

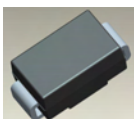
2.0A HIGH VOLTAGE SCHOTTKY BARRIER RECTIFIER

Features

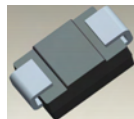
- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Surge Overload Rating to 50A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- High Temperature Soldering: 260°C/10 Second at Terminal
- **Lead Free Finish/RoHS Compliant (Note 1)**
- **Green Molding Compound (No Halogen and Antimony) (Note 2)**

Mechanical Data

- Case: SMB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.093 grams (approximate)



Top View



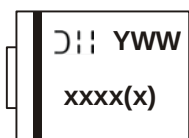
Bottom View

Ordering Information (Note 3)

Part Number	Case	Packaging
B2xxx-13-F	SMB	3000/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see *EU Directive 2002/95/EC Annex Notes*.
 2. Product manufactured with Data Code 0924 (week 24, 2009) and newer are built with Green Molding Compound.
 3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



- XXXX = Product type marking code, ex: B290 (SMB package)
 DII = Manufacturers' code marking
 YWW = Date code marking
 Y = Last digit of year (ex: 2 for 2002)
 WW = Week code (01 to 53)

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	B270	B280	B290	B2100	Unit
Peak Repetitive Reverse Voltage	V_{RRM}					
Working Peak Reverse Voltage	V_{RWM}	70	80	90	100	V
DC Blocking Voltage	V_R					
RMS Reverse Voltage	$V_{R(RMS)}$	49	56	63	70	V
Average Rectified Output Current @ $T_T = 125^\circ\text{C}$	I_O	2.0				A
Non-Repetitive Peak Forward Surge Current 8.3ms						
Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	50				A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Terminal (Note 4)	$R_{\theta JT}$	15	$^\circ\text{C/W}$
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
Forward Voltage Drop	V_F	-	-	0.79 0.69	V	$I_F = 2.0\text{A}, T_A = 25^\circ\text{C}$ $I_F = 2.0\text{A}, T_A = 100^\circ\text{C}$
Leakage Current (Note 5)	I_R	-	-	7.0 2.0	μA mA	@ Rated $V_R, T_A = 25^\circ\text{C}$ @ Rated $V_R, T_A = 100^\circ\text{C}$
Total Capacitance	C_T	-	-	75	pF	$V_R = 4\text{V}, f = 1\text{MHz}$

Notes: 4. Valid provided that terminals are kept at ambient temperature.
 5. Short duration pulse test used to minimize self-heating effect.

