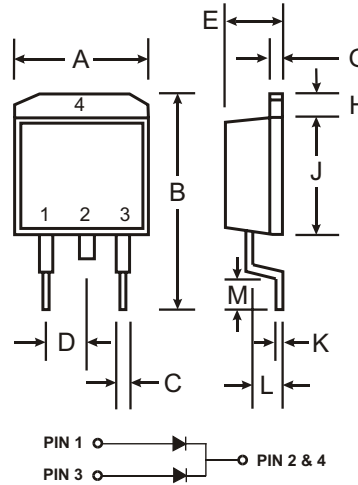


Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Plastic Material: UL Flammability Classification Rating 94V-0

Mechanical Data

- Case: D²PAK, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Weight: 1.7 grams (approx)
- Marking: Type Number



| D ² PAK | | |
|----------------------|-------|-------|
| Dim | Min | Max |
| A | 9.65 | 10.69 |
| B | 14.60 | 15.88 |
| C | 0.51 | 1.14 |
| D | 2.29 | 2.79 |
| E | 4.37 | 4.83 |
| G | 1.14 | 1.40 |
| H | 1.14 | 1.40 |
| J | 8.25 | 9.25 |
| K | 0.30 | 0.64 |
| L | 2.03 | 2.92 |
| M | 2.29 | 2.79 |
| All Dimensions in mm | | |

Maximum Ratings and Electrical Characteristics @ T_A = 25°C unless otherwise specified

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

| Characteristic | Symbol | MBRB 2070CT | MBRB 2080CT | MBRB 2090CT | MBRB 20100CT | Unit |
|--|--|------------------------------|-------------|-------------|--------------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _R | 70 | 80 | 90 | 100 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 49 | 56 | 63 | 70 | V |
| Average Rectified Output Current (Note 1) @ T _C = 110°C | I _O | 20 | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 150 | | | | A |
| Forward Voltage Drop @ I _F = 10A, T _j = 125°C @ I _F = 10A, T _j = 25°C @ I _F = 20A, T _j = 125°C @ I _F = 20A, T _j = 25°C | V _{FM} | 0.75 0.85 0.85 0.95 | | | | V |
| Peak Reverse Current at Rated DC Blocking Voltage @ T _A = 25°C @ T _A = 125°C | I _{RM} | 0.1 100 | | | | mA |
| Typical Junction Capacitance (Note 2) | C _j | 275 | | | | pF |
| Typical Thermal Resistance Junction to Case (Note 1) | R _{θJc} | 2.0 | | | | °C/W |
| Voltage Rate of Change @ rated V _R | dV/dt | 10000 | | | | V/μs |
| Operating Temperature Range | T _j | -65 to +150 | | | | °C |
| Storage Temperature Range | T _{STG} | -65 to +175 | | | | °C |

Notes: 1. Thermal resistance junction to case mounted on heatsink.
2. Measured at 1.0 MHz and Applied Reverse Voltage of 4.0V DC.

