

Features

- Small Surface Mount Package
- Ultra-Low Reverse Leakage Current (5nA @ $V_R = 75V$)
- Low Capacitance
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

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
- Terminal Connections: Cathode Band
- Terminals: Finish - Matte Tin Annealed over Alloy 42 Leadframe.
Solderable per MIL-STD-202, Method 208 (E3)
- Weight: 0.0014 grams (Approximate)

SOD523



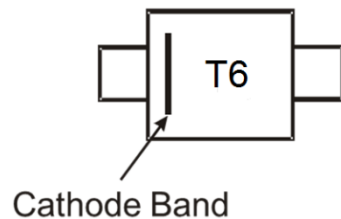
Top View

Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
BAV116T-7	Standard	SOD523	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



T6 = Product Type Marking Code

Cathode Band

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	85	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
RMS Reverse Voltage	V _{R(RMS)}	60	V
Forward Continuous Current	I _{FM}	200	mA
Average Rectified Output Current	I _O	100	mA
Repetitive Peak Forward Current	I _{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	I _{FSM}	@ t = 1.0μs	4.0
		@ t = 1.0ms	1.0
		@ t = 1.0s	0.5

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	280	mW
Thermal Resistance Junction to Ambient Air (Note 5)	R _{θJA}	450	°C/W
Thermal Resistance Junction to Soldering Point	R _{θJS}	120	°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 Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	85	—	—	V	I _R = 100μA
Forward Voltage	V _F	—	0.77	0.9	V	I _F = 1.0mA
		—	0.85	1.0		I _F = 10mA
		—	0.92	1.1		I _F = 50mA
		—	1.02	1.25		I _F = 150mA
Leakage Current (Note 6)	I _R	—	0.2	5.0	nA	V _R = 75V
		—	3.0	80	nA	V _R = 75V, T _J = +150°C
		—	0.3	—	nA	V _R = 100V
Total Capacitance	C _T	—	1.2	2.0	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{RR}	—	0.6	3.0	μs	I _F = I _R = 10mA, I _{RR} = 0.1 x I _R , R _L = 100Ω

Notes: 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
6. Short duration pulse test used to minimize self-heating effect.

