

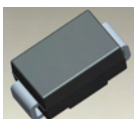
## 2.0A HIGH VOLTAGE SCHOTTKY BARRIER RECTIFIER

### Features

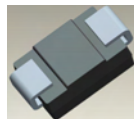
- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Surge Overload Rating to 50A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- High Temperature Soldering: 260°C/10 Second at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



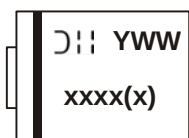
Bottom View

### 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<sub>A</sub> = 25°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 <sub>RRM</sub>    |      |      |      |       |      |
| Working Peak Reverse Voltage                              | V <sub>RWM</sub>    | 70   | 80   | 90   | 100   | V    |
| DC Blocking Voltage                                       | V <sub>R</sub>      |      |      |      |       |      |
| RMS Reverse Voltage                                       | V <sub>R(RMS)</sub> | 49   | 56   | 63   | 70    | V    |
| Average Rectified Output Current @ T <sub>T</sub> = 125°C | I <sub>O</sub>      | 2.0  |      |      |       | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms           |                     |      |      |      |       |      |
| Single Half Sine-Wave Superimposed on Rated Load          | I <sub>FSM</sub>    | 50   |      |      |       | A    |

**Thermal Characteristics**

| Characteristic                                           | Symbol                            | Value       | Unit |
|----------------------------------------------------------|-----------------------------------|-------------|------|
| Typical Thermal Resistance Junction to Terminal (Note 4) | R <sub>θJT</sub>                  | 15          | °C/W |
| Operating and Storage Temperature Range                  | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 | °C   |

**Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic           | Symbol         | Min | Typ | Max          | Unit     | Test Condition                                                                                    |
|--------------------------|----------------|-----|-----|--------------|----------|---------------------------------------------------------------------------------------------------|
| Forward Voltage Drop     | V <sub>F</sub> | -   | -   | 0.79<br>0.69 | V        | I <sub>F</sub> = 2.0A, T <sub>A</sub> = 25°C<br>I <sub>F</sub> = 2.0A, T <sub>A</sub> = 100°C     |
| Leakage Current (Note 5) | I <sub>R</sub> | -   | -   | 7.0<br>2.0   | μA<br>mA | @ Rated V <sub>R</sub> , T <sub>A</sub> = 25°C<br>@ Rated V <sub>R</sub> , T <sub>A</sub> = 100°C |
| Total Capacitance        | C <sub>T</sub> | -   | -   | 75           | pF       | V <sub>R</sub> = 4V, f = 1MHz                                                                     |

