SBR0230T5

0.2A SBR®
SUPER BARRIER RECTIFIER

Features

- Low Leakage Current
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150ºC Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant**
- **"Green" Molding Compound (No Br, Sb)**

Mechanical Data

- Case: SOD-523
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Polarity Indicator: Cathode Band
- Terminals: Finish – Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.002 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}	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Average Rectified Output Current (See Figure 1)	I_O	0.2	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	5	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance Thermal Resistance Junction to Soldering (Note 1)	$R_{\theta JA}$	400	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
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	30	-	-	V	I_R = 400µA
Forward Voltage Drop	V_F	-	0.50 0.46 0.57 0.55	0.54 0.49 0.61 0.58	V	I_F = 0.1A, T_J = 25ºC I_F = 0.1A, T_J = 85ºC I_F = 0.2A, T_J = 25ºC I_F = 0.2A, T_J = 85ºC
Leakage Current (Note 2)	I_R	-	0.2 -	2 0.1	µA mA	V_R = 30V, T_J = 25ºC V_R = 30V, T_J = 125ºC
Reverse Recovery Time	t_{rr}	-	5	-	ns	I_F = 10mA through I_R = 10mA to I_R = 1mA, R_L = 100Ω

Notes: 1. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per http://www.diodes.com/datasheets/ap02001.pdf.
2. Short duration pulse test used to minimize self-heating effect.

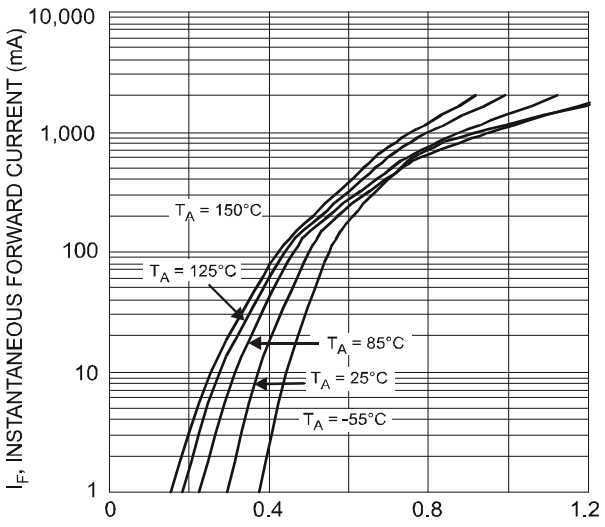


Fig.1 Typical Forward Characteristics

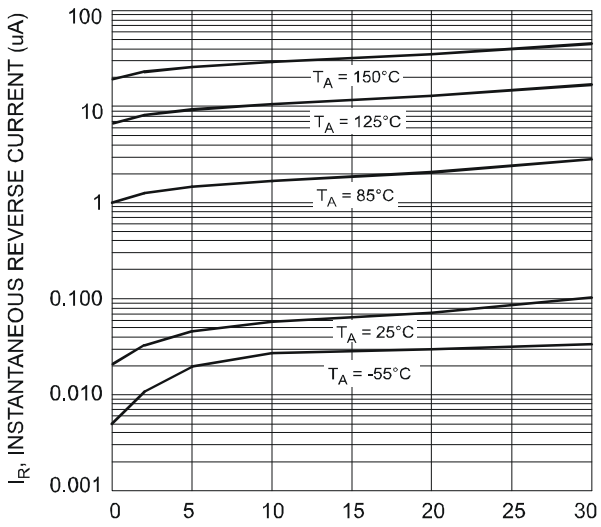


Fig. 2 Typical Reverse Characteristics

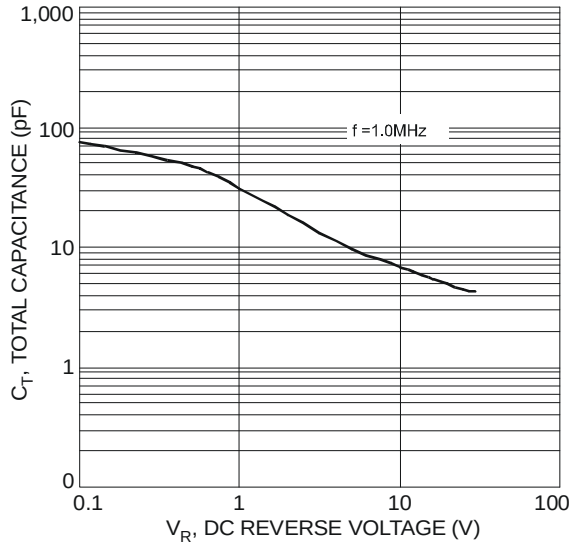


Fig. 3 Total Capacitance vs. Reverse Voltage

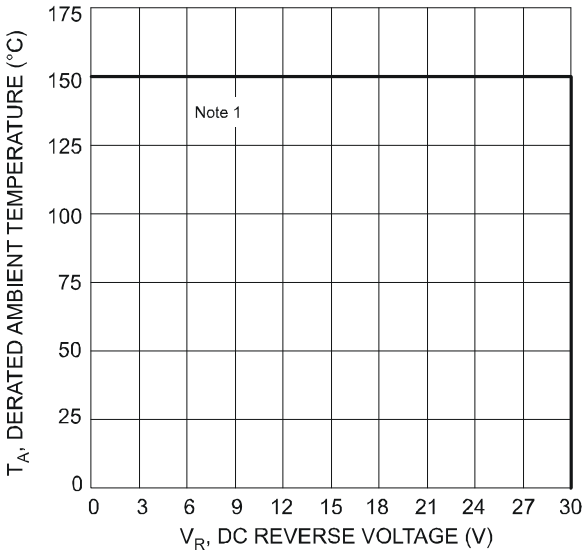


Fig. 4 Operating Temperature Derating

Ordering Information (Note 3)

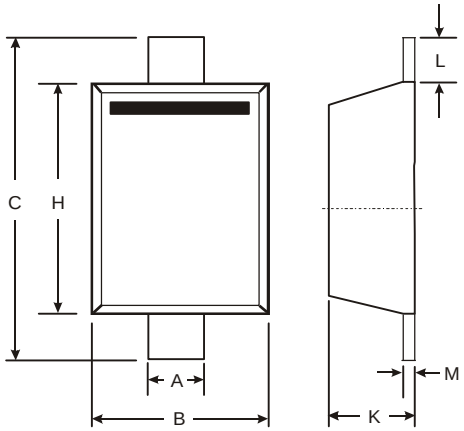
Part Number	Case	Packaging
SBR0230T5-7 (Note 4)	SOD-523	3000/Tape & Reel

Notes: 3. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.
4. Dispensed in every other cavity of the tape.

Marking Information

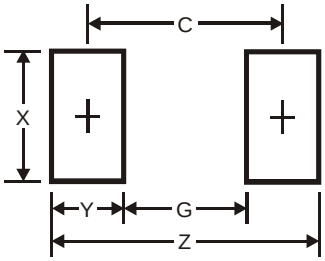
23 = Product Type Marking Code

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	0.70
L	0.10	0.30
M	0.10	0.20
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