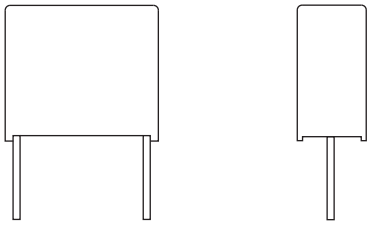
AC and Pulse Double Metallized Polypropylene Film Capacitors MMKP Radial Potted Type



FEATURES

- 7.5 mm to 37.5 mm lead pitch
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free
RoHS COMPLIANT
HALOGEN FREE
GREEN (5-2008)

APPLICATIONS

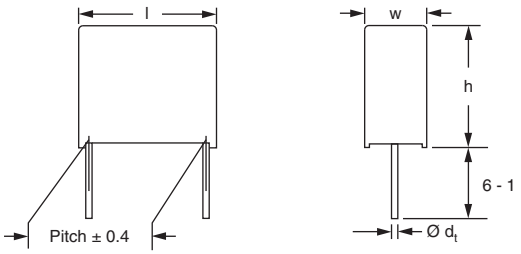
- High voltage, high current and high pulse operations
- Protection circuits in SMPS's, snubber and electronic ballast circuits

QUICK REFERENCE DATA	
Rated DC voltage	250 V_{DC}; 400 V_{DC}; 630 V_{DC}; 1000 V_{DC}; 1600 V_{DC}; 2000 V_{DC}
Rated AC voltage	160 V_{AC}; 220 V_{AC}; 250 V_{AC}; 400 V_{AC}; 600 V_{AC}; 650 V_{AC}; 700 V_{AC}
Capacitance range	470 pF to 6.8 µF
Capacitance tolerance	± 5 %
Climatic testing class acc. to EN 60068-1	55/100/56
Maximum application temperature	100 °C
Reference standards	IEC 60384-16
Dielectric	Polypropylene film
Electrodes	Metallized
Construction	Internal series construction
Encapsulation	Plastic case, epoxy resin sealed, flame retardant, UL-class 94 V-0
Leads	Tinned wire
Marking	C-value; tolerance; rated voltage; manufacturer's type; code for dielectric material; manufacturer location; manufacturer's logo; year and week