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

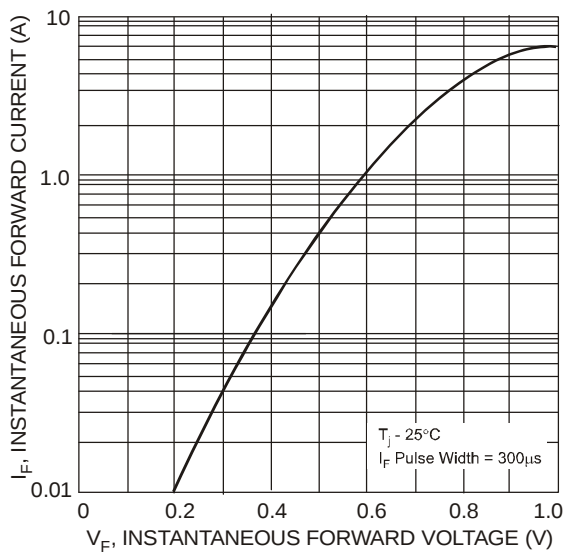


Fig. 1 Typical Forward Characteristics

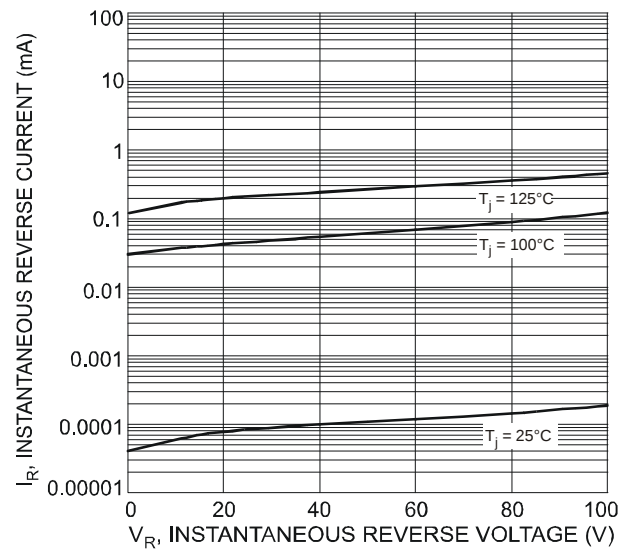
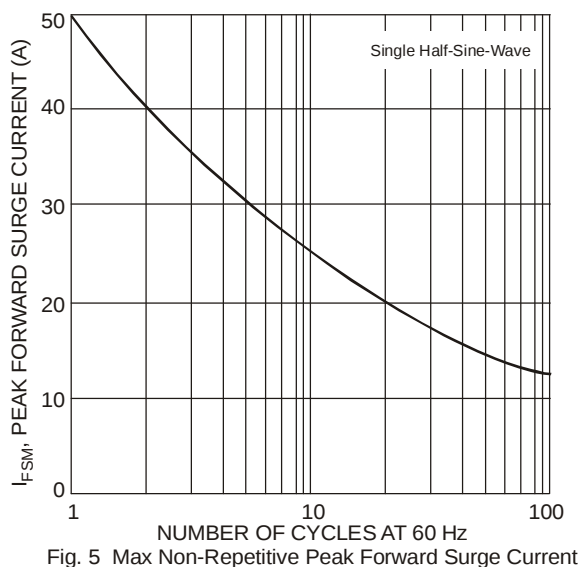
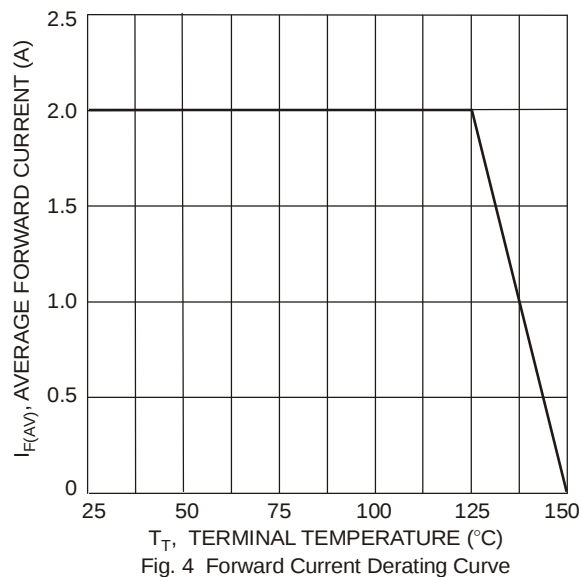
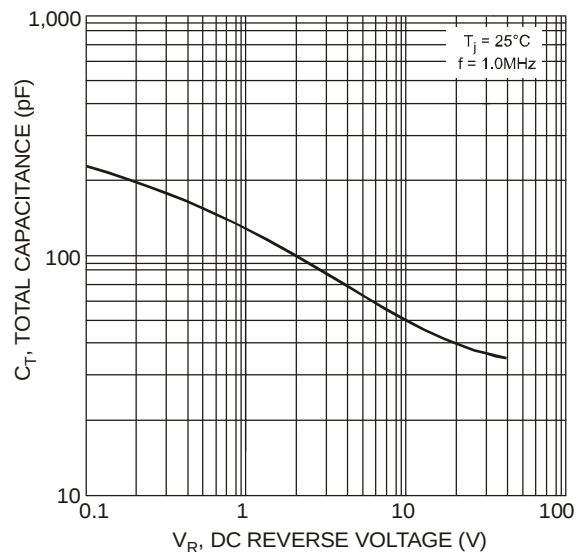
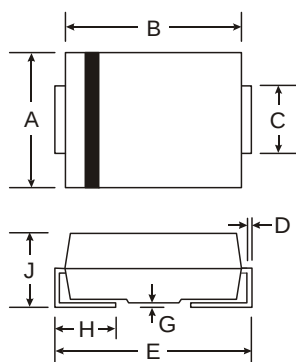


Fig. 2 Typical Reverse Characteristics

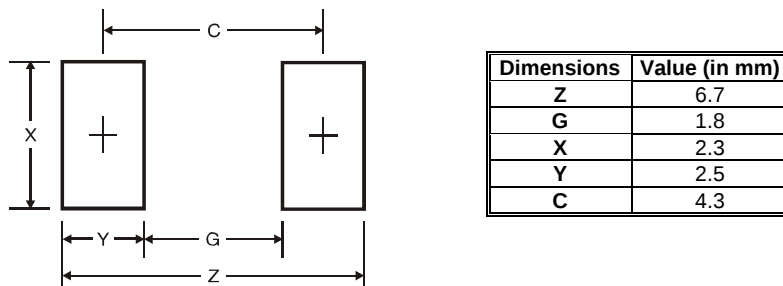


## Package Outline Dimensions



| 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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