

Features

- Low Leakage Current
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C 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 @ $T_A = 25^\circ\text{C}$ 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	V_{RRM}	30	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_{RM}		
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	$R_{\theta JA}$	400	$^\circ\text{C/W}$
Thermal Resistance Junction to Soldering (Note 1)			
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
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	30	-	-	V	$I_R = 400\mu\text{A}$
Forward Voltage Drop	V_F	-	0.50	0.54	V	$I_F = 0.1\text{A}, T_J = 25^\circ\text{C}$
			0.46	0.49		$I_F = 0.1\text{A}, T_J = 85^\circ\text{C}$
			0.57	0.61		$I_F = 0.2\text{A}, T_J = 25^\circ\text{C}$
			0.55	0.58		$I_F = 0.2\text{A}, T_J = 85^\circ\text{C}$
Leakage Current (Note 2)	I_R	-	0.2	2	μA mA	$V_R = 30\text{V}, T_J = 25^\circ\text{C}$
			-	0.1		$V_R = 30\text{V}, T_J = 125^\circ\text{C}$
Reverse Recovery Time	t_{rr}	-	5	-	ns	$I_F = 10\text{mA}$ through $I_R = 10\text{mA}$ to $I_R = 1\text{mA}, R_L = 100\Omega$

- 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.

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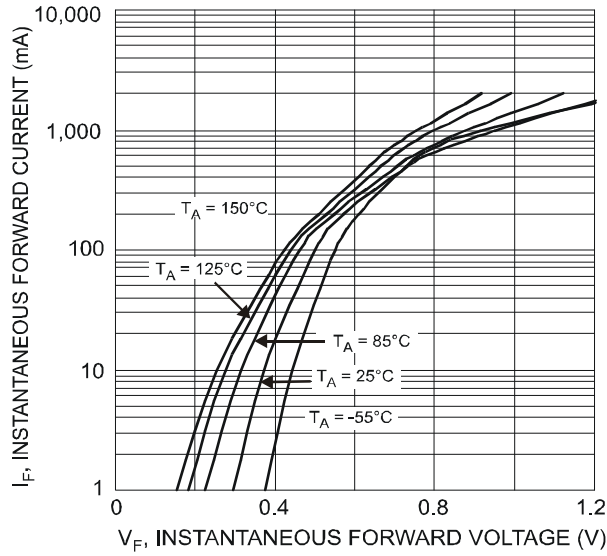


