

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 Free/RoHS Compliant (Note 1)**
- **“Green” Device (Note 3)**

Mechanical Data

- Case: SOD-323
- Case Material: Molded Plastic, “Green” Molding Compound.
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- 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	V _{RRM}	40	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
RMS Reverse Voltage	V _{R(RMS)}	28	V
Average Rectified Output Current T _C =65°C	I _O	1	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	20	A

Thermal Characteristics

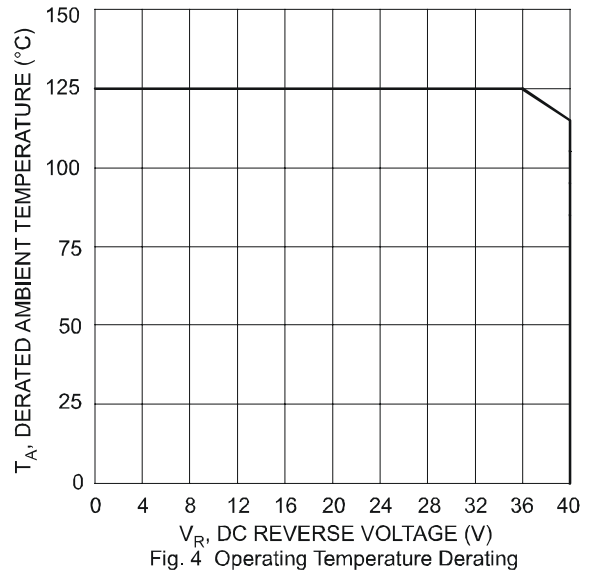
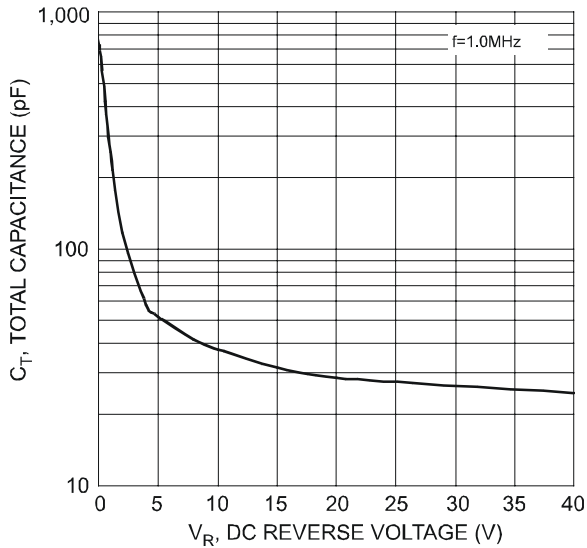
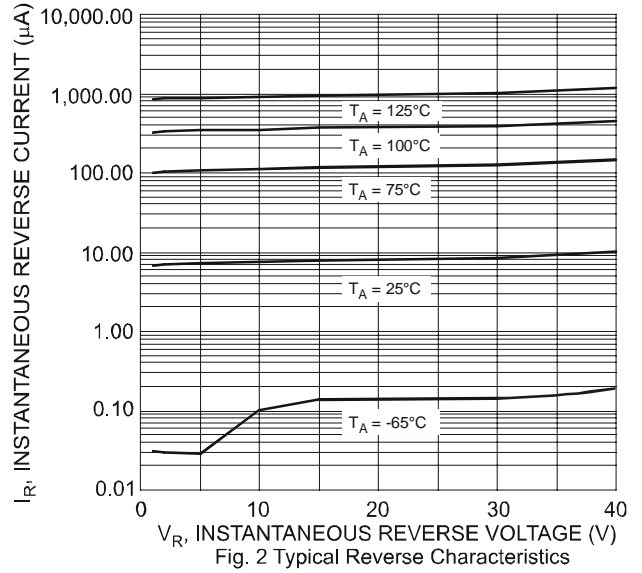
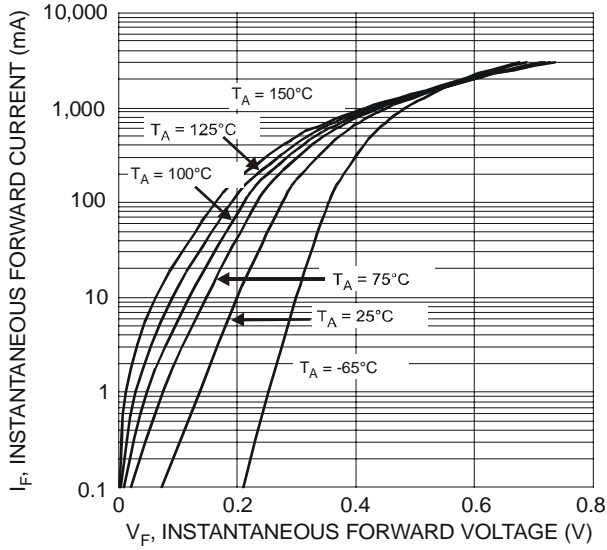
Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance	R _{θJA}	473	°C/W
Thermal Resistance Junction to Ambient (Note 2)	R _{θJA}	407	
Thermal Resistance Junction to Ambient (Note 5)			
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition	
Reverse Breakdown Voltage (Note 4)	V _{(BR)R}	40	-	-	V	I _R = 200μA	
Forward Voltage Drop	V _F	-	0.41	0.45	V	I _F = 700mA, T _J = 25°C	
			0.35	0.38		I _F = 700mA, T _J = 150°C	
			0.46	0.49		I _F = 1A, T _J = 25°C	
			0.42	0.45		I _F = 1A, T _J = 150°C	
Leakage Current (Note 4)	I _R	-	8	15	μA	V _R = 10V, T _J = 25°C	
			3	9		mA	V _R = 10V, T _J = 150°C
			10	30		μA	V _R = 40V, T _J = 25°C
			4	12		mA	V _R = 40V, T _J = 150°C