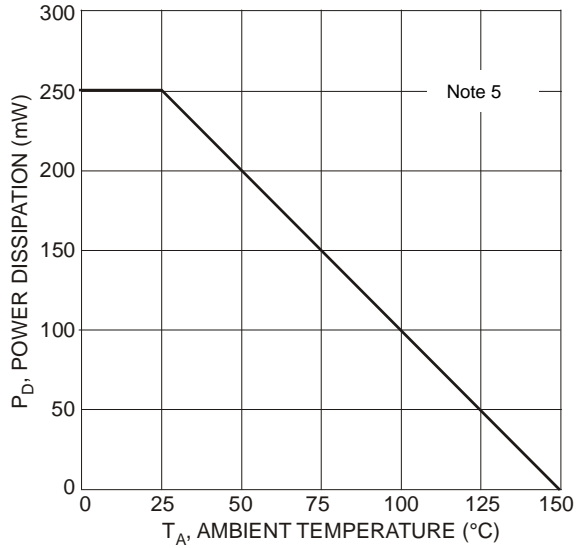


Figure 1 Power Derating Curve, Total Package

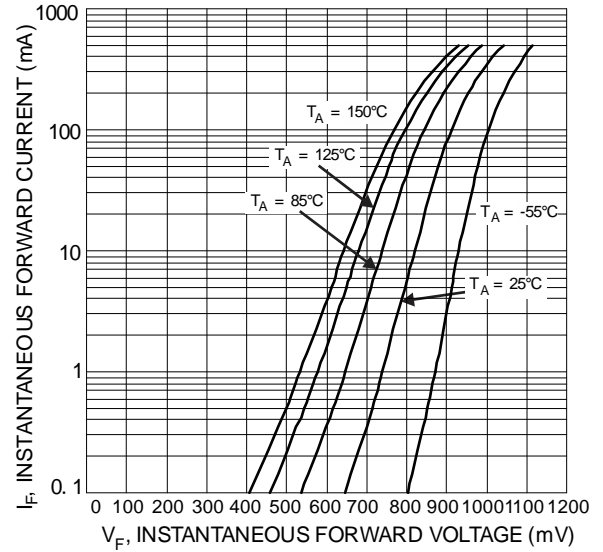


Figure 2 Typical Reverse Characteristics

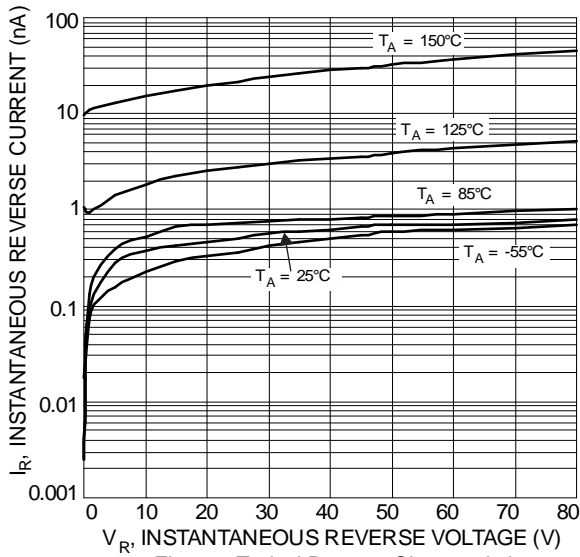


Figure 3 Typical Reverse Characteristics

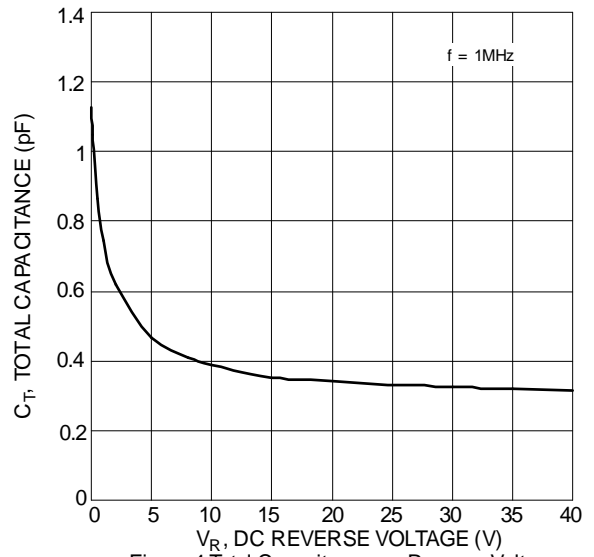
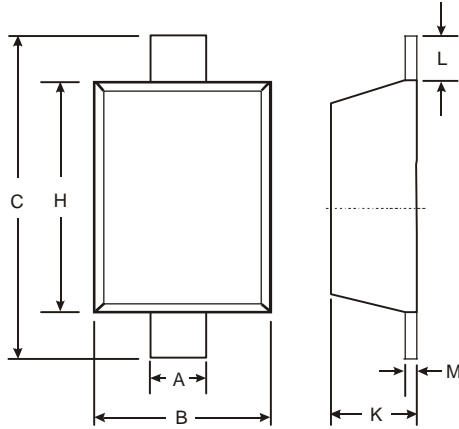


Figure 4 Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

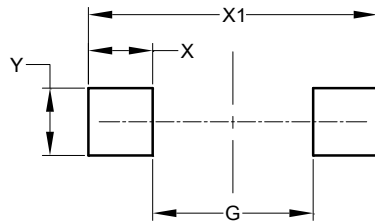
Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.



SOD523		
Dim	Min	Max
A	0.25	0.35
B	0.70	0.90
C	1.50	1.70
H	1.10	1.30
K	0.55	0.65
L	0.10	0.30
M	0.10	0.12
All Dimensions in mm		

Suggested Pad Layout

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



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

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