Note

- For more detailed data and test requirements, contact dc-film@vishay.com

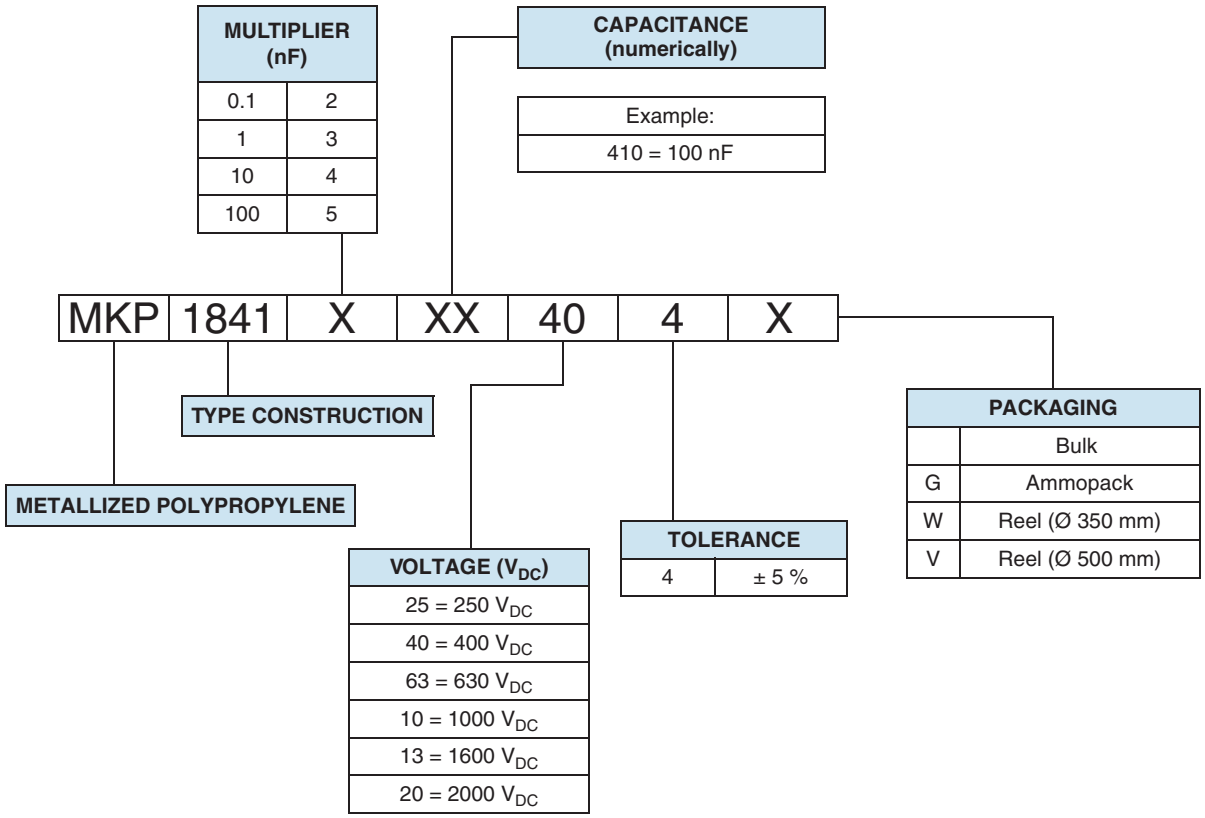
DIMENSIONS in millimeters



PITCH	w	Ø d_t
7.5	-	0.5 ± 0.05
10	-	0.6 ± 0.06
15	≤ 6	0.6 ± 0.06
15	> 6	0.8 ± 0.08
22.5 to 27.5	-	0.8 ± 0.08
37.5	< 16.0	0.8 ± 0.08
37.5	≥ 16.0	1.0 ± 0.1

For technical questions, contact: dc-film@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

COMPOSITION OF CATALOG NUMBER



Note

- For detailed tape specifications refer to "Packaging Information" www.vishay.com/doc?28139 or end of catalog

SPECIFIC REFERENCE DATA							
DESCRIPTION					**VALUE**		
Tangent of loss angle:					at 1 kHz	at 10 kHz	at 100 kHz
C ≤ 0.1 µF					≤ 5 x 10^{-4}	≤ 10 x 10^{-4}	≤ 15 x 10^{-4}
0.1 µF < C ≤ 1.0 µF					≤ 5 x 10^{-4}	≤ 10 x 10^{-4}	-
C > 1.0 µF					≤ 5 x 10^{-4}	-	-
PITCH (mm)	**MAXIMUM PULSE RISE TIME $(dU/dt)_R$ [V/µs]**						
	160 V_{DC}	**250 V_{DC}**	**400 V_{DC}**	**630 V_{DC}**	**1000 V_{DC}**	**1600 V_{DC}**	**2000 V_{DC}**
7.5	1800	2200	3600	4500	-	-	-
10	820	1140	1840	2280	-	-	-
15	410	560	910	3430	6600	11 100	20 300
22.5	260	320	520	2120	2800	3800	6200
27.5	202	240	400	1524	2000	2680	4200
37.5	140	170	280	980	1280	1690	2600
R between leads, for C ≤ 0.33 µF at 100 V; 1 min						> 100 000 MΩ	
R between leads and case: 100 V; 1 min						> 30 000 MΩ	
Withstanding (DC) voltage between leads and case						2840 V; 1 min	
Withstanding (DC) voltage (cut off current 10 mA) (1); rise time ≤ 1000 V/s						1.6 x U_{RDC}, 1 min	
Maximum application temperature						100 °C	

Note

(1) See "Voltage Proof Test for Metalized Film Capacitors": www.vishay.com/doc?28169

For technical questions, contact: dc-film@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