- Notes:
1. RoHS revision 13.2.2003. High temperature solder exemption applied, see *EU Directive Annex Note 7*.
 2. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com/datasheets/ap02001.pdf>.
 3. Diodes Inc.'s “Green” policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 4. Short duration pulse test used to minimize self-heating effect.
 5. Polyimide PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com/datasheets/ap02001.pdf>.

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Ordering Information (Note 6)

Part Number	Case	Packaging
SBR140S3-7	SOD-323	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

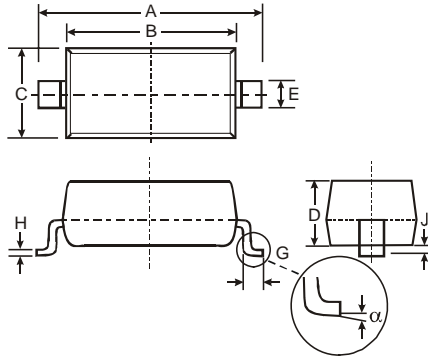
Marking Information



D4 = Product Type Marking Code

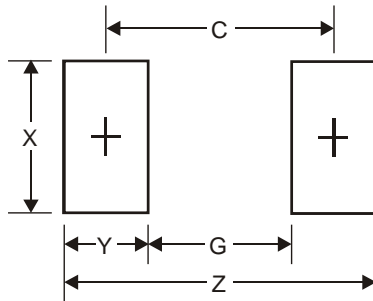
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Package Outline Dimensions



SOD-323		
Dim	Min	Max
A	2.30	2.70
B	1.60	1.80
C	1.20	1.40
D	1.05 Typical	
E	0.25	0.35
G	0.20	0.40
H	0.10	0.15
J	0.00	0.10
α	0°	8°
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	3.75
G	1.05
X	0.65
Y	1.35
C	2.40

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