



D5V0L1B2T-7

LOW CAPACITANCE BIDIRECTIONAL TVS DIODE

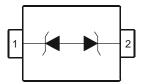
Features

- Provides ESD Protection per IEC 61000-4-2 Standard: Air ±30kV, Contact ±30kV
- 1 Channel of ESD Protection
- Low Channel Input Capacitance
- Typically used in Cellular Handsets, Portable Electronics, Communication Systems, Computers and Peripherals
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)



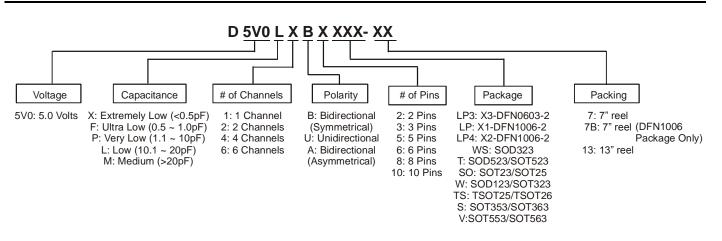
Top View

- **Mechanical Data**
- Case: SOD523
- 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 Alloy 42 Leadframe (Lead-Free Plating). Solderable per MIL-STD-202, Method 208 (3)
- Weight: 0.001 grams (Approximate)



Device Schematic

Ordering Information (Note 4)



	Part Number	Case	Packaging		
	D5V0L1B2T-7 (Note 5)	SOD523	3000/Tape & Reel		
Notes:	tes: 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.				

No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green"

and Lead-free. 3 Halogen- and Antimony-free "Green" products are defined as those

3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

4. For packaging details, go to our website at http"//www.diodes.com/products/packages.html

5. Dispensed every other cavity of the carrier tape.

Marking Information



6 / 9 = Product Type Marking Code



Maximum Ratings ($@T_A = +25^{\circ}C$ unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	P _{PP}	84	W	8/20µs, per Figure 2
Peak Pulse Current	IPP	6	А	8/20µs, per Figure 2
ESD Protection – Contact Discharge	V _{ESD_Contact}	±30	kV	IEC 61000-4-2 Standard
ESD Protection – Air Discharge	V _{ESD_Air}	±30	kV	IEC 61000-4-2 Standard

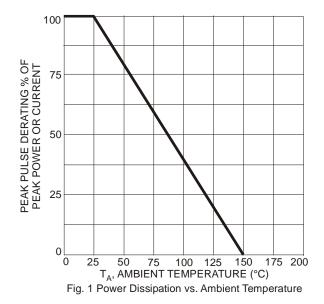
Thermal Characteristics

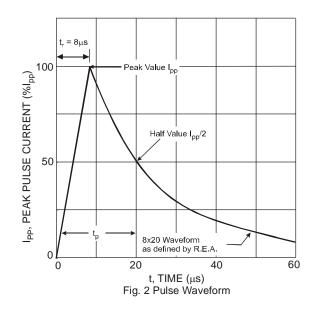
Characteristic	Symbol	Value	Unit
Package Power Dissipation (Note 6)	PD	275	mW
Thermal Resistance, Junction to Ambient (Note 6)	R _{0JA}	454	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Conditions
Reverse Standoff Voltage	V _{RWM}	-	-	5	V	-
Channel Leakage Current (Note 7)	I _{RM}	-	10	100	nA	$V_{RWM} = 5V$
	VcL	-	7.0	9.0	V	I _{PP} = 1A, tp = 8/20µS
Clamping Valtage Desitive Transients		-	8.7	10.7		$I_{PP} = 3A$, tp = 8/20µS
Clamping Voltage, Positive Transients		-	10.5	12.0		$I_{PP} = 5A$, tp = 8/20µS
		-	11.5	14.0		$I_{PP} = 6A$, tp = 8/20µS
Breakdown Voltage	V _{BR}	6	7	8	V	$I_R = 1 m A$
Differential Resistance	R _{DIF}	-	0.2	-	Ω	$I_R = 1A$, tp = 8/20µS
Channel Input Capacitance	CIN	-	15	20	pF	$V_R = 0V$, f = 1MHz

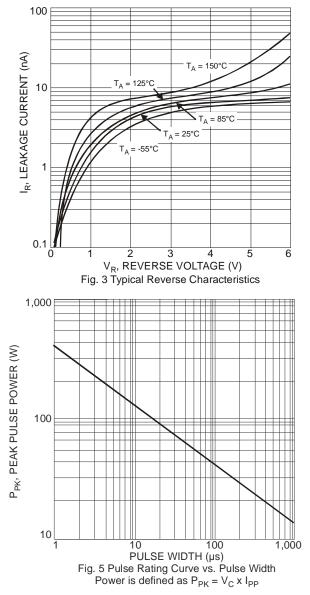
Notes: 6. Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at http://www.diodes.com.7. Short duration pulse test used to minimize self-heating effect.

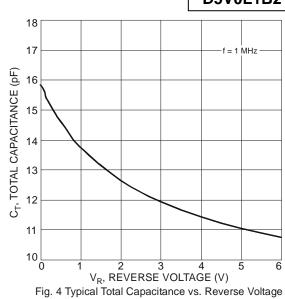






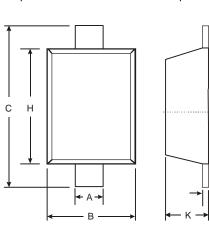






Package Outline Dimensions

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



SOD523					
Dim	Min	Max			
Α	0.25	0.35			
В	0.70	0.90			
С	1.50	1.70			
Н	1.10	1.30			
K	0.55	0.65			
L	0.10	0.30			
М	0.10	0.12			
All Dimensions in mm					

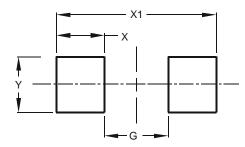
۰M

L



Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)
G	0.80
Х	0.60
X1	2.00
Y	0.70

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