

Features

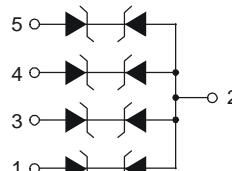
- Provides ESD Protection per IEC 61000-4-2 Standard:
Air – $\pm 30\text{kV}$, Contact – $\pm 30\text{kV}$
- 4 Channels of Bi-directional ESD Protection
- Low Channel Input Capacitance
- Typically Used at Portable Electronics, Cellular Handsets and Communication Systems
- Lead Free/RoHS Compliant (Note 1)**
- “Green” Device (Note 2)**

Mechanical Data

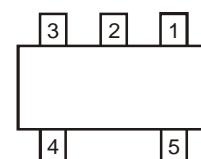
- Case: SOT553
- Case Material: Molded Plastic, “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Copper leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Weight: 0.002 grams (approximate)



Top View

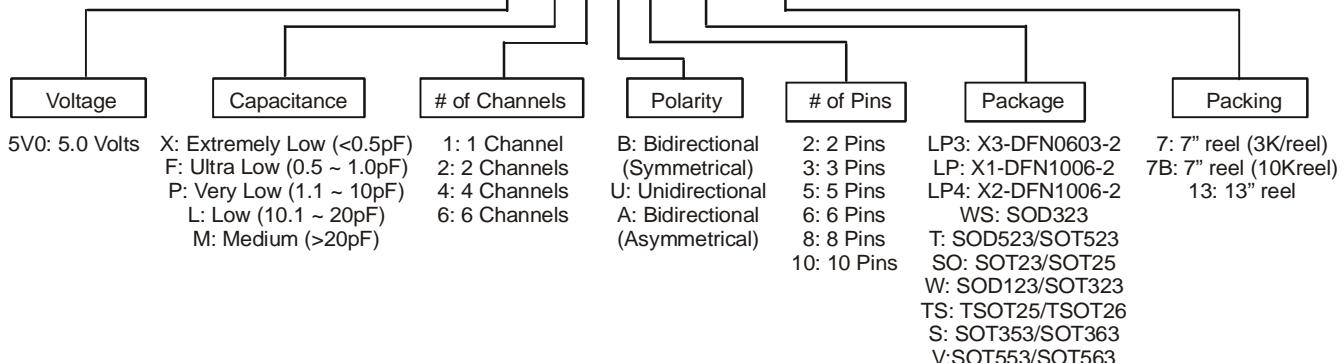


Device Schematic


 Top View
 Pin Configuration

Ordering Information (Note 3)

D 5V0 L X B X XXX- XX

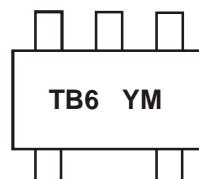


Part Number	Case	Packaging
D5V0L4B5V-7	SOT553	3000/Tape & Reel

Notes:

1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. No purposely added lead. Halogen and Antimony free.
2. Diodes Inc.’s “Green” policy can be found on our website at <http://www.diodes.com>.
3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



TB6 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: Z = 2012)
 M = Month (ex: 9 = September)

Date Code Key

Year	2011	2012	2013	2014	2015	2016	2017					
Code	Y	Z	A	B	C	D	E					
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	P_{PP}	84	W	8/20 μs , Per Fig. 2
Peak Pulse Current	I_{PP}	6	A	8/20 μs , Per Fig. 2
ESD Protection – Contact Discharge	$V_{ESD_Contact}$	± 30	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge	V_{ESD_Air}	± 30	kV	Standard IEC 61000-4-2

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Package Power Dissipation (Note 5)	P_D	380	mW
Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	327	°C/W
Operating Junction Temperature Range	T_J	-65 to +150	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Working Voltage	V_{RWM}	-	-	5.0	V	-
Breakdown Voltage	V_{BR}	6	7	8	V	$I_R = 1.0\text{mA}$
Reverse Leakage Current (Note 6)	I_R	-	10	100	nA	$V_{RWM} = 5\text{V}$
Clamping Voltage (Note 4)	V_{CL}	-	7.0	9.0	V	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$
		-	8.7	10.7	V	$I_{PP} = 3\text{A}$, $t_p = 8/20\mu\text{s}$
		-	10.5	12.0	V	$I_{PP} = 5\text{A}$, $t_p = 8/20\mu\text{s}$
		-	11.5	14.0	V	$I_{PP} = 6\text{A}$, $t_p = 8/20\mu\text{s}$
Differential Resistance	R_{DIF}	-	0.2	-	Ω	$I_R = 1.0\text{A}$, $t_p = 8/20\mu\text{s}$
Channel Input Capacitance	C_T	-	15	20	pF	$V_{IN} = 0\text{V}$, $f = 1\text{MHz}$ (Channel to Pin 2)

