

Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop
- High Current Capability
- High Surge Current Capability
- Designed for Surface Mount Application
- Plastic Material – UL Flammability 94V-O



Mechanical Data

- **Case:** MBS, Molded Plastic
- **Terminals:** Plated Leads Solderable per MIL-STD-202, Method 208
- **Polarity:** As Marked on Case
- **Mounting Position:** Any
- **Marking:** Type Number
- **Lead Free:** For RoHS / Lead Free Version

Major Ratings and Characteristics

| | |
|------------|-----------------|
| I_O | 0.5A, 0.8A |
| V_{RRM} | 100 V to 1000 V |
| I_{FSM} | 30 A |
| I_R | 5 μ A |
| V_F | 1.00V |
| T_j max. | 150 °C |

Maximum Ratings & Thermal Characteristics ($T_A = 25\text{ °C}$ unless otherwise noted)

Single Phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| Items | Symbol | MB 1S | MB 2S | MB 4S | MB 6S | MB 8S | MB 10S | UNIT |
|---|-----------------|-------------|-------|-------|-------|-------|--------|---------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Working Peak Reverse Voltage | V_{RWM} | | | | | | | |
| DC Blocking Voltage | V_R | | | | | | | |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current ⁽¹⁾ | I_O | 0.5 | | | | | | A |
| Average Rectified Output Current ⁽²⁾ | | 0.8 | | | | | | |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 30 | | | | | | A |
| I^2t Rating for Fusing ($t < 8.3ms$) | I^2t | 3.7 | | | | | | A^2s |
| Thermal resistance from junction to lead | $R_{\theta JL}$ | 20 | | | | | | $^{\circ}C/W$ |
| Thermal resistance from junction to ambient ⁽¹⁾ | $R_{\theta JA}$ | 134 | | | | | | $^{\circ}C/W$ |
| Thermal resistance from junction to ambient ⁽²⁾ | | 76 | | | | | | |
| Operating junction and storage temperature range | T_J, T_{STG} | -55 to +150 | | | | | | $^{\circ}C$ |

Note 1: Mounted on glass epoxy PC board with 1.0mm² solder pad.

Note 2: Mounted on aluminum substrate PC board with 1.0mm² solder pad.

Electrical Characteristics ($T_A = 25\text{ °C}$ unless otherwise noted)

| Items | Test conditions | Symbol | Min | Type | Max | UNIT |
|-------------------------------|------------------|--------|-----|------|------|---------|
| Instantaneous forward voltage | $I_F=0.4A^{(3)}$ | V_F | - | - | 1.00 | V |
| Reverse current | $V_R=V_{DC}$ | I_R | - | - | 5 | μ A |
| | | | - | - | 500 | |
| Typical junction capacitance | 4.0 V, 1MHz | C_J | - | 13 | - | pF |

Note: 3. Pulse test: 300 μ s pulse width, 1% duty cycle.

Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 Output Current Derating Curve

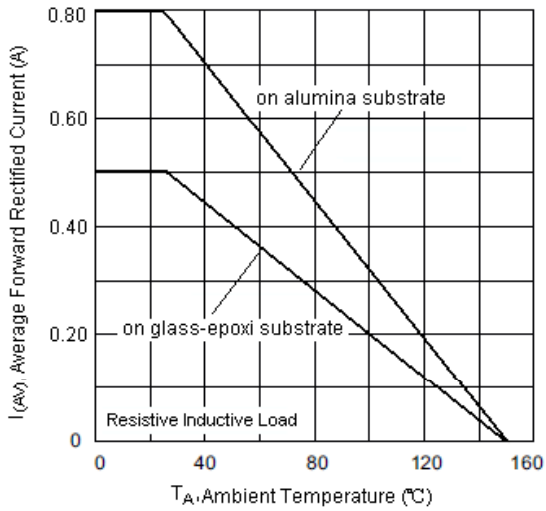


Fig.2 Typical Forward Characteristics (per leg)

