

Surface Mount Glass Passivated Bridge Rectifier

Voltage

1000 V

Current

3A

Features

- Glass passivated chip junction
- Ideally suited for automatic assembly
- Save space on printed circuit boards
- Ultra thin profile package for space constrained utilization
- Low forward voltage drop
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : MSBL Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.00825 ounces, 0.234 grams

Application

- Quick Charger (<45W)
- General power adapter (<50W)
- USB PD , NB Adapter (<65W)
- 3-in-1 DTV Power Board (<45W)
- Smart speaker adapter (<40W)

MSBL



Maximum Ratings and Thermal Characteristics ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|---|--|------------|----------------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 1000 | V |
| Maximum RMS Voltage | V_{RMS} | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 1000 | V |
| Maximum Average Forward Current | $I_{F(AV)}$ | 3 | A |
| Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load | @ $T_A = 25\text{ }^\circ\text{C}$ @ $T_A = 125\text{ }^\circ\text{C}$ I_{FSM} | 110 88 | A |
| Peak Forward Surge Current : 1.0 ms Single Half Sine-Wave Superimposed On Rated Load | @ $T_A = 25\text{ }^\circ\text{C}$ @ $T_A = 125\text{ }^\circ\text{C}$ I_{FSM} | 220 176 | A |
| $I^2 t$ rating for fusing ($t = 8.3\text{ms}$) | $I^2 t$ | 50.2 | A^2S |
| Typical Junction Capacitance Measured at 1 MHz And Applied $V_R = 4\text{ V}$ (Note 1) | C_J | 40 | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JC}$ | 20 | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range | T_J | -55~150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55~150 | $^\circ\text{C}$ |

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

| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNITS |
|-----------------|--------|---|------|------|------|---------------|
| Forward Voltage | V_F | $I_F = 3\text{ A}$, $T_J = 25\text{ }^\circ\text{C}$ | - | - | 1.1 | V |
| Reverse Current | I_R | $V_R = 1000\text{ V}$, $T_J = 25\text{ }^\circ\text{C}$ | - | - | 5 | μA |
| | | $V_R = 1000\text{ V}$, $T_J = 125\text{ }^\circ\text{C}$ | - | - | 100 | |

NOTES :