ELECTRICAL DATA

U_{RDC} (V)	CAP. (µF)	CAPACITANCE CODE	VOLTAGE CODE	V_{AC}	DIMENSIONS (w x h x l)	PCM
160	0.010	310	16	100	4.5 x 9.5 x 10.0	7.5
	0.015	315			4.5 x 9.5 x 10.0	7.5
	0.022	322			4.0 x 10.0 x 12.5	10
	0.033	333			4.0 x 10.0 x 12.5	10
	0.047	347			5.0 x 11.0 x 12.5	10
	0.068	368			6.0 x 12.0 x 12.5	10
	0.10	410			5.0 x 11.0 x 17.5	15
	0.15	415			6.0 x 12.0 x 17.5	15
	0.22	422			7.0 x 13.5 x 17.5	15
	0.33	433			8.5 x 15.0 x 17.5	15
	0.47	447			8.5 x 18.0 x 26.0	22.5
	0.68	468			10.0 x 19.5 x 26.0	22.5
	1.0	510			12.0 x 22.0 x 26.0	22.5
	1.5	515			13.0 x 23.0 x 31.5	27.5
	2.2	522			18.0 x 28.0 x 31.5	27.5
	3.3	533			21.0 x 31.0 x 31.0	27.5
	4.7	547			30.0 x 45.0 x 42.0	37.5
250	0.0068	268	25	160	4.0 x 9.0 x 10.0	7.5
	0.010	310			4.5 x 9.5 x 10.0	7.5
	0.015	315			4.5 x 9.5 x 10.0	7.5
	0.022	322			4.0 x 10.0 x 12.5	10
	0.033	333			4.0 x 10.0 x 12.5	10
	0.047	347			5.0 x 11.0 x 12.5	10
	0.068	368			5.0 x 11.0 x 17.5	15
	0.10	410			5.0 x 11.0 x 17.5	15
	0.15	415			6.0 x 12.0 x 17.5	15
	0.22	422			8.5 x 15.0 x 17.5	15
	0.33	433			7.0 x 16.5 x 26.0	22.5
	0.47	447			8.5 x 18.0 x 26.0	22.5
	0.68	468			10.0 x 19.5 x 26.0	22.5
	1.0	510			11.0 x 21.0 x 31.0	27.5
	1.5	515			13.0 x 23.0 x 31.0	27.5
	2.2	522			18.0 x 28.0 x 31.5	27.5
	3.3	533			21.0 x 31.0 x 31.0	27.5
	4.7	547			30.0 x 45.0 x 42.0	37.5
400	0.0047	247	40	220	4.5 x 9.5 x 10.0	7.5
	0.0068	268			5.0 x 10.5 x 10.0	7.5
	0.010	310			4.0 x 10.0 x 12.5	10
	0.015	315			4.0 x 10.0 x 12.5	10
	0.022	322			4.0 x 10.0 x 12.5	10
	0.033	333			5.0 x 11.0 x 17.5	15
	0.047	347			5.0 x 11.0 x 17.5	15
	0.068	368			6.0 x 12.0 x 17.5	15
	0.10	410			7.0 x 13.5 x 17.5	15
	0.15	415			7.0 x 16.5 x 26.0	22.5
	0.22	422			8.5 x 18.0 x 26.0	22.5
	0.33	433			12.0 x 22.0 x 26.0	22.5
	0.47	447			13.0 x 23.0 x 31.0	27.5
	0.68	468			15.0 x 25.0 x 31.5	27.5
	1.0	510			14.5 x 24.5 x 41.5	37.5
	1.5	515			16.0 x 28.5 x 41.5	37.5
	2.2	522			18.5 x 35.5 x 43.0	37.5

For technical questions, contact: dc-film@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