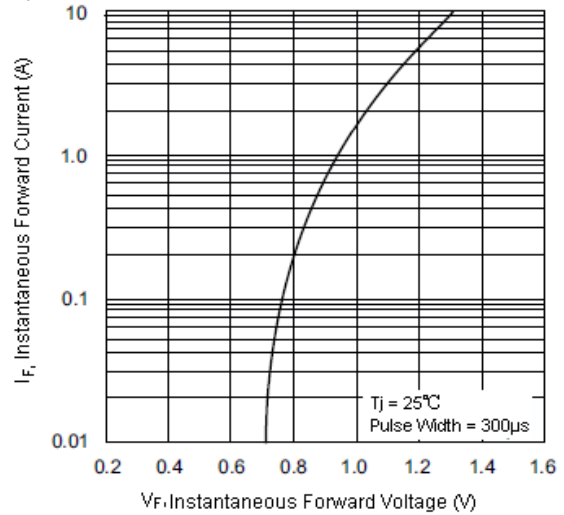


Fig.3 Maximum Peak Forward Surge Current (per leg)

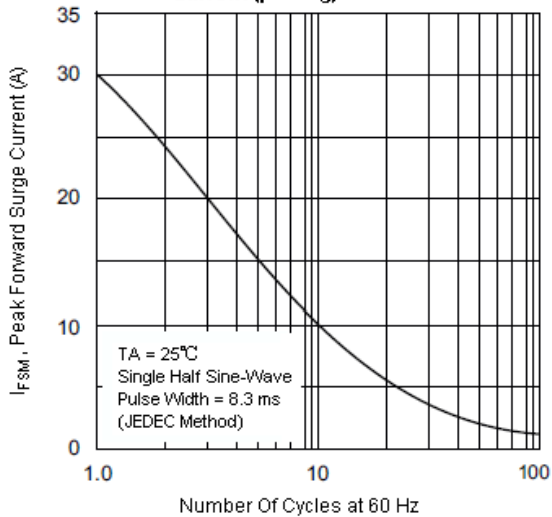


Fig.4 Typical Junction Capacitance

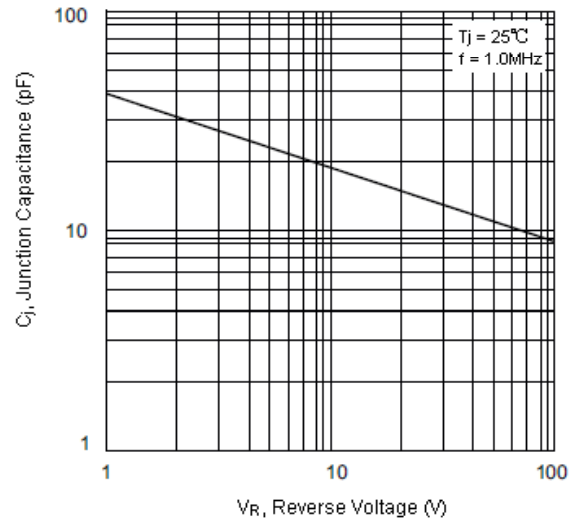
