

## Features

- Low Forward Voltage Drop
- Low Reverse Leakage
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, fast switching capability
- 150°C Operating Junction Temperature
- **Lead, Halogen and Antimony Free, RoHS Compliant**
- **“Green” Device (Note 1)**

## Mechanical Data

- Case: SOD-123
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Leads: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe)
- Polarity: Cathode Band
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.004 grams (approximate)



Top View

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

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitance load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_{RM}$	60	V
Average Rectified Output Current	$I_O$	500	mA
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	15	A

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance			
Thermal Resistance Junction to Ambient Air (Note 2)	$R_{\theta JA}$	305	$^\circ\text{C}/\text{W}$
Thermal Resistance Junction to Ambient Air (Note 3)	$R_{\theta JA}$	271	
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage (Per Diode)	$V_F$	-	0.44	0.44 0.50 0.46	V	$I_F = 0.25\text{A}, T_J = 25^\circ\text{C}$ $I_F = 0.5\text{A}, T_J = 25^\circ\text{C}$ $I_F = 0.5\text{A}, T_J = 125^\circ\text{C}$
Leakage Current (Note 4)	$I_R$	-	-	100 25	$\mu\text{A}$ mA	$V_R = 60\text{V}, T_J = 25^\circ\text{C}$ $V_R = 60\text{V}, T_J = 125^\circ\text{C}$

- Notes:
1. No purposefully added lead. Halogen and Antimony Free.
  2. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  3. Part mounted on Polyimide board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  4. Short duration pulse test used to minimize self-heating effect.

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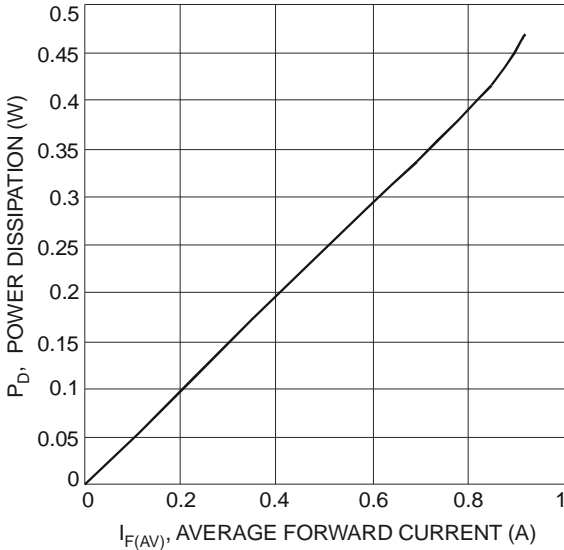


