
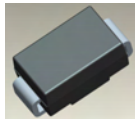


Features

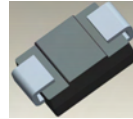
- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Surge Overload Rating to 50A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- High Temperature Soldering: 260°C/10 Second at 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



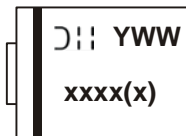
Bottom View

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.

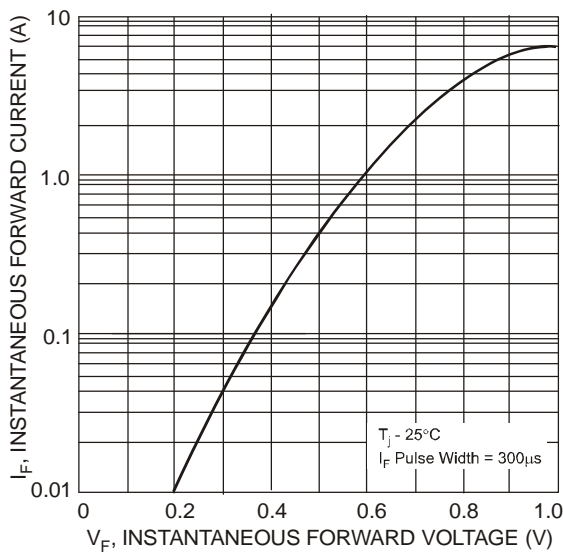


Fig. 1 Typical Forward Characteristics

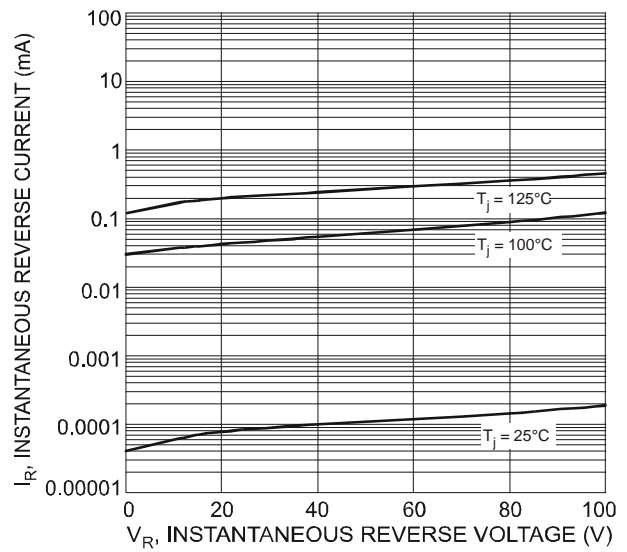


Fig. 2 Typical Reverse Characteristics

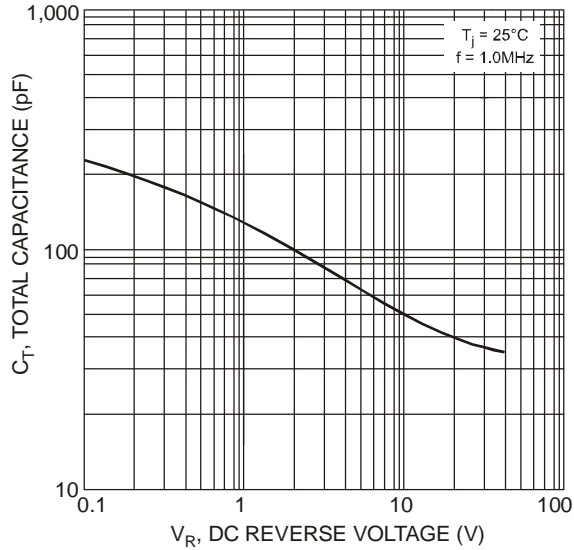


Fig. 3 Total Capacitance vs. Reverse Voltage

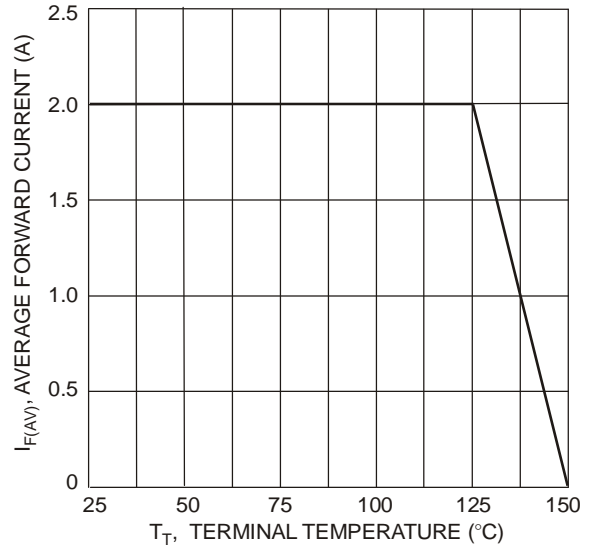


Fig. 4 Forward Current Derating Curve

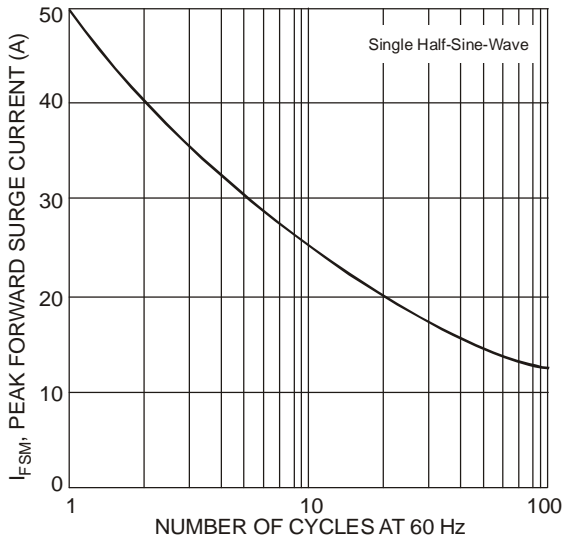
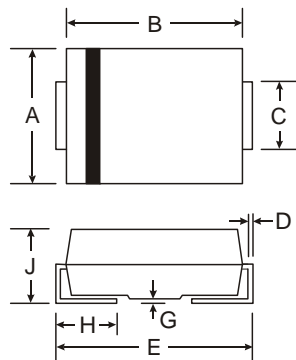


Fig. 5 Max Non-Repetitive Peak Forward Surge Current

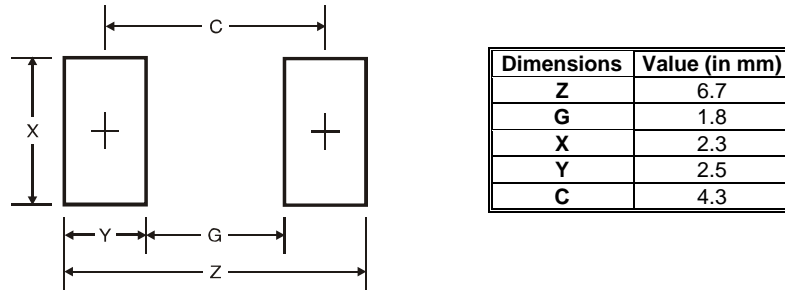
Package Outline Dimensions



| 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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