

Features

- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Lead Free by Design/RoHS Compliant (Note 3)**
- "Green" Device (Notes 4 and 5)**

Mechanical Data

- Case: SOD-523
- Case Material: Molded Plastic, "Green" Molding Compound, Note 5. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Leads: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.004 grams (approximate)



Top View

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	30	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
RMS Reverse Voltage	V _{R(RMS)}	21	V
Average Rectified Forward Current	I _O	100	mA
Forward Continuous Current (Note 1)	I _F	200	mA
Repetitive Peak Forward Current (Note 1)	I _{FRM}	300	mA
Forward Surge Current (Note 1) @ t < 1.0s	I _{FSM}	600	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P _D	150	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R _{θJA}	667	°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 2)	V _{(BR)R}	30	—	—	V	I _R = 100μA
Forward Voltage	V _{FM}	—	—	320 400 1000	mV	I _F = 1mA I _F = 10mA I _F = 100mA
Reverse Leakage Current (Note 2)	I _{RM}	—	—	2.0	μA	V _R = 25V
Reverse Recovery Time	t _{rr}	—	—	5.0	ns	I _F = 10mA through I _R = 10mA to I _R = 1.0mA, R _L = 100Ω

- Notes:
- 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>.
 - Short duration pulse test used to minimize self-heating effect.
 - No purposefully added lead.
 - Diodes Inc.'s "Green" Policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 - Product manufactured with date code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to date code 0627 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants

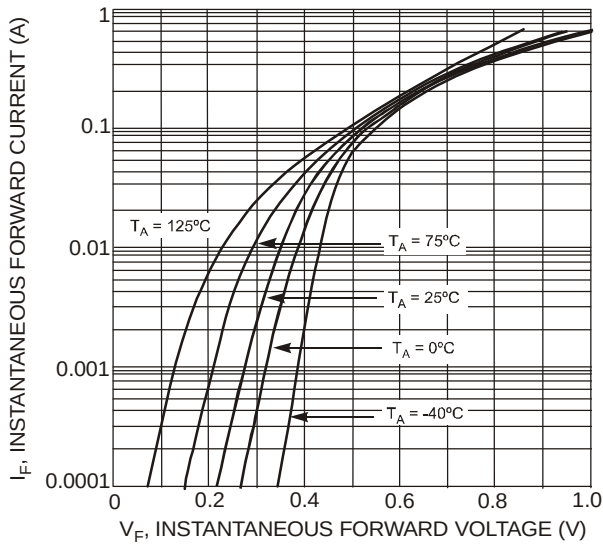


Fig. 1 Forward Characteristics

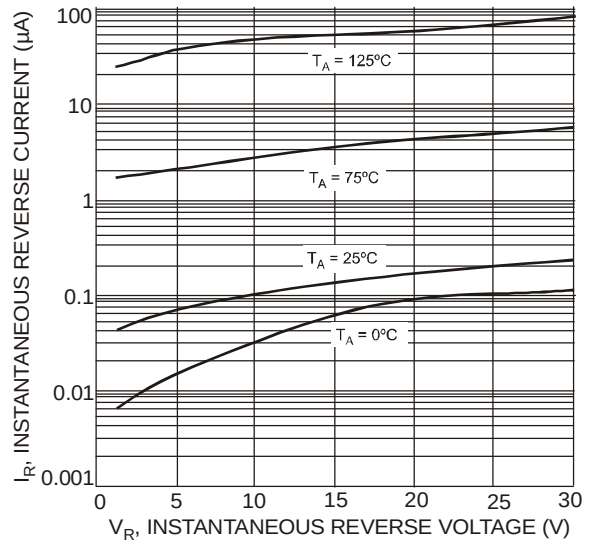


Fig. 2 Typical Reverse Characteristics

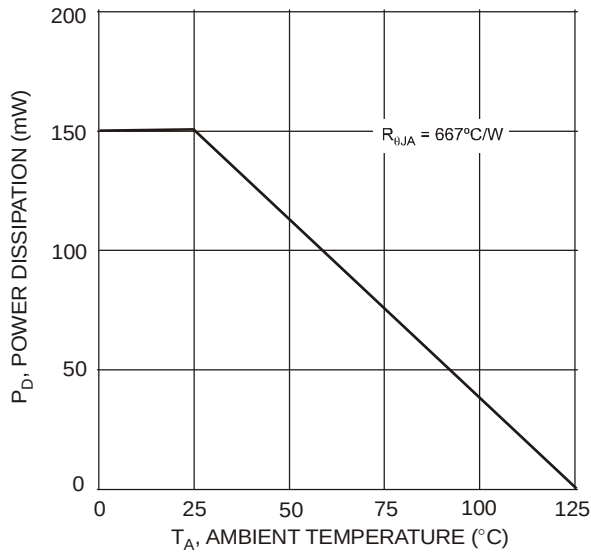


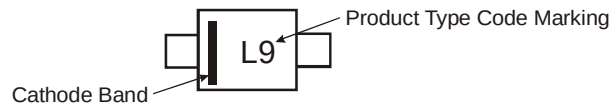
Fig. 3 Power Derating Curve

Ordering Information (Note 6)

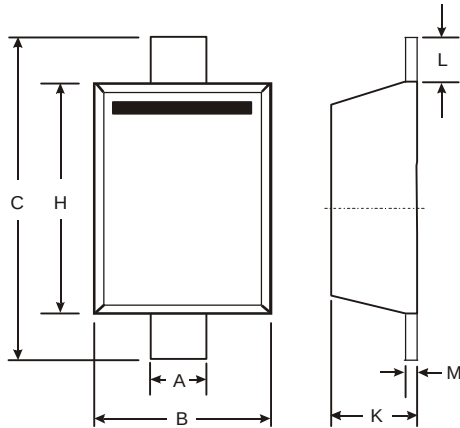
Part Number	Case	Packaging
BAT54WT-7 (Note 7)	SOD-523	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
7. Dispensed in every other cavity of the tape.

Marking Information

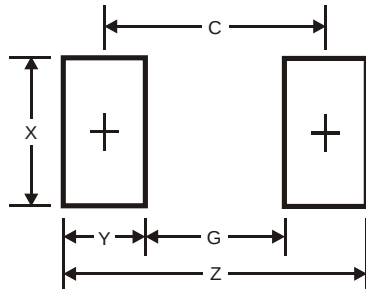


Package Outline Dimensions



SOD-523		
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



Dimensions	Value (in mm)
Z	2.3
G	1.1
X	0.8
Y	0.6
C	1.7

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