Notes:

4. Measured from channel to pin 2; Non-repetitive current pulse per Fig. 2.
5. Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at <http://www.diodes.com>.
6. Short duration pulse test used to minimize self-heating effect.

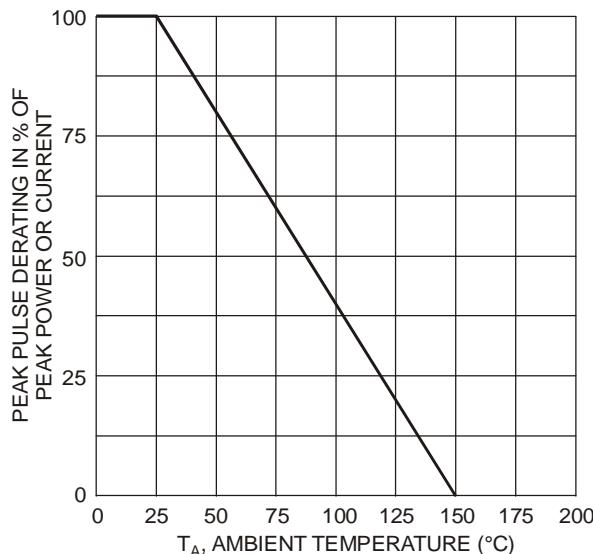


Fig. 1 Pulse Derating Curve

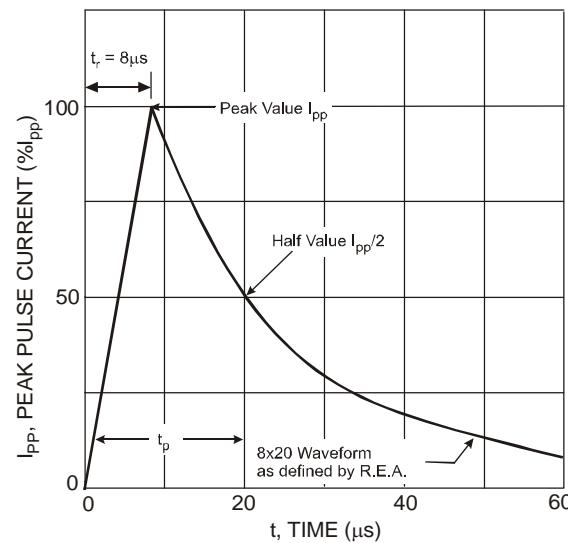


Fig. 2 Pulse Waveform

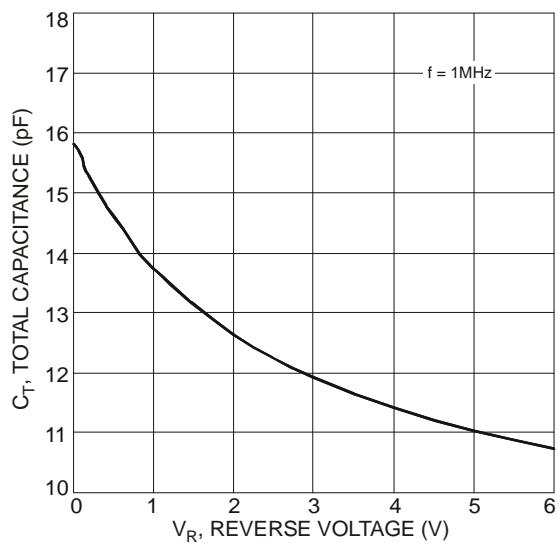