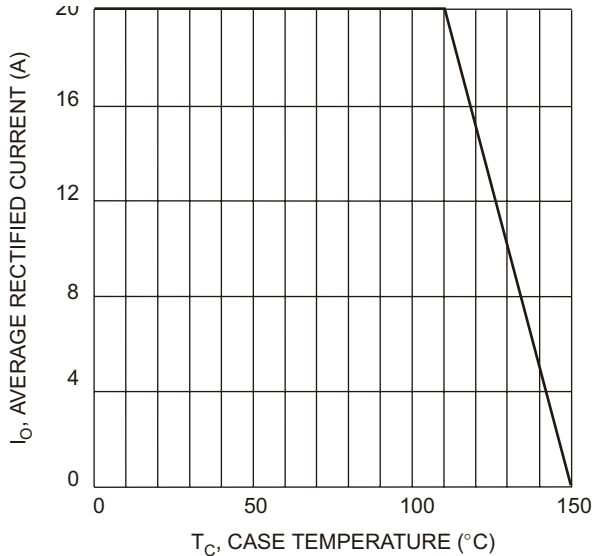


Fig. 1 Fwd Current Derating Curve

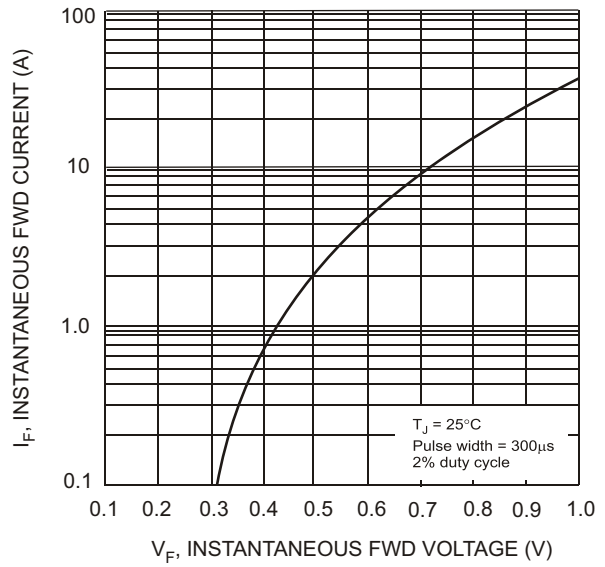


Fig. 2 Typical Forward Characteristics

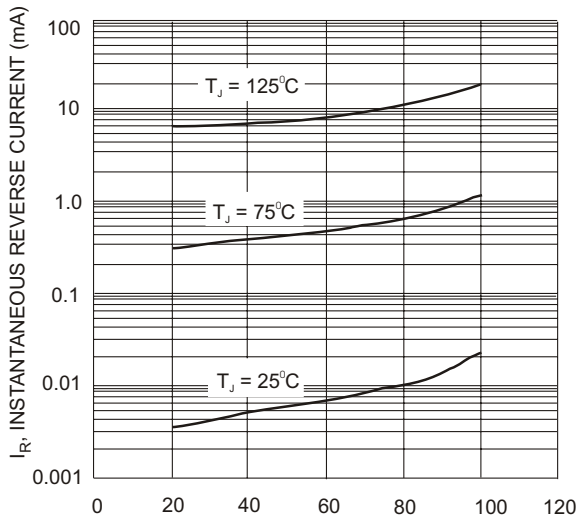


Fig. 3 Typical Reverse Characteristics

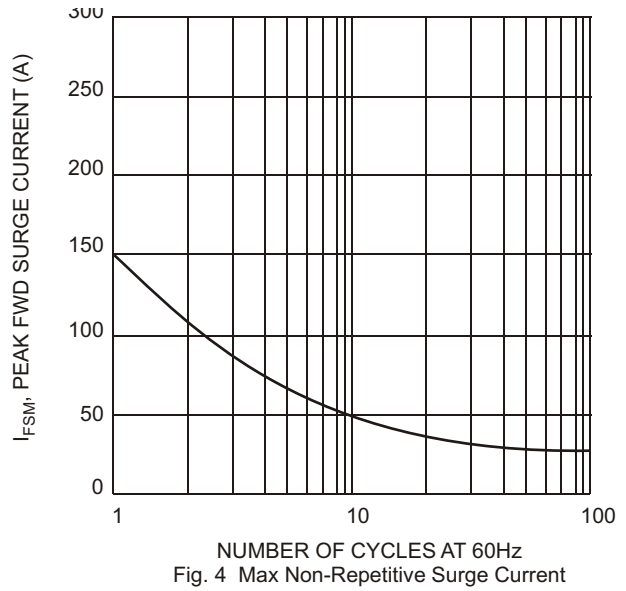


Fig. 4 Max Non-Repetitive Surge Current

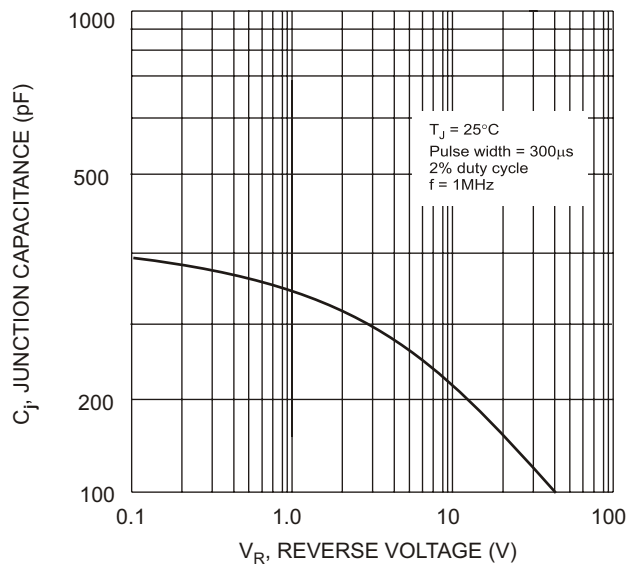


Fig. 5 Typical Junction Capacitance