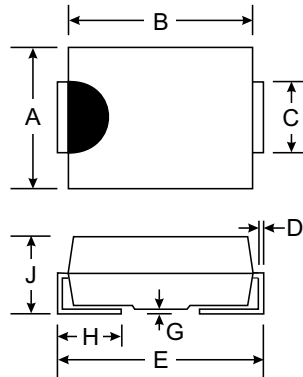


### Features

- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 30A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- Plastic Material - UL Flammability Classification 94V-0



| Dim | SMA  |      | SMB  |      |
|-----|------|------|------|------|
|     | Min  | Max  | Min  | Max  |
| A   | 2.29 | 2.92 | 3.30 | 3.94 |
| B   | 4.00 | 4.60 | 4.06 | 4.57 |
| C   | 1.27 | 1.63 | 1.96 | 2.21 |
| D   | 0.15 | 0.31 | 0.15 | 0.31 |
| E   | 4.80 | 5.59 | 5.00 | 5.59 |
| G   | 0.10 | 0.20 | 0.10 | 0.20 |
| H   | 0.76 | 1.52 | 0.76 | 1.52 |
| J   | 2.01 | 2.62 | 2.00 | 2.62 |

All Dimensions in mm

### Mechanical Data

- Case: Molded Plastic
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band or Cathode Notch
- Approx. Weight: SMA 0.064 grams  
SMB 0.093 grams
- Marking: Type Number

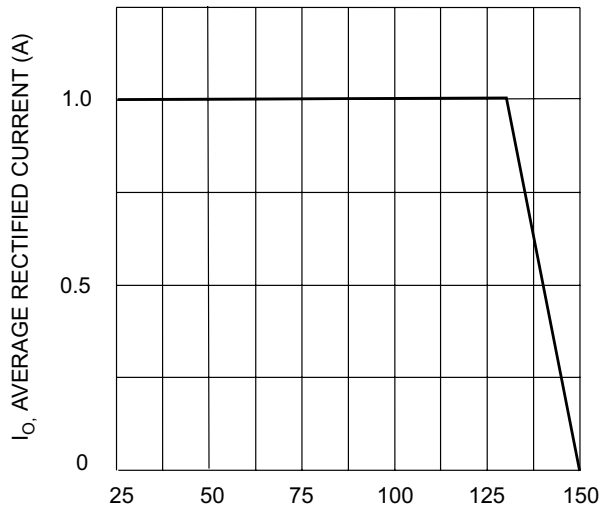
No Suffix Designates SMA Package  
"B" Suffix Designates SMB Package

### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

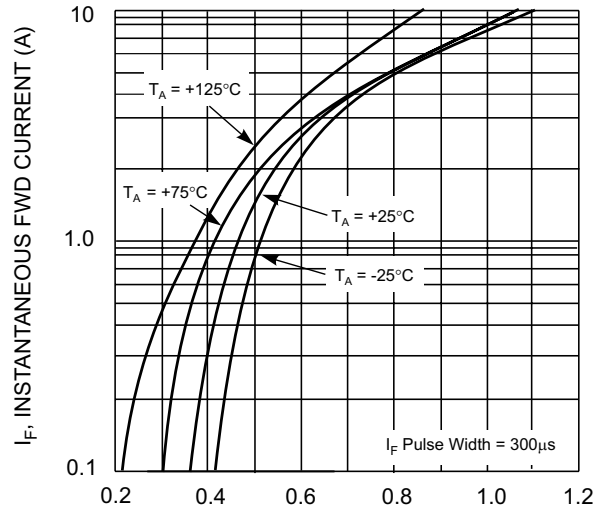
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| Characteristic  | Symbol                            | B120/B      | B130/B | B140/B | B150/B | B160/B | Unit |
|---|-----------------------------------|-------------|--------|--------|--------|--------|------|
| Peak Repetitive Reverse Voltage   | V <sub>RRM</sub>                  | 20          | 30     | 40     | 50     | 60     | V    |
| Working Peak Reverse Voltage  | V <sub>RWM</sub>                  |             |        |        |        |        |      |
| DC Blocking Voltage   | V <sub>R</sub>                    |             |        |        |        |        |      |
| RMS Reverse Voltage   | V <sub>R(RMS)</sub>               | 14          | 21     | 28     | 35     | 42     | V    |
| Average Rectified Output Current @ T <sub>T</sub> = 130°C   | I <sub>O</sub>                    | 1.0         |        |        |        |        | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>                  | 30          |        |        |        |        | A    |
| Forward Voltage @ I <sub>F</sub> = 1.0A   | V <sub>FM</sub>                   | 0.50        |        | 0.70   |        |        | V    |
| Peak Reverse Current at Rated DC Blocking Voltage @ T <sub>A</sub> = 25°C @ T <sub>A</sub> = 100°C              | I <sub>RM</sub>                   | 0.5         |        |        | 10     |        | mA   |
| Typical Junction Capacitance (Note 2)   | C <sub>J</sub>                    | 110         |        |        |        |        | pF   |
| Typical Thermal Resistance Junction to Terminal (Note 1)  | R <sub>θJT</sub>                  | 20          |        |        |        |        | °C/W |
| Operating and Storage Temperature Range   | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 |        |        |        |        | °C   |

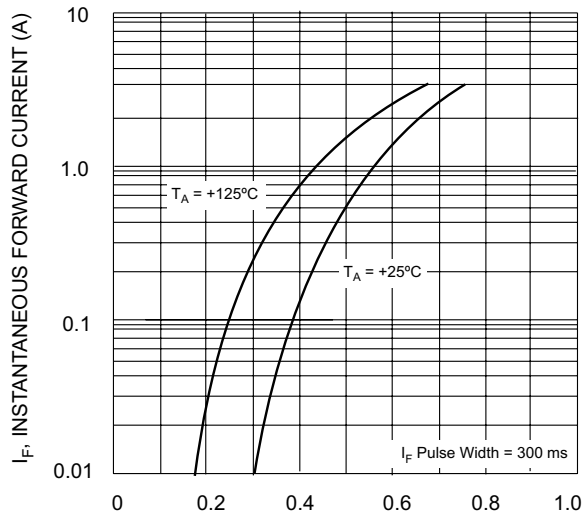
Notes: 1. Thermal Resistance: Junction to terminal, unit mounted on PC board with 5.0 mm<sup>2</sup> (0.013 mm thick) copper pads as heat sink.  
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.



