



SBR130S3

1A 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
- +150 °C Operating Junction Temperature
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

Mechanical Data

- Case: SOD323
- Case Material: Molded Plastic, "Green" Molding Compound.
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Alloy 42 Leadframe.
 Solderable per MIL-STD-202, Method 208 (3)
- Weight: 0.004 grams (Approximate)

SOD323



Top View

Ordering Information (Note 4)

Part Number	Case	Packaging
SBR130S3-7	SOD323	3,000/Tape & Reel

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen and Antimony free, "Green" and Lead-Free.
- 3. Halogen and Antimony free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 4. For packaging details, go to our website at http://www.diodes.com.

Marking Information

SOD323



D3, JE = Product Type Marking Code



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}	20	V
Working Peak Reverse Voltage DC Blocking Voltage	V_{RWM} V_{RM}	30	V
RMS Reverse Voltage	V _{R(RMS)}	21	V
Average Rectified Output Current (Note 6)	Io	1	Α
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	20	Α

Thermal Characteristics

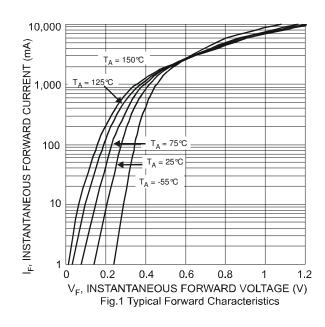
Characteristic	Symbol	Value	Unit
Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	488	%C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	.c

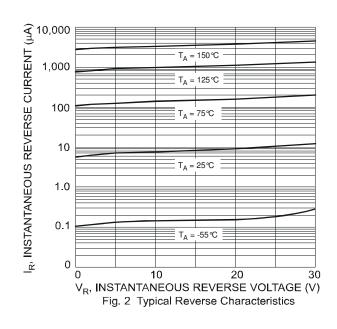
Electrical Characteristics (@T_A = +25 °C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	$V_{(BR)R}$	30	-	-	V	I _R = 200μA
Forward Voltage Drop	V _F	-	0.39	0.43	V	I _F = 700mA, T _J = +25℃
		-	0.31	0.34		I _F = 700mA, T _J = +125 ℃
		-	0.42	0.46		I _F = 1A, T _J = +25℃
		-	0.36	0.39		I _F = 1A, T _J = +125℃
Leakage Current (Note 7)	I _R	-	8.0	20	μΑ	V _R = 10V, T _J = +25 ℃
		-	4.0	10	mA	V _R = 10V, T _J = +125℃
		-	12	50	μΑ	V _R = 30V, T _J = +25 ℃
		-	5	15	mA	V _R = 30V, T _J = +125℃

Notes: 5. Part m

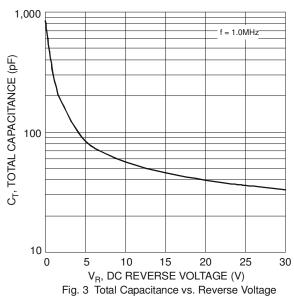
- 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com.
- 6. Part mounted on 50mm X 50mm 2oz copper pad.
- 7. Short duration pulse test used to minimize self-heating effect.

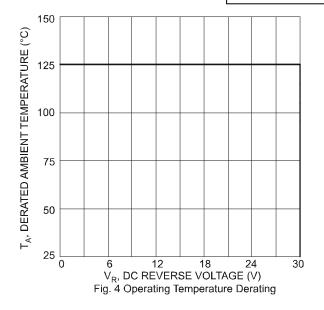






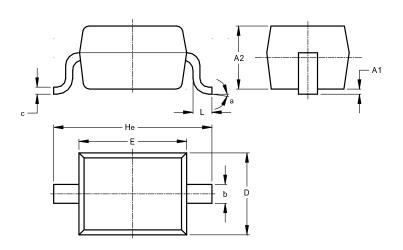






Package Outline Dimensions

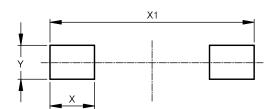
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



SOD323				
Dim	Min	Max	Тур	
A1		0.10	0.05	
A2	1.00	1.10	1.05	
b	0.25	0.35	0.30	
С	0.10	0.15	0.11	
D	1.20	1.40	1.30	
Е	1.60	1.80	1.70	
He	2.30	2.70	2.50	
L	0.20	0.40	0.30	
a 8°				
All Dimensions in mm				

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)
X	0.590
X1	2.700
Υ	0.450



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