1. Measured at 1MHz and applied reverse voltage of 4 V D.C.
2. Mounted on a FR4,100x100x1.6mm ,2oz copper pad area

TYPICAL CHARACTERISTIC CURVES

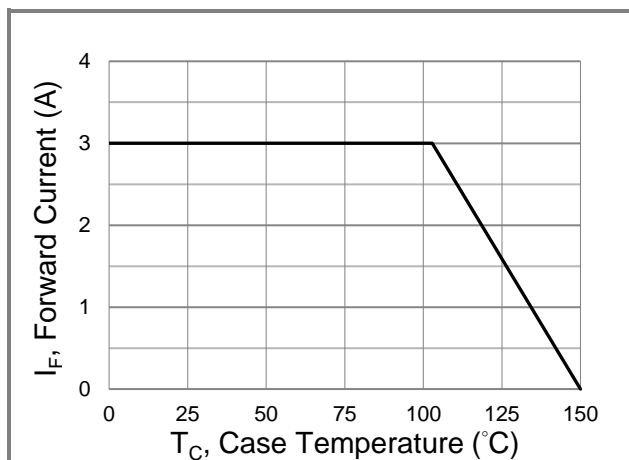


Fig.1 Forward Current Derating Curve

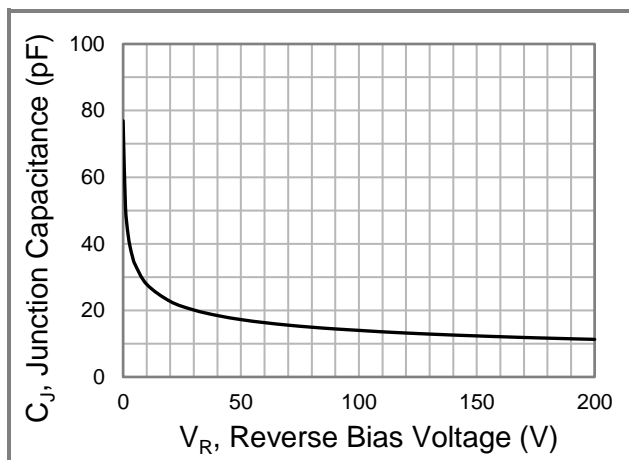


Fig.2 Typical Junction Capacitance

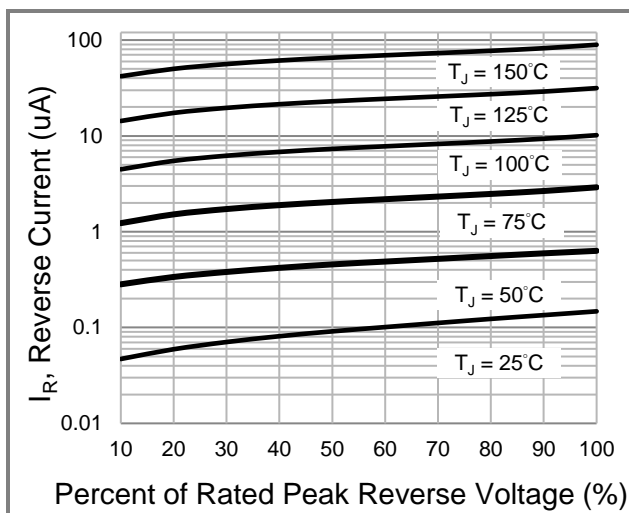


Fig.3 Typical Reverse Characteristics

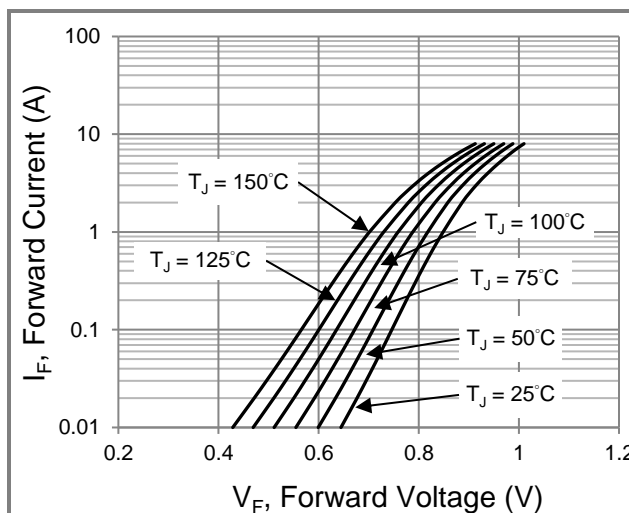
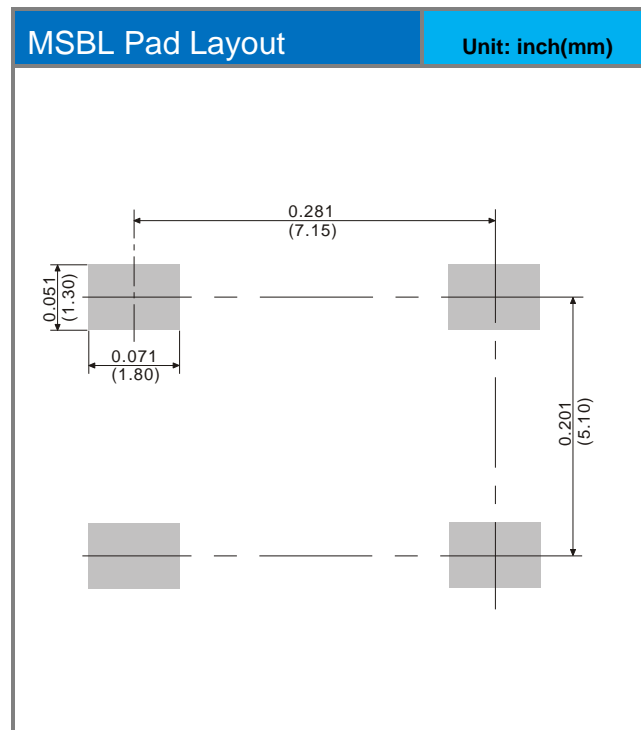
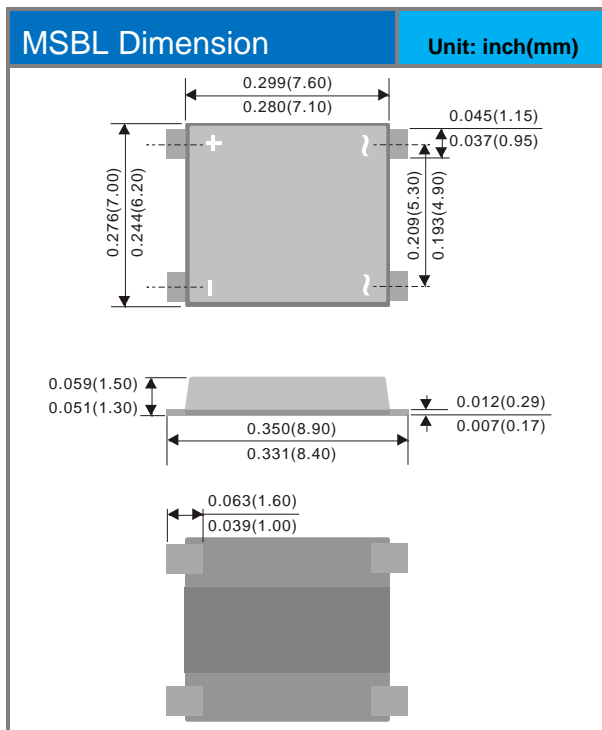


Fig.4 Typical Forward Characteristics

Part No. Packing Code Version

| Part No. Packing Code | Package Type | Packing Type | Marking |
|-----------------------|--------------|-------------------|---------|
| MSB3M_R2_00101 | MSBL | 3K pcs / 13" reel | MSB3M |

Packaging Information & Mounting Pad Layout



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