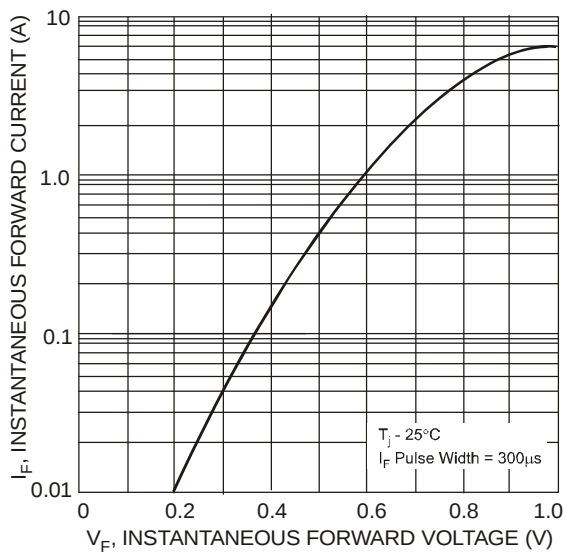


Fig. 1 Typical Forward Characteristics

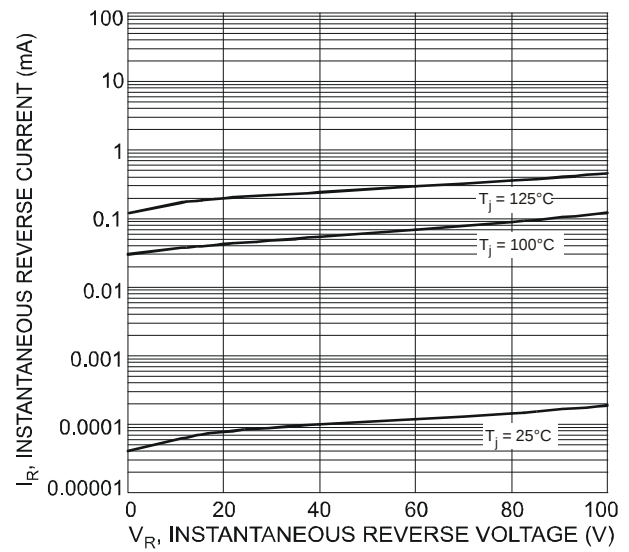


Fig. 2 Typical Reverse Characteristics

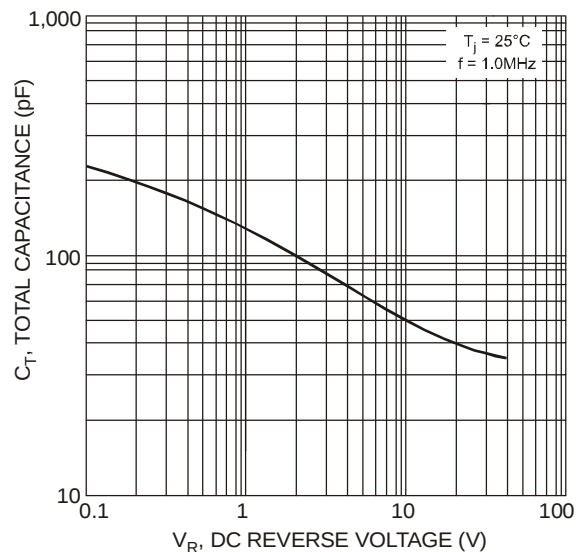


Fig. 3 Total Capacitance vs. Reverse Voltage

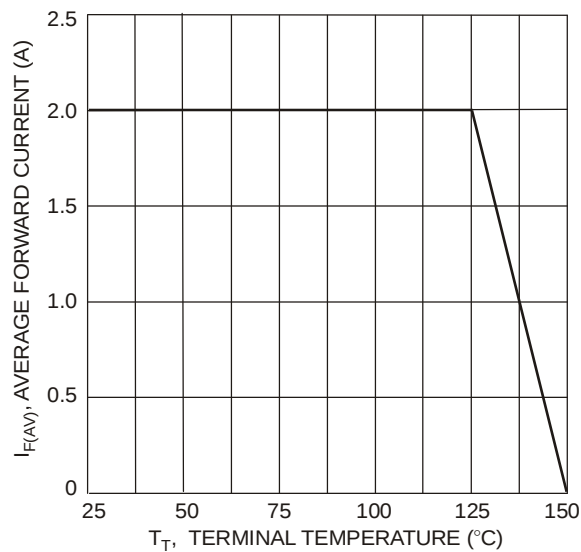


Fig. 4 Forward Current Derating Curve

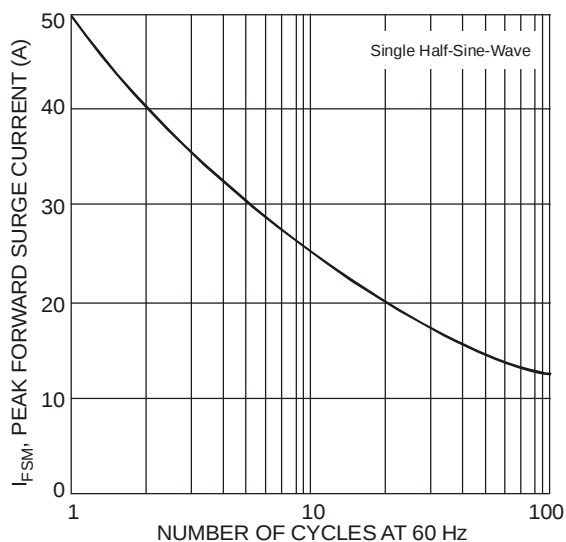
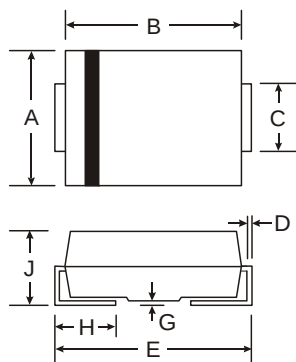


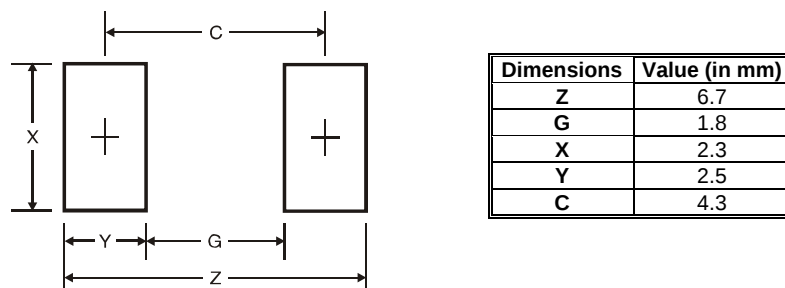
Fig. 5 Max Non-Repetitive Peak Forward Surge Current

Package Outline Dimensions



SMB		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.57
C	1.96	2.21
D	0.15	0.31
E	5.00	5.59
G	0.05	0.20
H	0.76	1.52
J	2.00	2.50
All Dimensions in mm		

Suggested Pad Layout



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