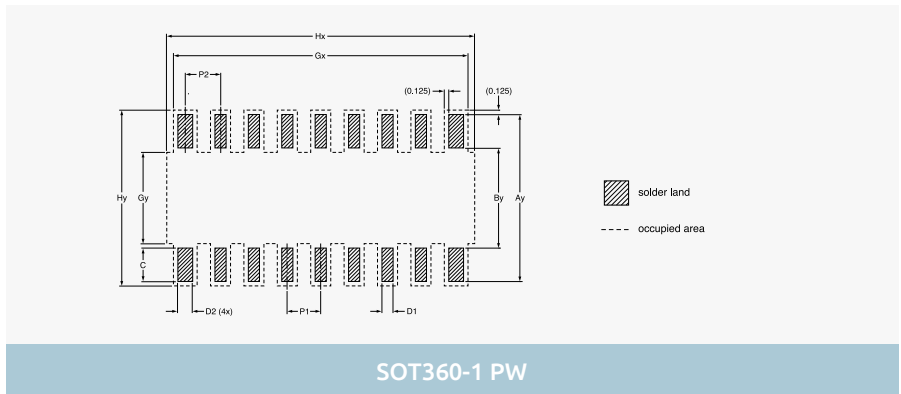
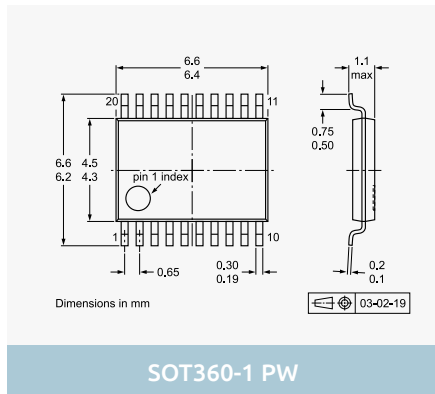
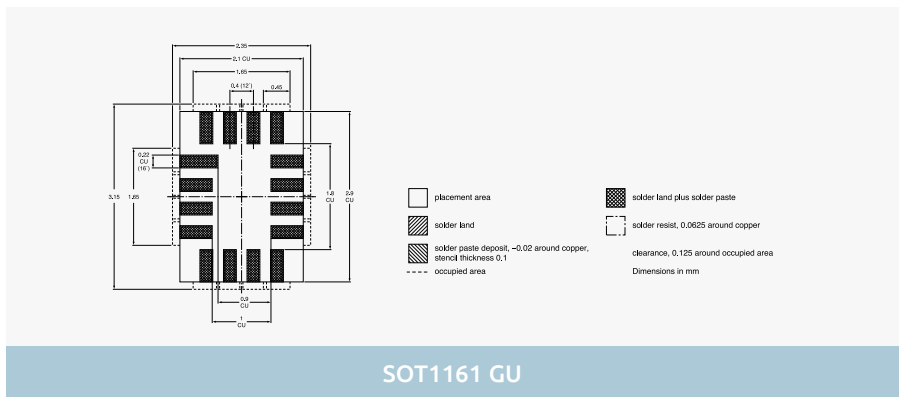
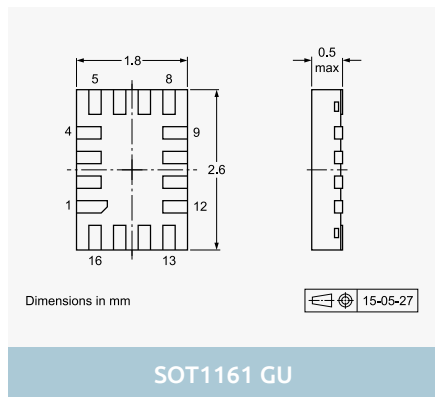
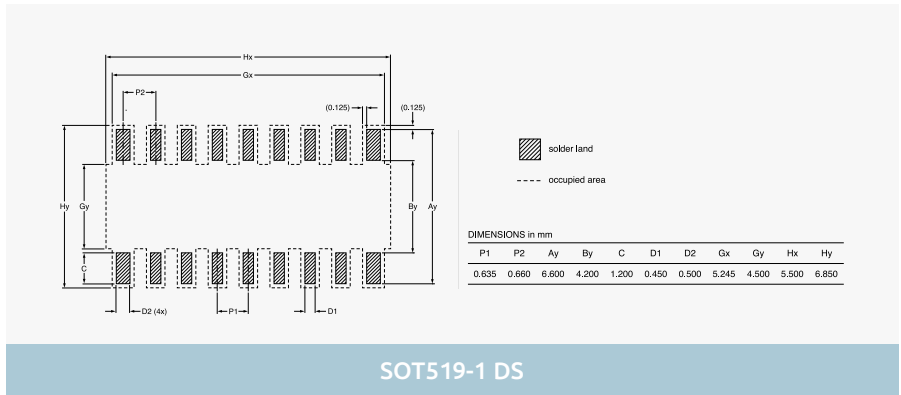
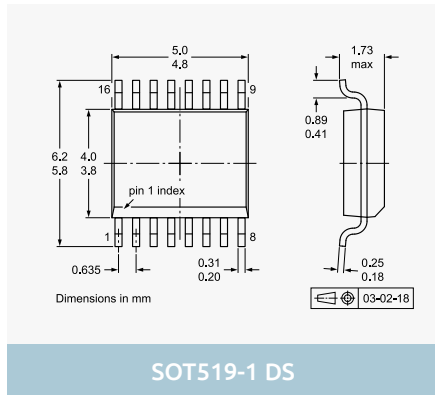
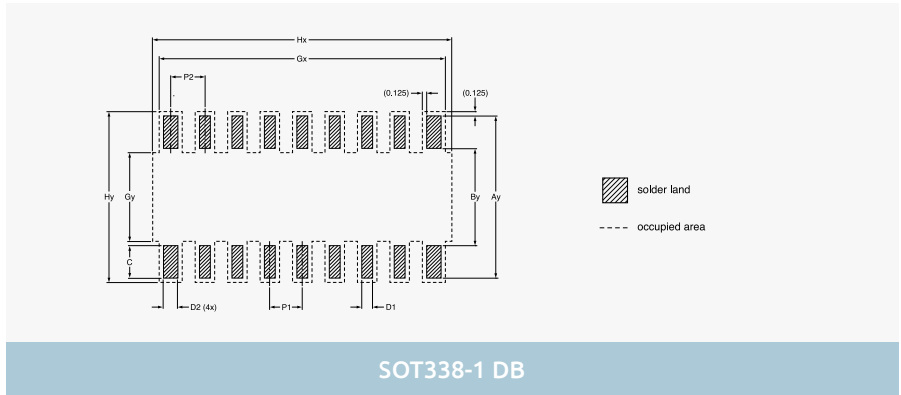
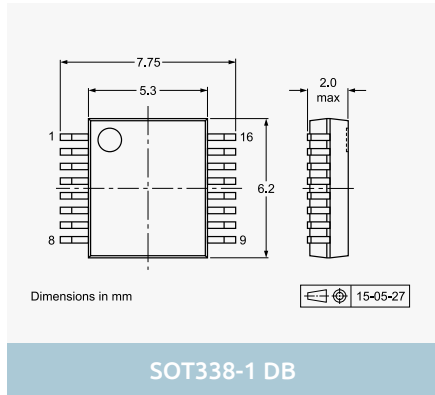
SOT403-1 PW



