NEW PRODUCT

SBR0560S1

0.5A SBR®
SUPER BARRIER RECTIFIER

Features

- Low Forward Voltage Drop
- Low Reverse Leakage
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, fast switching capability
- 150ºC 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°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) Thermal Resistance Junction to Ambient Air (Note 3)	 $R_{\theta JA}$ $R_{\theta JA}$	 305 271	ºC/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	ºC

Electrical Characteristics @T_A = 25°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 = 0.25A, T_J = 25ºC I_F = 0.5A, T_J = 25ºC I_F = 0.5A, T_J = 125ºC
Leakage Current (Note 4)	I_R	-	- -	100 25	µA mA	V_R = 60V, T_J = 25ºC V_R = 60V, T_J = 125ºC

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 Polymide 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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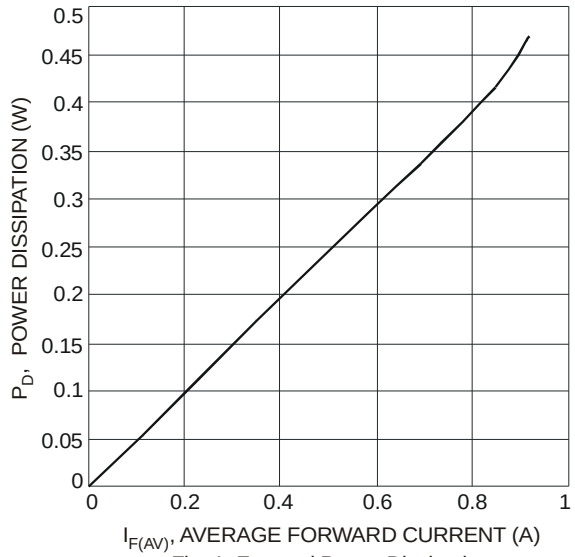

Fig. 1 Forward Power Dissipation

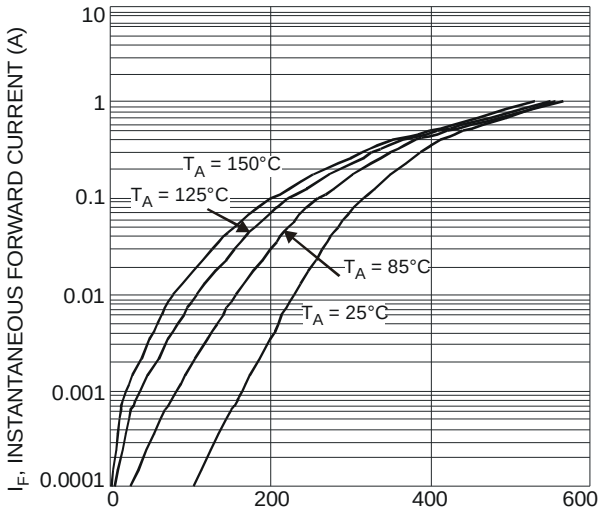

Fig. 2 Typical Forward Characteristics

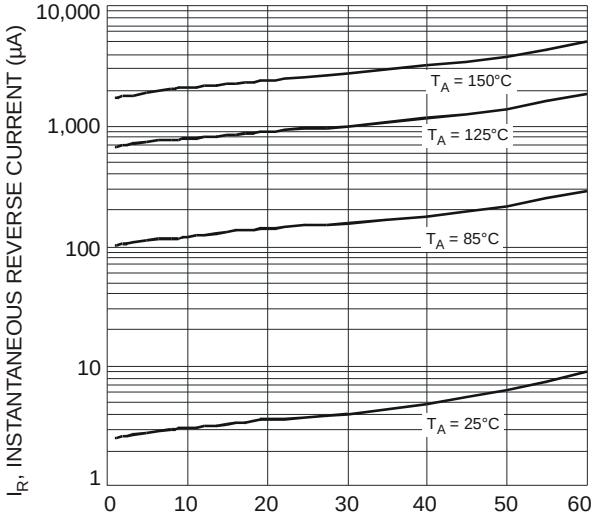

Fig. 3 Typical Reverse Characteristics

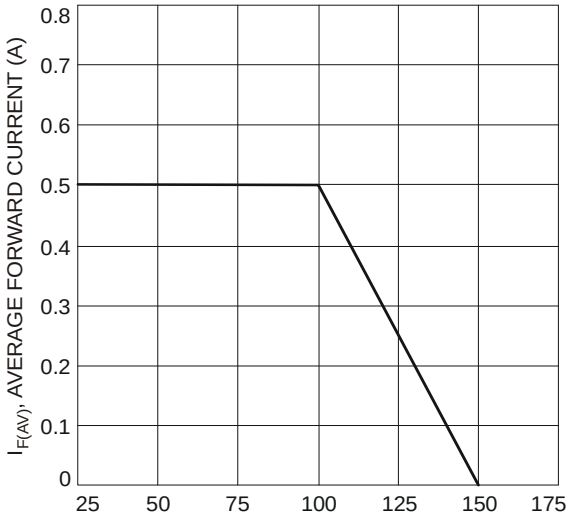

Fig. 4 Forward Current Derating Curve

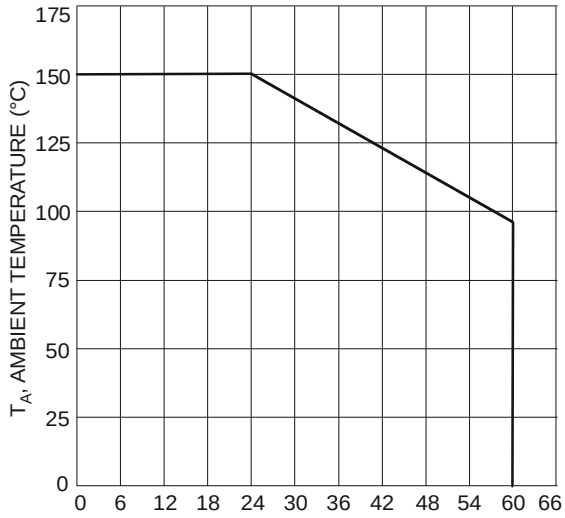

Fig. 5 Operating Temperature Derating

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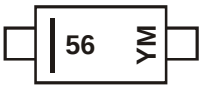
Ordering Information (Note 5)

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

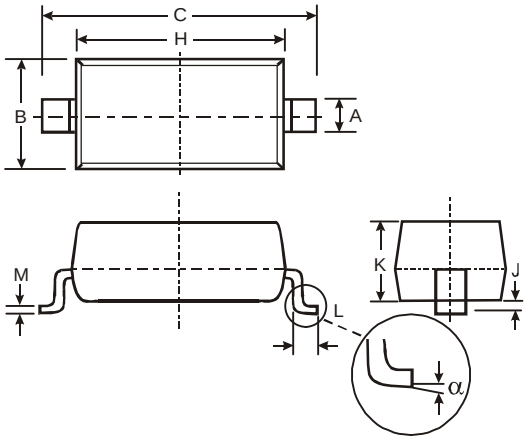
Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



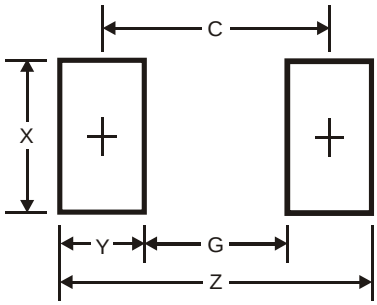
56 = Product Type Marking Code

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
α	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