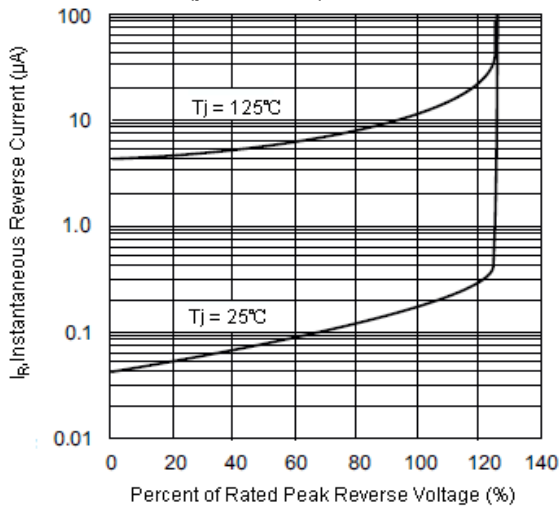
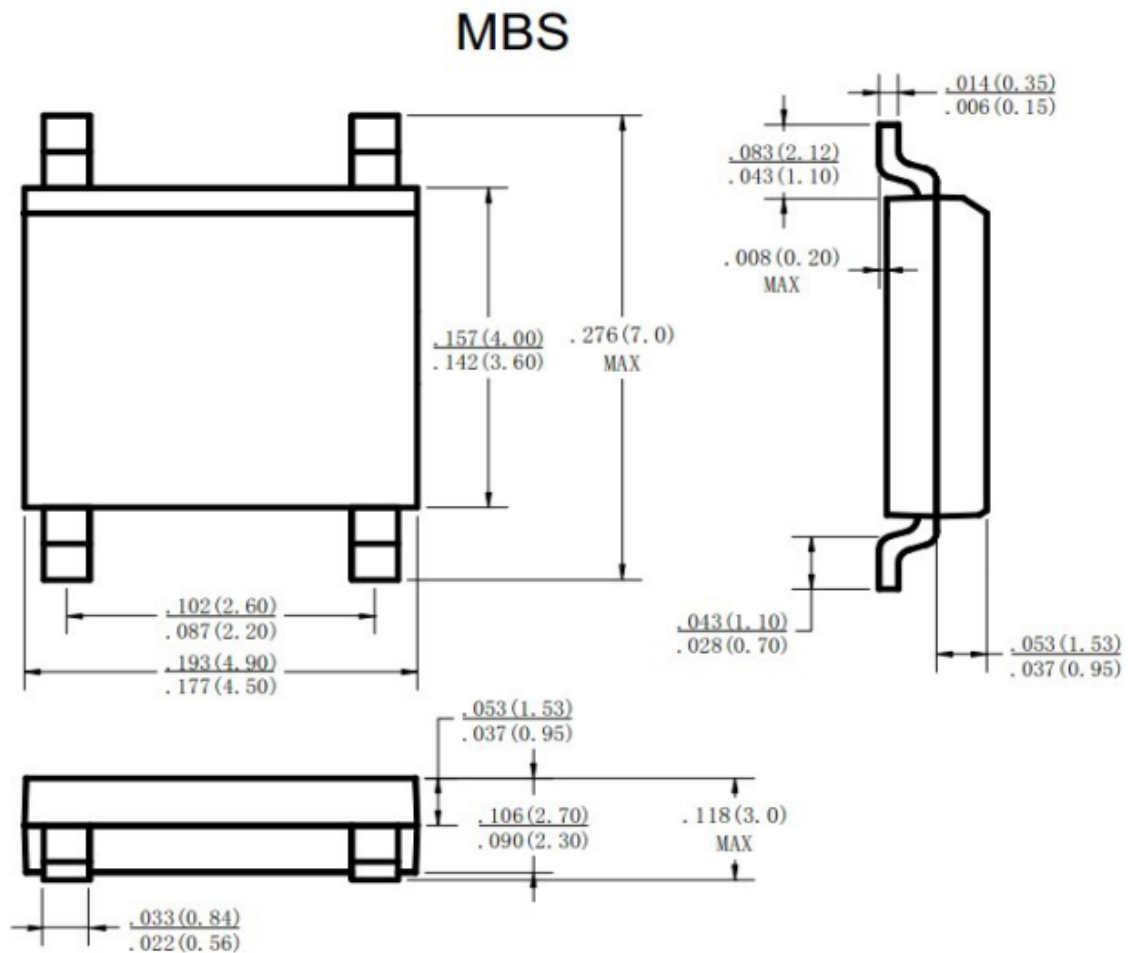


Fig.5 Typical Reverse Characteristics (per element)



Package Outline



Dimensions in inches and (millimeters)