

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 at Computer Interface Protection, Data Line and Power Line Protection
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

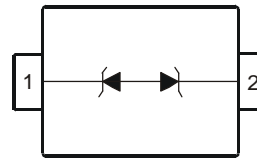
Mechanical Data

- Case: SOD323
- 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 ^{e3}
- Weight: 0.004 grams (approximate)

SOD323



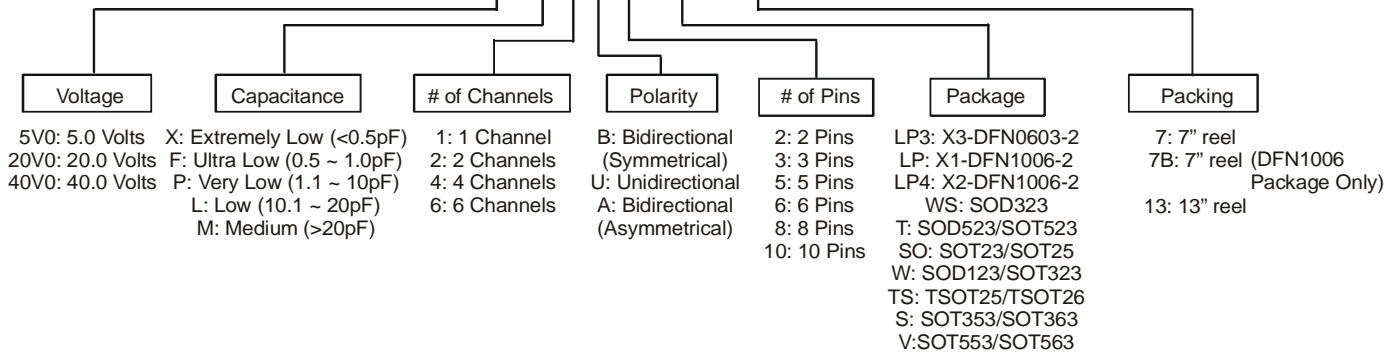
Top View



Device Schematic

Ordering Information (Note 4)

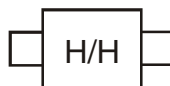
D 20V0 L X B X XXX- XX



Product	Compliance	Marking	Reel Size (inches)	Tape Width (mm)	Quantity per Reel
D20V0L1B2WS-7	Standard	H/H	7	8	3,000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
 2. 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 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>.

Marking Information



H/H = Product Type Marking Code

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	P _{PP}	90	W	8/20μs, Per Figure 2
Peak Pulse Current	I _{PP}	3	A	8/20μs, Per Figure 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	200	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{θJA}	625	°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	Typ	Max	Unit	Test Conditions
Reverse Standoff Voltage	V _{RWM}	—	—	20	V	—
Channel Leakage Current (Note 6)	I _{RM}	—	—	100	nA	V _{RWM} = 20V
Clamping Voltage, Positive Transients	V _{CL}	—	—	27	V	I _{PP} = 1A, t _p = 8/20μs
		—	—	30	V	I _{PP} = 3A, t _p = 8/20μs
Breakdown Voltage	V _{BR}	21	—	25	V	I _R = 1mA
Differential Resistance	R _{DIF}	—	1.8	—	Ω	I _R = 1A, t _p = 8/20μs
Channel Input Capacitance	C _T	—	10	15	pF	V _R = 0V, f = 1MHz

- Notes:
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.