SOT403-1 PW

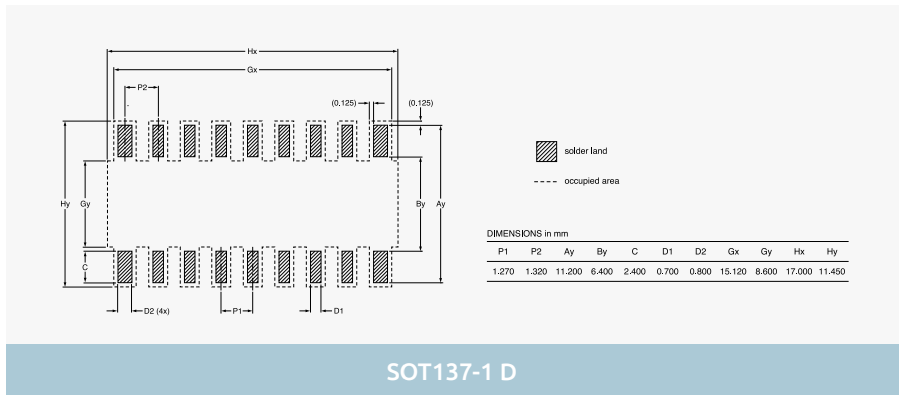
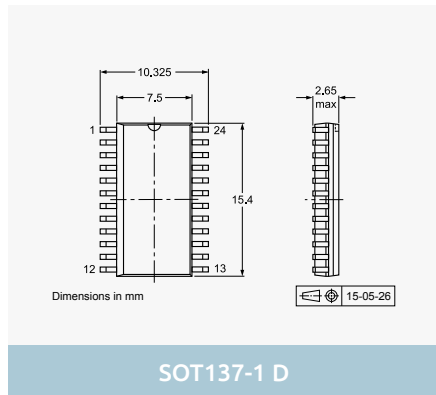
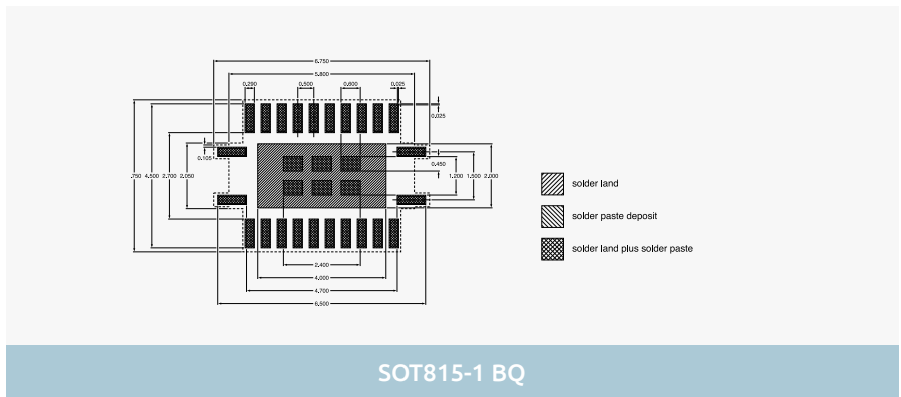
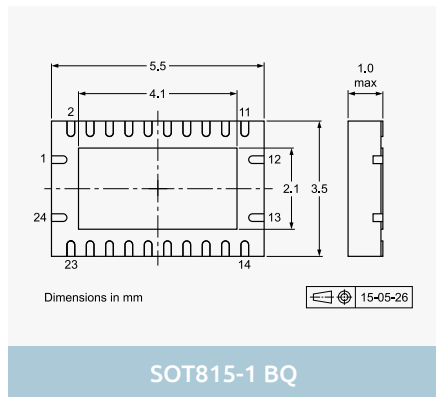
