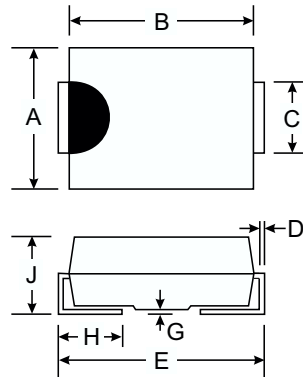


Features

- Ultra-low Leakage Current
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 45A Peak
- Plastic Material: UL Flammability Classification Rating 94V-0



| 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 | 0.10 | 0.20 |
| H | 0.76 | 1.52 |
| J | 2.00 | 2.62 |
| All Dimensions in mm | | |

Mechanical Data

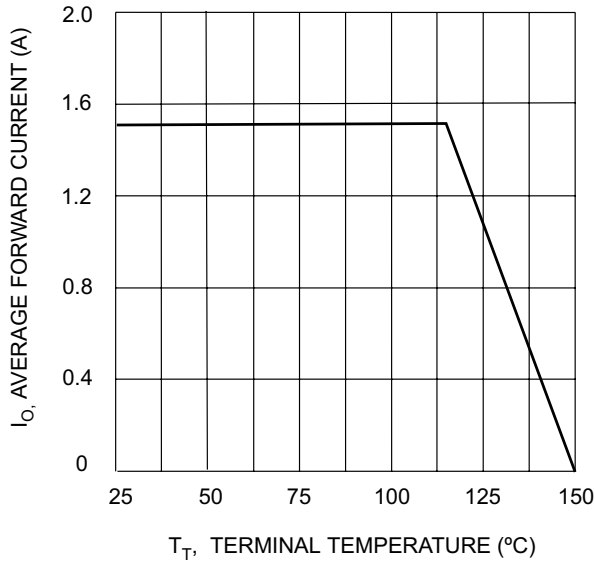
- Case: Molded Plastic
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Marking: Type Number
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.093 grams (approx.)
- Mounting Position: Any

Maximum Ratings and Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

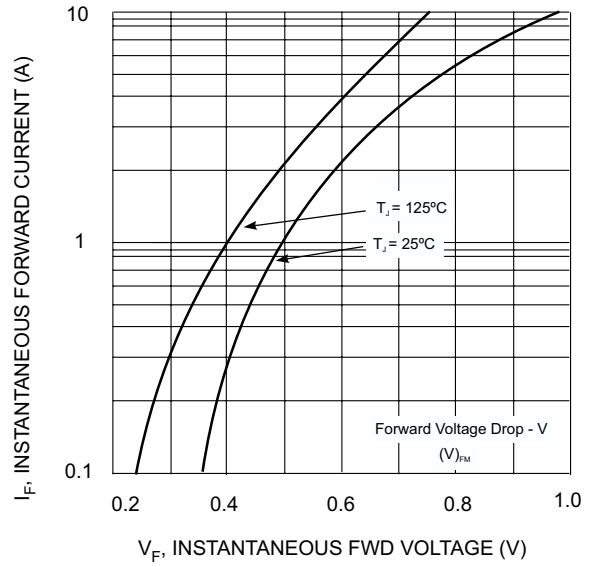
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | B140HB | Unit |
|--|---------------------------------|------------------------------|------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage @ $I_R = 0.1\text{mA}$ | V_{RRM} V_{RWM} V_R | 40 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 28 | V |
| Average Rectified Output Current @ $T_J = 115^\circ\text{C}$ | I_O | 1.0 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load | I_{FSM} | 45 | A |
| Non-Repetitive Peak Forward Surge Current 5 μs Single half sine-wave | I_{FSM} | 430 | A |
| Forward Voltage @ $I_F = 1.0\text{A}$, @ $T_J = 25^\circ\text{C}$ @ $I_F = 2.0\text{A}$, @ $T_J = 25^\circ\text{C}$ @ $I_F = 1.0\text{A}$, @ $T_J = 125^\circ\text{C}$ @ $I_F = 2.0\text{A}$, @ $T_J = 125^\circ\text{C}$ | V_{FM} | 0.53 0.70 0.49 0.64 | V |
| Peak Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$ | I_{RM} | 0.1 4.0 | mA |
| Typical Junction Capacitance (Note 2) | C_j | 80 | pF |
| Max. Voltage Rate of Change @ Rated V_R | dv/dt | 5300 | V/ μs |
| Typical Thermal Resistance Junction to Terminal (Note 1) | $R_{\theta JT}$ | 36 | K/W |
| Operating and Storage Temperature Range | T_J, T_{STG} | -55 to +150 | $^\circ\text{C}$ |

- Notes: 1. Thermal Resistance: Junction to terminal, unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pads as heat sink.
2. Measured at 1.0MHz and applied reverse voltage of 5.0V DC.