$T_T$ , TERMINAL TEMPERATURE ( $^{\circ}\text{C}$ )  
Fig. 1 Forward Current Derating Curve



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics - B120/B thru B140/B



$V_F$ , INSTANTANEOUS FWD VOLTAGE (V)  
Fig. 3 Typ. Forward Characteristics - B150/B thru B160/B

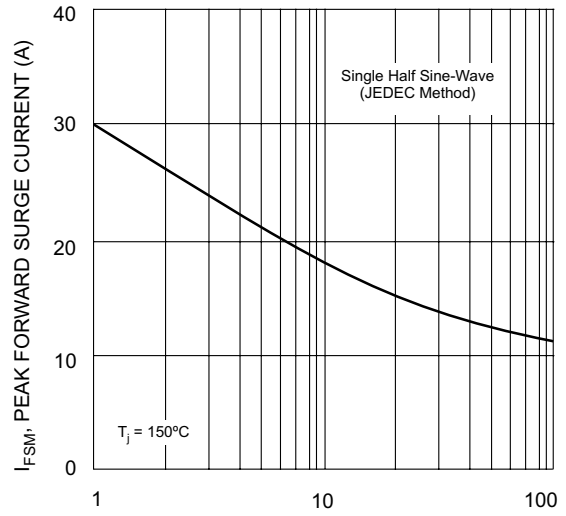
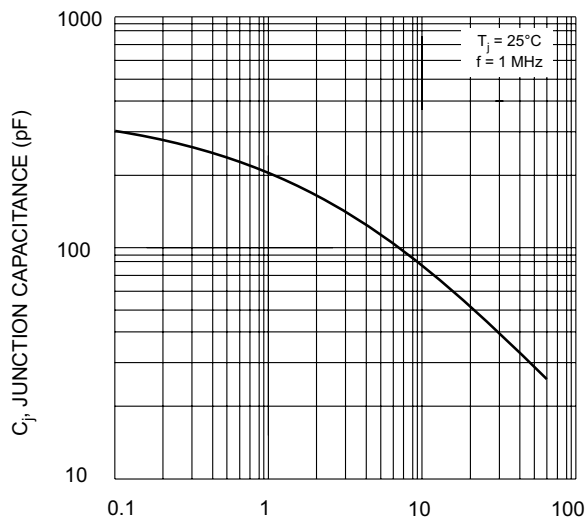
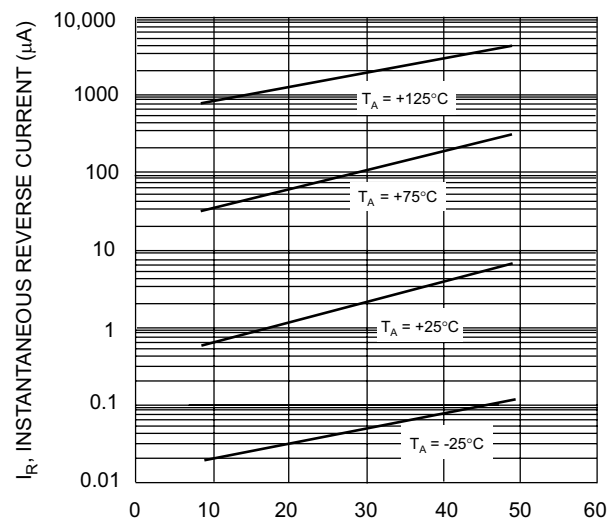


Fig. 4 Max Non-Repetitive Peak Fwd Surge Current



$V_R$ , REVERSE VOLTAGE (V)  
Fig. 5 Typical Junction Capacitance



$V_R$ , INSTANTANEOUS REVERSE VOLTAGE (V)  
Fig. 6 Typical Reverse Characteristics, B120/B thru B140/B

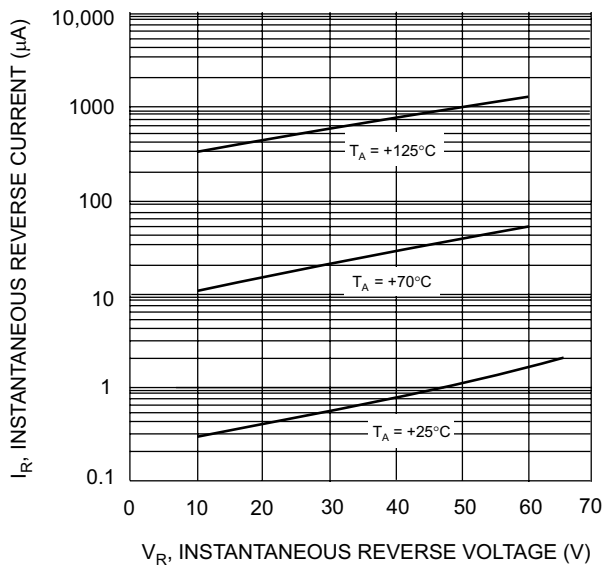


Fig. 7 Typical Reverse Characteristics, B150/B thru B160/B