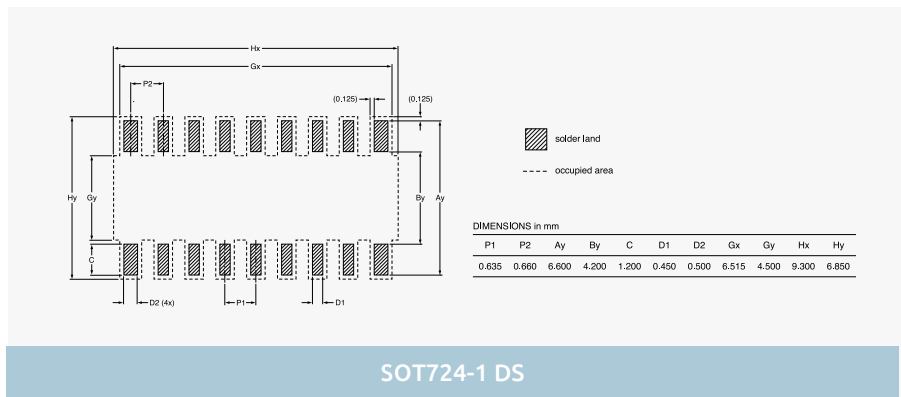
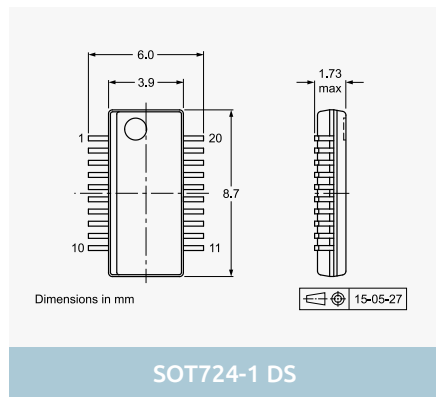
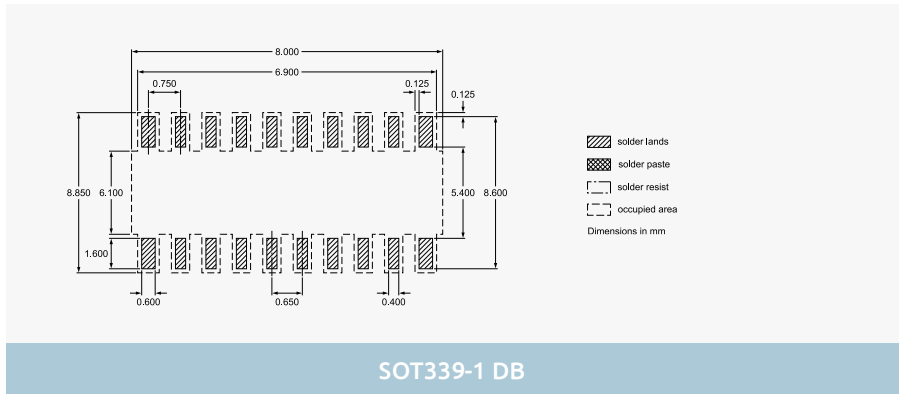
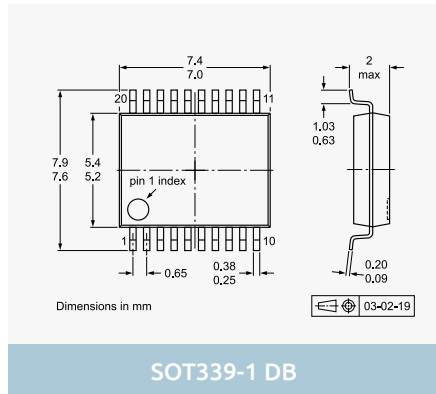
Dimensions in mm