T_T , TERMINAL TEMPERATURE (°C)
Fig. 1 Forward Current Derating Curve



V_F , INSTANTANEOUS FWD VOLTAGE (V)
Fig. 2 Typ. Forward Characteristics

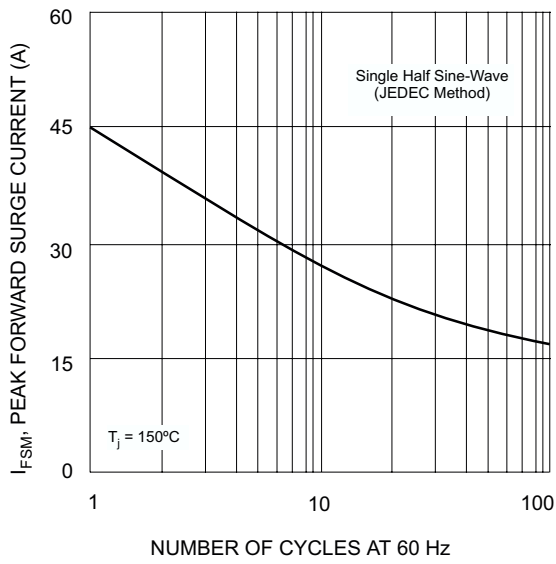
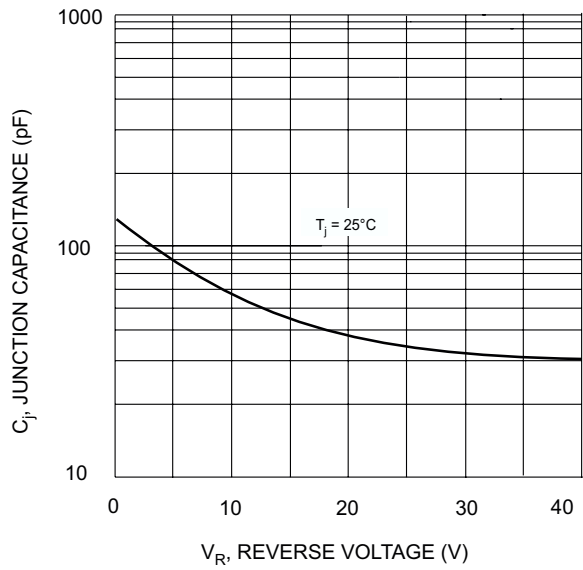
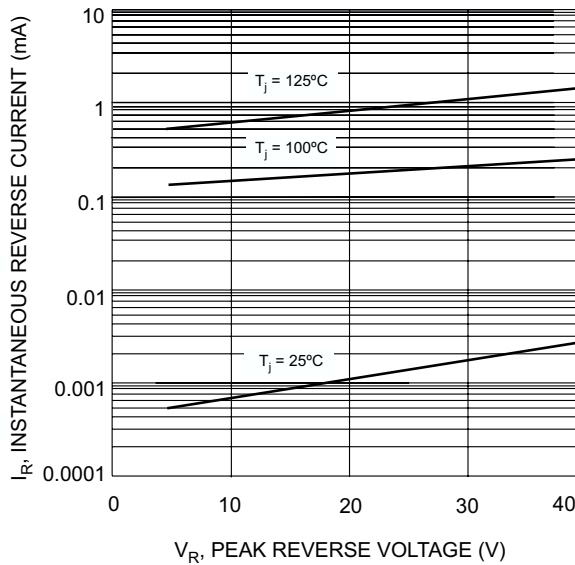


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current



V_R , REVERSE VOLTAGE (V)
Fig. 4 Typical Junction Capacitance



V_R , PEAK REVERSE VOLTAGE (V)
Fig. 5 Typical Reverse Characteristics