Fig. 3 Typical Total Capacitance vs. Reverse Voltage

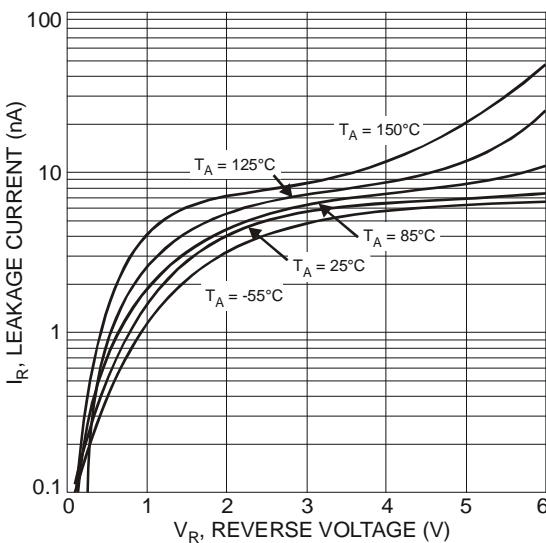
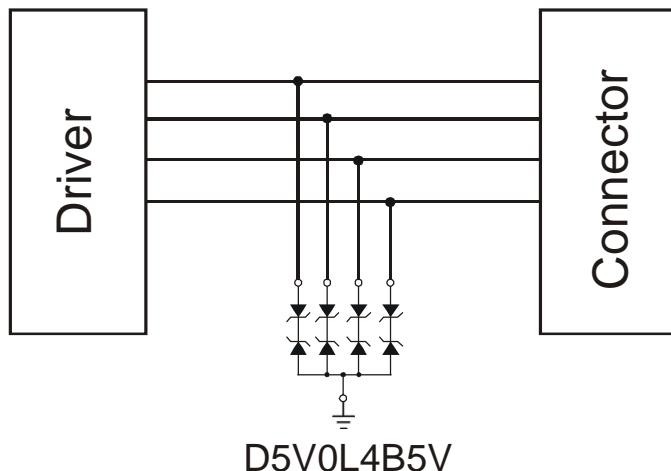
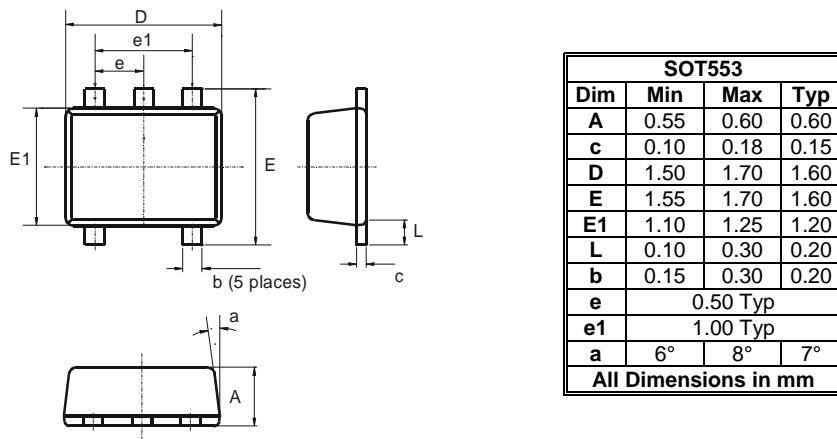


Fig. 4 Typical Reverse Characteristics

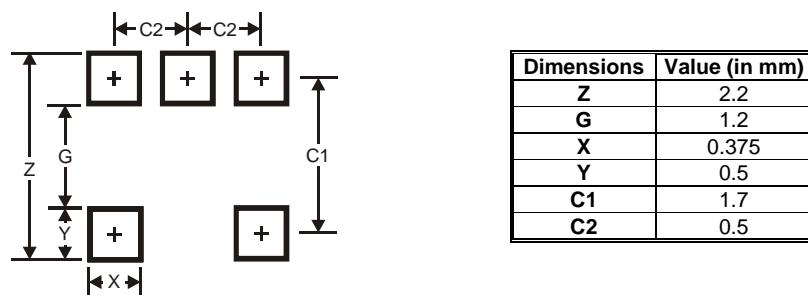
Typical Applications



Package Outline Dimensions



Suggested Pad Layout



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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, литер A.