More than 8-pin SMD packages



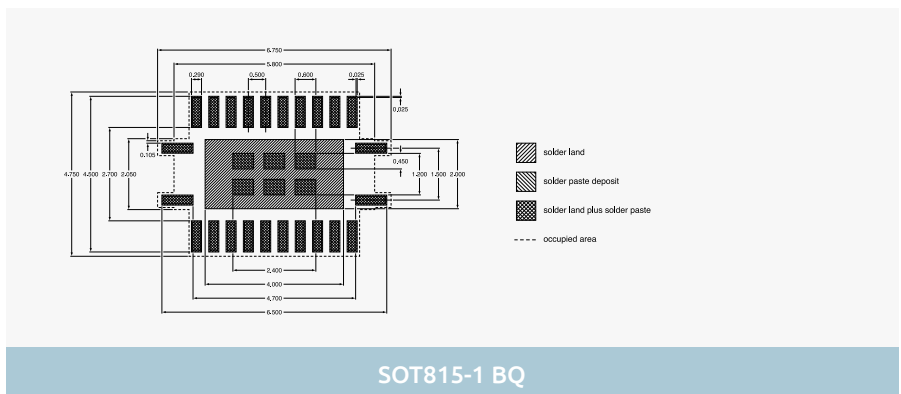
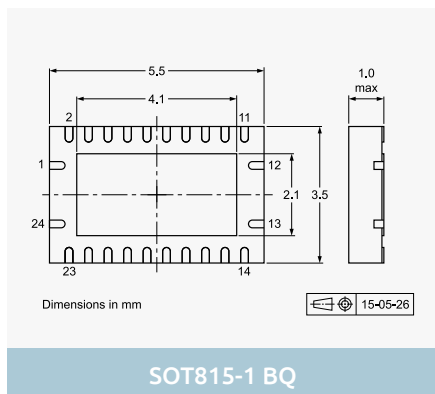
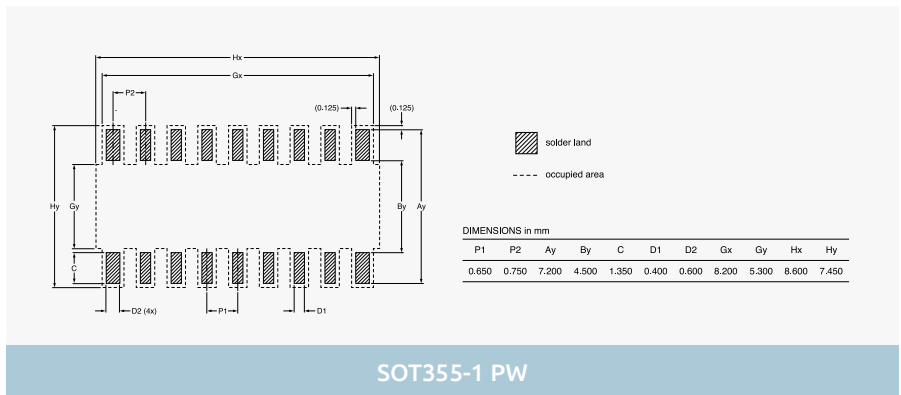
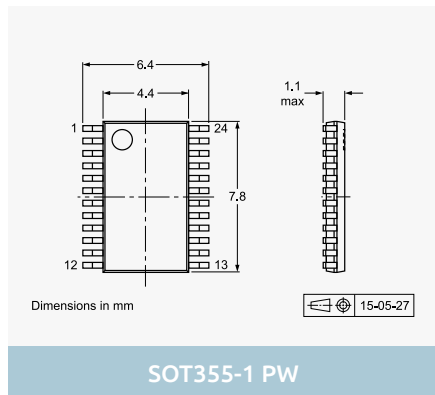