ELECTRICAL DATA

U_{RDC} (V)	CAP. (µF)	CAPACITANCE CODE	VOLTAGE CODE	V_{AC}	DIMENSIONS (w x h x l)	PCM
630	0.00047	147	63	250	3.0 x 8.5 x 10.0	7.5
	0.00068	168			3.0 x 8.5 x 10.0	7.5
	0.0010	210			3.0 x 8.5 x 10.0	7.5
	0.0015	215			3.0 x 8.5 x 10.0	7.5
	0.0022	222			3.0 x 8.5 x 10.0	7.5
	0.0033	233			4.0 x 9.0 x 10.0	7.5
630	0.0047	247	63	400	5.0 x 11.0 x 17.5	15
	0.0068	268			5.0 x 11.0 x 17.5	15
	0.010	310			5.0 x 11.0 x 17.5	15
	0.015	315			5.0 x 11.0 x 17.5	15
	0.022	322			6.0 x 12.0 x 17.5	15
	0.033	333			6.0 x 15.5 x 26.0	22.5
	0.047	347			6.0 x 15.5 x 26.0	22.5
	0.068	368			7.0 x 16.5 x 26.0	22.5
	0.10	410			9.0 x 19.0 x 31.0	27.5
	0.15	415			11.0 x 21.0 x 31.0	27.5
	0.22	422			12.5 x 22.5 x 41.5	37.5
	0.33	433			14.5 x 24.5 x 41.5	37.5
	0.47	447			14.5 x 24.5 x 41.5	37.5
	0.68	468			16.0 x 28.5 x 41.5	37.5
1000	0.0022	222	10	600	5.0 x 11.0 x 17.5	15
	0.0033	233			5.0 x 11.0 x 17.5	15
	0.0047	247			6.0 x 12.0 x 17.5	15
	0.0068	268			7.0 x 13.5 x 17.5	15
	0.010	310			6.0 x 15.5 x 26.0	22.5
	0.015	315			7.0 x 16.5 x 26.0	22.5
	0.022	322			8.5 x 18.0 x 26.0	22.5
	0.033	333			10.0 x 19.5 x 26.0	22.5
	0.047	347			11.0 x 21.0 x 31.0	27.5
	0.068	368			13.0 x 23.0 x 31.0	27.5
	0.10	410			15.0 x 25.0 x 31.5	27.5
	0.15	415			12.5 x 22.5 x 41.5	37.5
	0.22	422			12.5 x 22.5 x 41.5	37.5
	0.33	433			14.5 x 24.5 x 41.5	37.5
	0.47	447			16.0 x 28.5 x 41.5	37.5

For technical questions, contact: dc-film@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

ELECTRICAL DATA

U_{RDC} (V)	CAP. (µF)	CAPACITANCE CODE	VOLTAGE CODE	V_{AC}	DIMENSIONS (w x h x l)	PCM
1600	0.0010	210	13	650	5.0 x 11.0 x 17.5	15
	0.0015	215			5.0 x 11.0 x 17.5	15
	0.0022	222			5.0 x 11.0 x 17.5	15
	0.0033	233			6.0 x 15.5 x 26.0	22.5
	0.0047	247			6.0 x 15.5 x 26.0	22.5
	0.0068	268			6.0 x 15.5 x 26.0	22.5
	0.010	310			6.0 x 15.5 x 26.0	22.5
	0.015	315			7.0 x 16.5 x 26.0	22.5
	0.022	322			8.5 x 18.0 x 26.0	22.5
	0.033	333			9.0 x 19.0 x 31.0	27.5
	0.047	347			11.0 x 21.0 x 31.0	27.5
	0.068	368			12.5 x 22.5 x 41.5	37.5
	0.10	410			12.5 x 22.5 x 41.5	37.5
	0.15	415			16.0 x 28.5 x 41.5	37.5
	0.22	422			18.0 x 32.5 x 41.5	37.5
2000	0.00047	147	20	700	5.0 x 11.0 x 17.5	15
	0.00068	168			5.0 x 11.0 x 17.5	15
	0.0010	210			6.0 x 15.5 x 26.0	22.5
	0.0015	215			6.0 x 15.5 x 26.0	22.5
	0.0022	222			6.0 x 15.5 x 26.0	22.5
	0.0033	233			6.0 x 15.5 x 26.0	22.5
	0.0047	247			6.0 x 15.5 x 26.0	22.5
	0.0068	268			7.0 x 16.5 x 26.0	22.5
	0.010	310			8.5 x 18.0 x 26.0	22.5
	0.015	315			9.0 x 19.0 x 31.0	27.5
	0.022	322			11.0 x 21.0 x 31.0	27.5
	0.033	333			11.0 x 21.0 x 31.0	27.5
	0.047	347			12.5 x 22.5 x 41.5	37.5
	0.068	368			12.5 x 22.5 x 41.5	37.5
	0.10	410			14.5 x 24.5 x 41.5	37.5