Fig. 1 Forward Power Dissipation

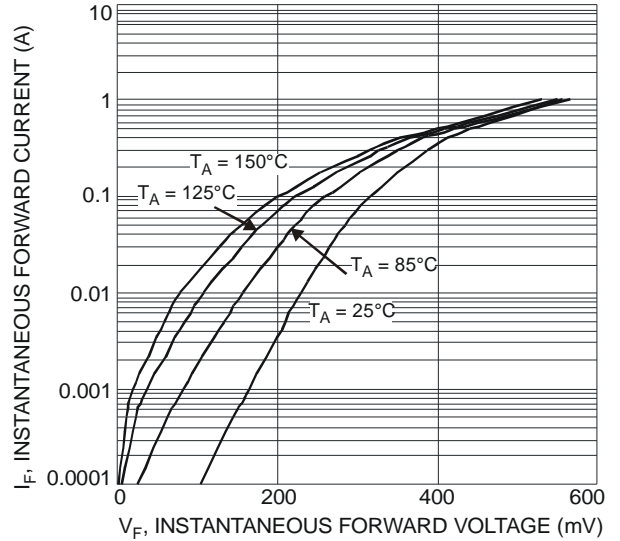


Fig. 2 Typical Forward Characteristics

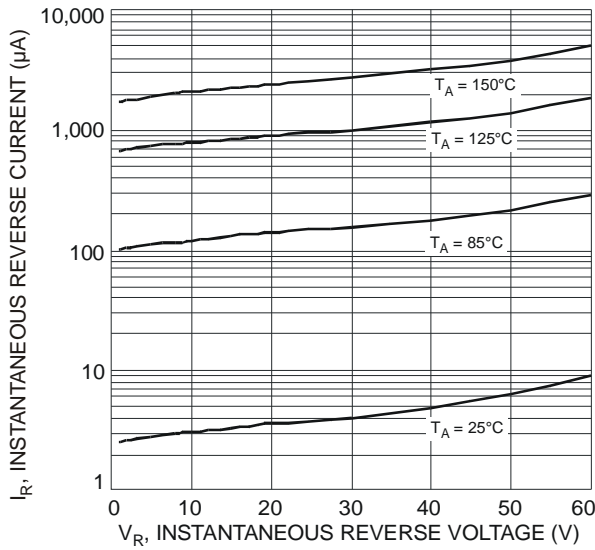


Fig. 3 Typical Reverse Characteristics

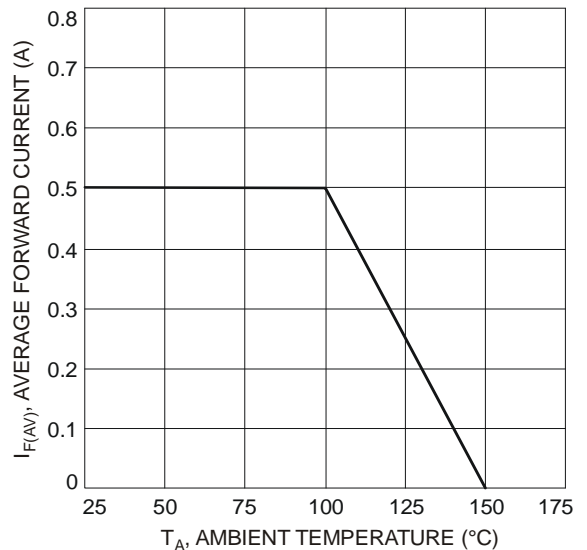


Fig. 4 Forward Current Derating Curve

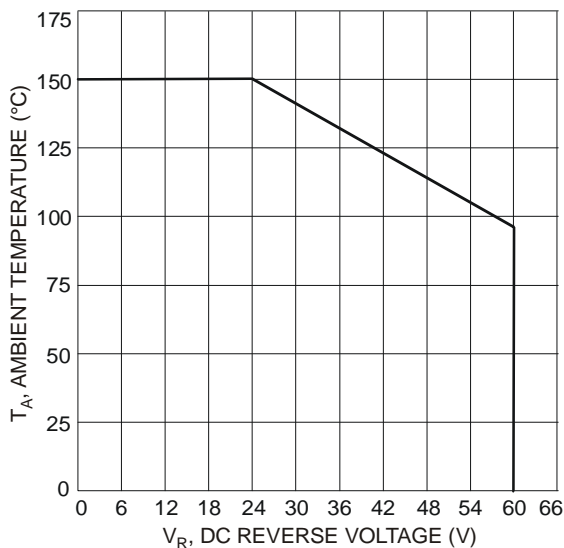


Fig. 5 Operating Temperature Derating

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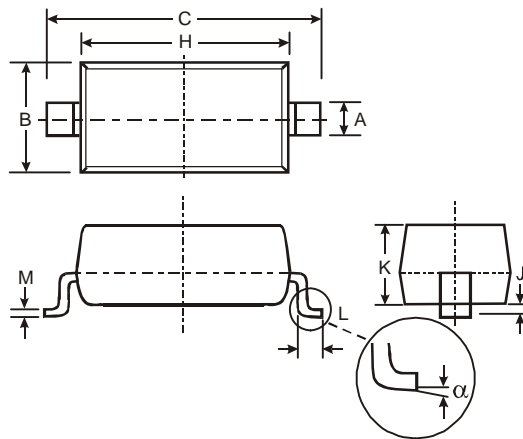
**Ordering Information** (Note 5)

Part Number	Case	Packaging
SBR0560S1-7	SOD-123	3000/Tape & Reel

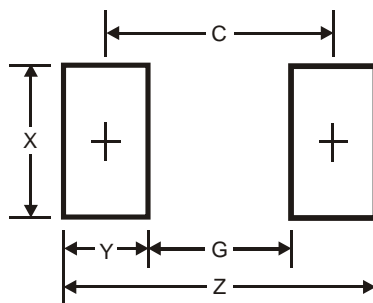
 Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**


56 = Product Type Marking Code

**Package Outline Dimensions**


SOD-123		
Dim	Min	Max
A	0.55 Typ	
B	1.40	1.70
C	3.55	3.85
H	2.55	2.85
J	0.00	0.10
K	1.00	1.35
L	0.25	0.40
M	0.10	0.15
$\alpha$	0	8°
All Dimensions in mm		

**Suggested Pad Layout**


Dimensions	Value (in mm)
Z	4.9
G	2.5
X	0.7
Y	1.2
C	3.7

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