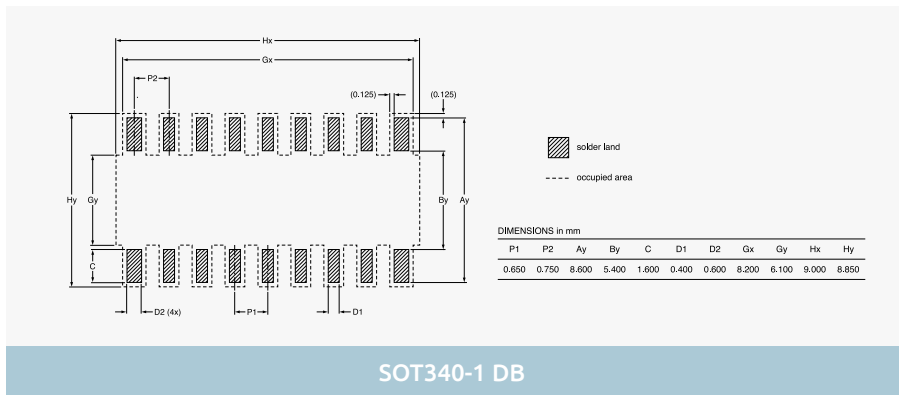
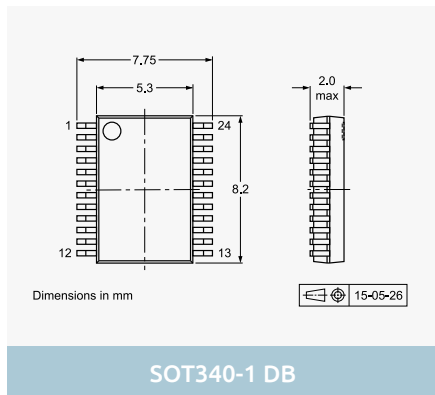
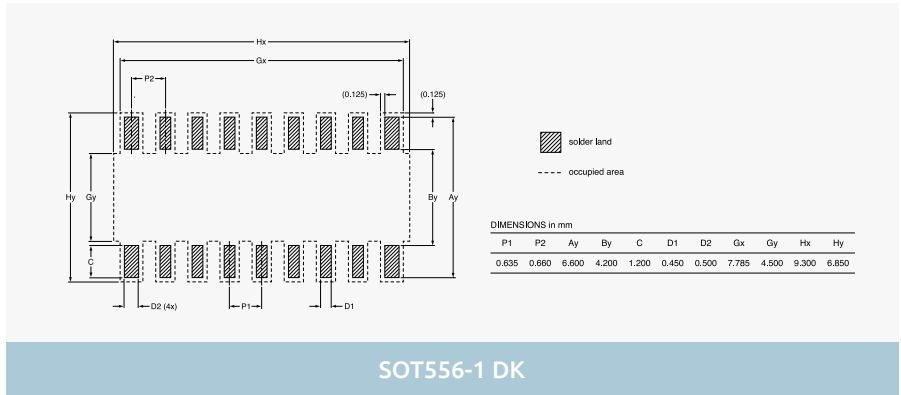
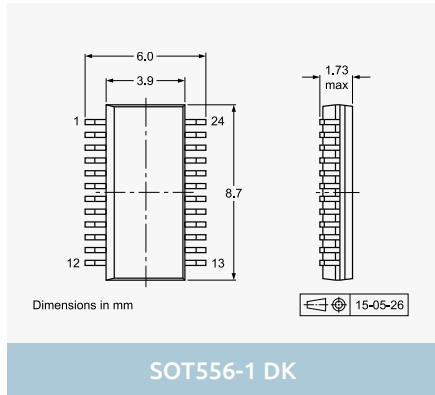
Dimensions in mm