RECOMMENDED PACKAGING

LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER (mm)	ORDERING CODE EXAMPLES	PCM 15	PCM 22.5 TO 27.5	PCM 37.5
G	Ammo	18.5	S [1]	MKP1841315635G	X	-	-
W	Reel	18.5	350	MKP1841315635W	X	-	-
V	Reel	18.5	500	MKP1841410105V	X	X	-
G	Ammo	18.5	L [2]	MKP1841410105G	-	X	-
-	Bulk	-	-	MKP1841447105	X	X	X

Notes

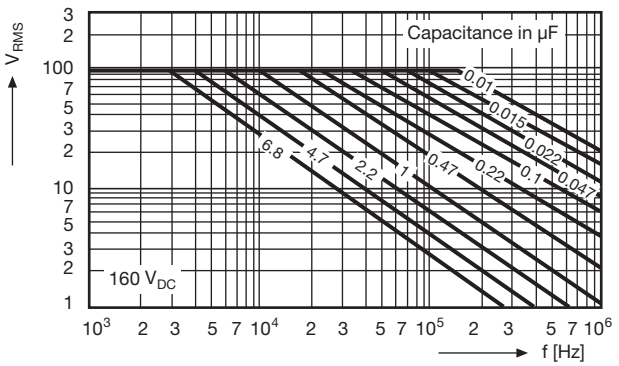
[1] S = box size 55 mm x 210 mm x 340 mm (W x H x L)

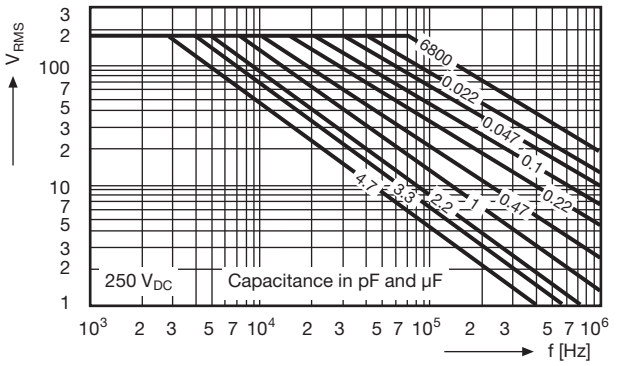
[2] L = box size 60 mm x 510 mm x 360 mm (W x H x L)

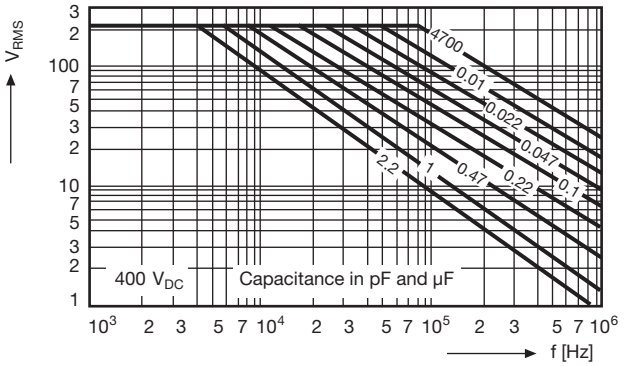
For technical questions, contact: dc-film@vishay.com