Fig. 1 Typical Forward Characteristics

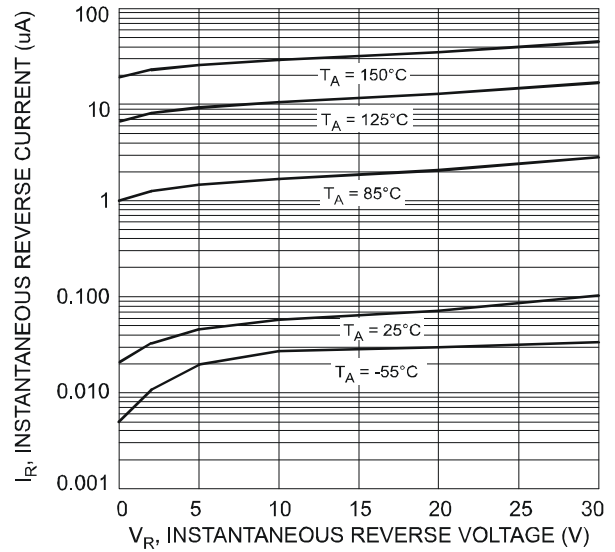


Fig. 2 Typical Reverse Characteristics

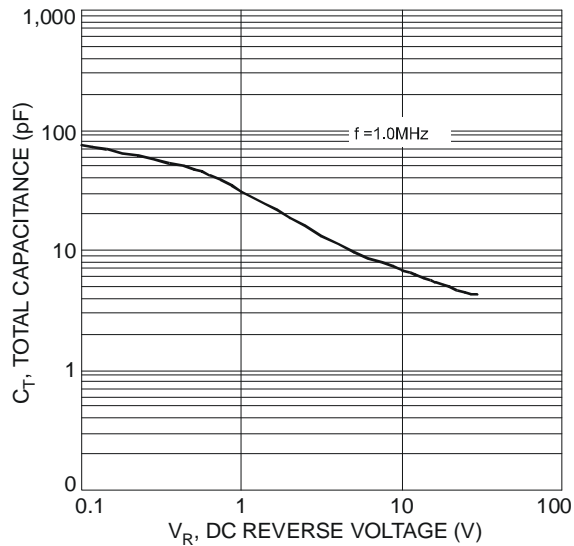


Fig. 3 Total Capacitance vs. Reverse Voltage

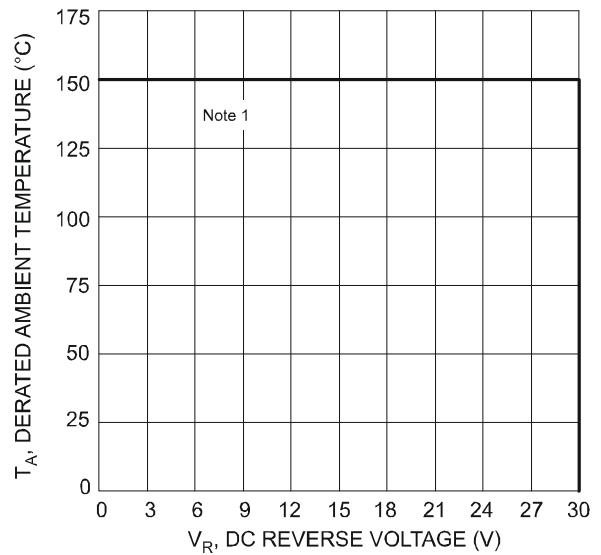


Fig. 4 Operating Temperature Derating

Ordering Information (Note 3)

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

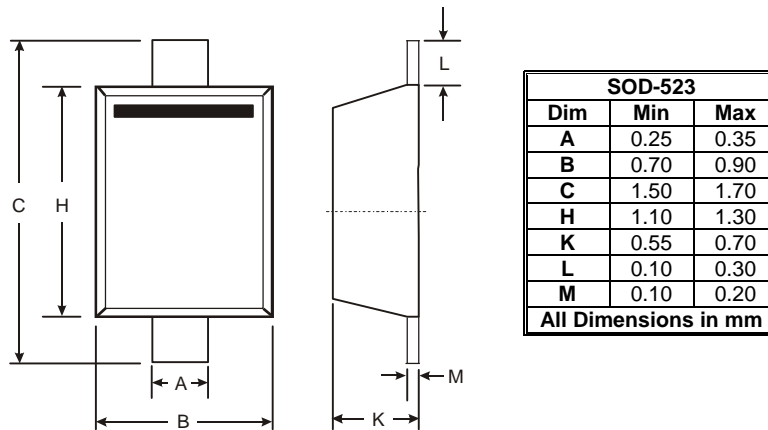
Notes: 3. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
4. Dispensed in every other cavity of the tape.

Marking Information

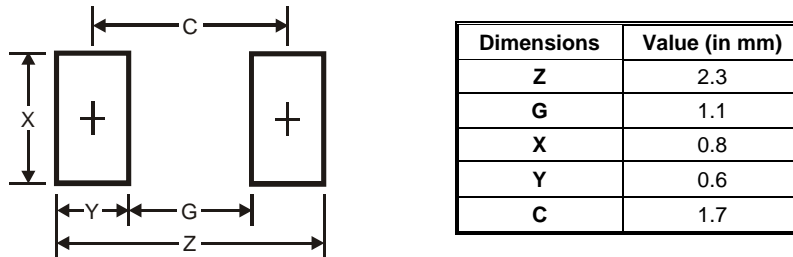


23 = Product Type Marking Code

Package Outline Dimensions



Suggested Pad Layout



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