More than 8-pin SMD packages



Dimensions in mm

More than 8-pin SMD packages

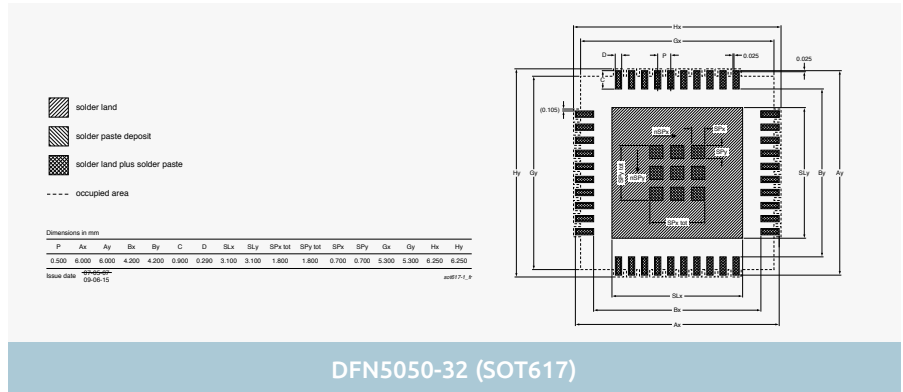
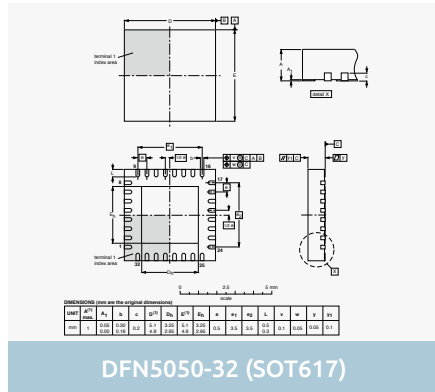