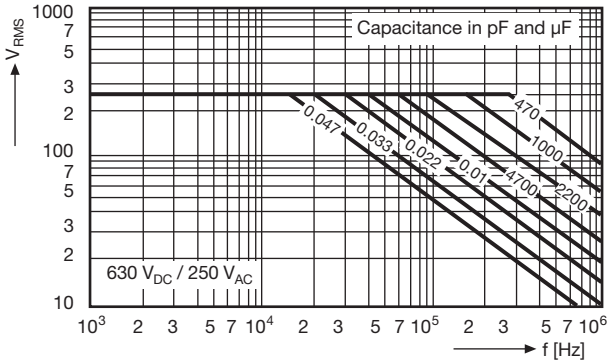
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

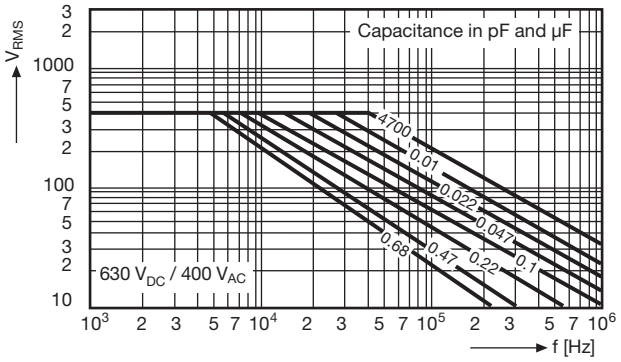
PERMISSIBLE AC VOLTAGE VS. FREQUENCY

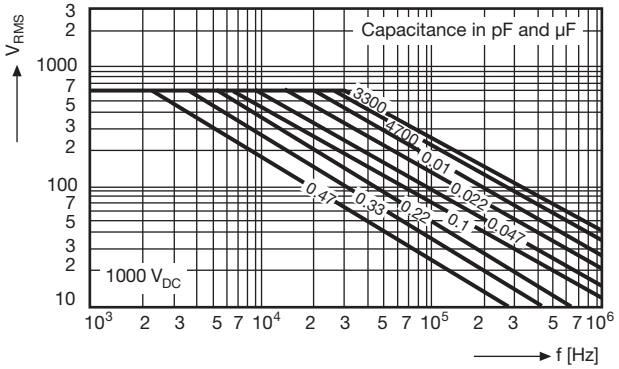


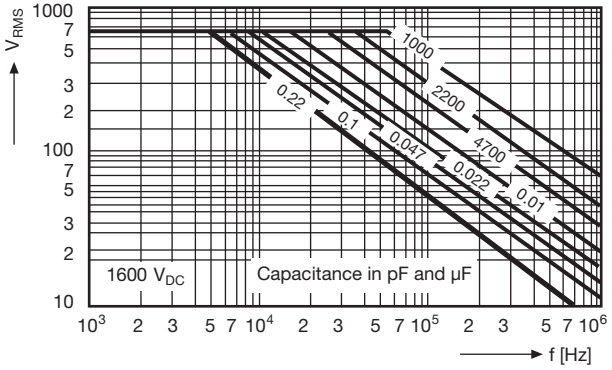


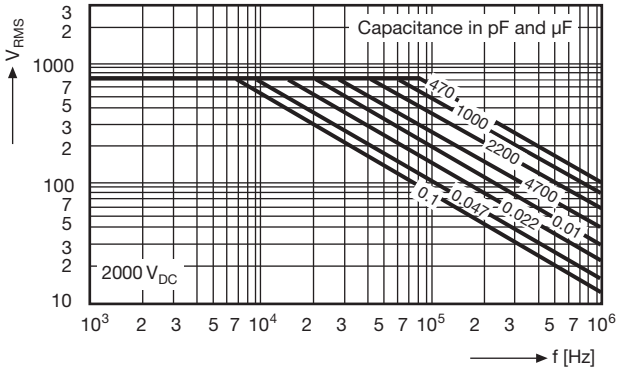












For technical questions, contact: dc-film@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.

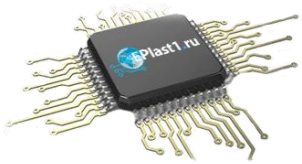
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)
Факс: 8 (812) 320-02-42
Электронная почта: org@eplast1.ru
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.