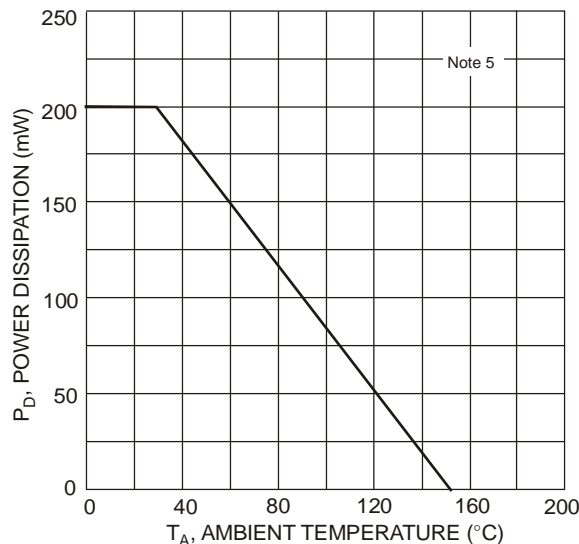


Figure 1 Power Derating Curve

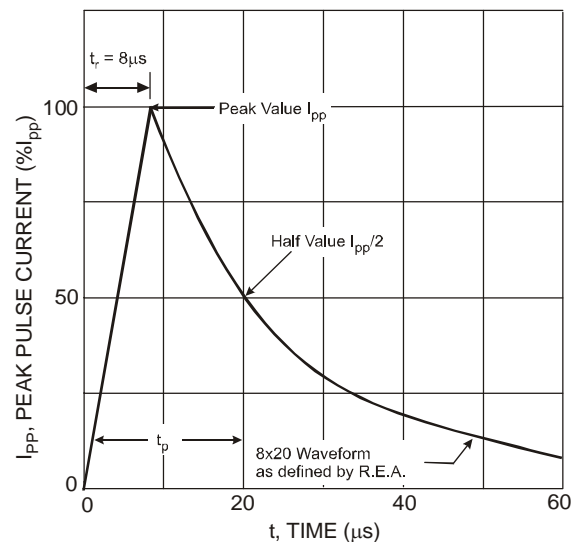


Figure 2 Pulse Waveform

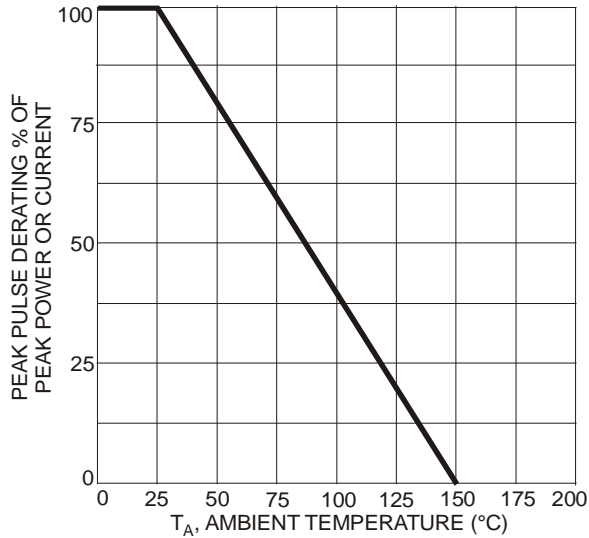


Figure 3 Power Dissipation vs. Ambient Temperature

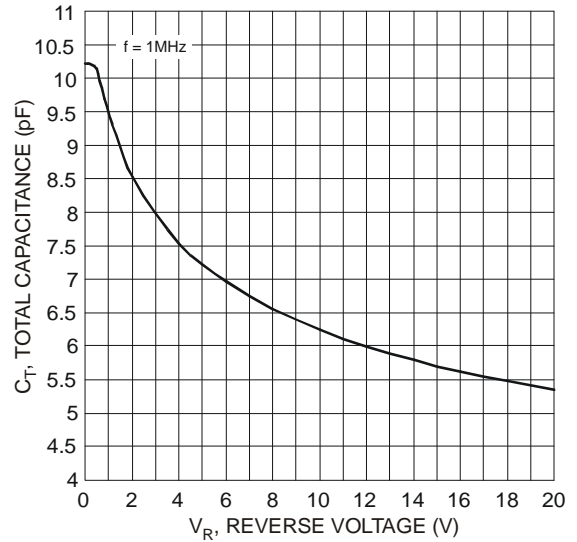


Figure 4 Typical Total Capacitance vs. Reverse Voltage

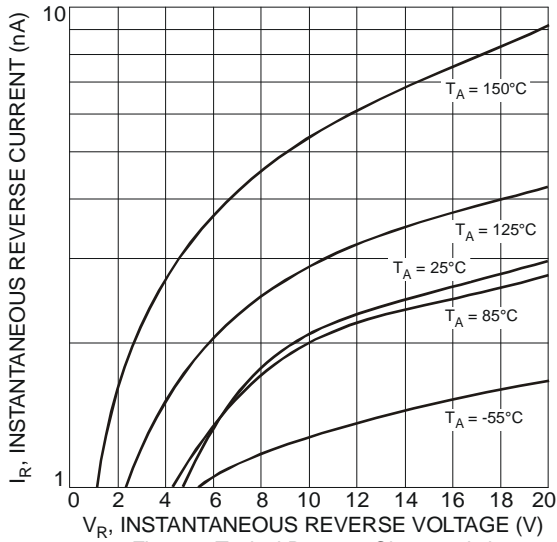
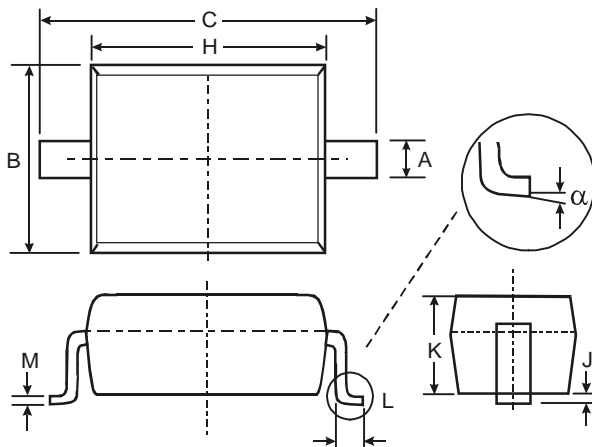


Figure 5 Typical Reverse Characteristics

Package Outline Dimensions

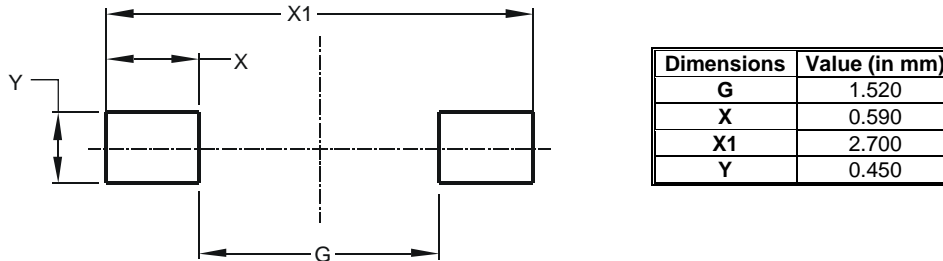
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



SOD323		
Dim	Min	Max
A	0.25	0.35
B	1.20	1.40
C	2.30	2.70
H	1.60	1.80
J	0.00	0.10
K	1.0	1.1
L	0.20	0.40
M	0.10	0.15
α	0°	8°
All Dimensions in mm		

Suggested Pad Layout

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



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