Dimensions in mm

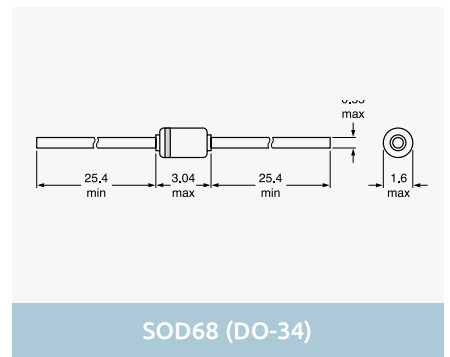
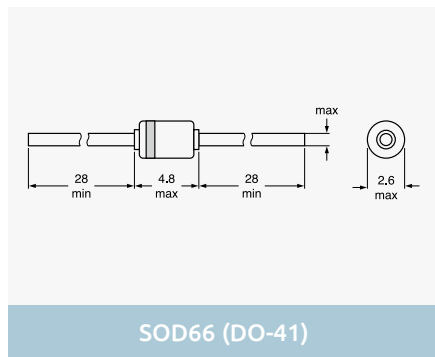
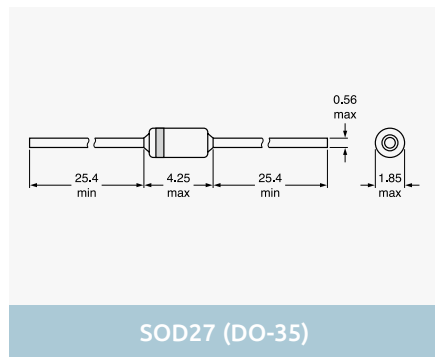


## Minimized outline drawings and reflow soldering footprint

### More than 8-pin SMD packages



### Glass diodes



## Single-ended and through-hole packages

**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub>	b	b <sub>1</sub> <sup>(2)</sup>	b <sub>2</sub> <sup>(2)</sup>	c	D	D <sub>1</sub>	E	e	L	L <sub>1</sub> <sup>(1)</sup>	L <sub>2</sub> <sup>(1)</sup> max.	p	q	Q
mm	4.7	1.40	0.9	1.6	1.3	0.7	16.0	6.6	10.3	2.54	15.0	3.30	3.0	3.8	3.0	2.6
	4.1	1.25	0.6	1.0	1.0	0.4	15.2	5.9	9.7		12.8	2.79		3.5	2.7	2.2

**Notes**  
 1. Lead shoulder designs may vary.  
 2. Dimension includes excess dambar.

0 5 10 mm  
scale

**SOT78 (TO220AB)**

**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub>	b	b <sub>1</sub>	c	D <sub>max</sub>	D <sub>1</sub>	E	e	L	L <sub>1</sub>	Q
mm	4.5	1.40	0.85	1.3	0.7	11	1.6	10.3	2.54	15.0	3.30	2.6
	4.1	1.27	0.60	1.0	0.4		1.2	9.7		13.5	2.79	2.2

0 5 10 mm  
scale

**SOT226**

Dimensions in mm

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