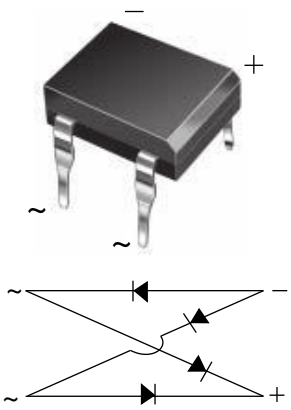
# Glass Passivated Ultrafast Bridge Rectifier



Case Style DFM

## FEATURES

- Ideal for automated placement
- High surge current capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization:
  For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

## TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for SMPS, lighting ballaster, adapter, battery charger, home appliances, office equipment, and telecommunication applications.

## MECHANICAL DATA

**Case:** DFM
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** As marked on body

| PRIMARY CHARACTERISTICS | |
|---|---|
| Package | DFM |
| $I_{F(AV)}$ | 0.9 A |
| $V_{RRM}$ | 65 V, 125 V, 200 V, 400 V, 600 V |
| $I_{FSM}$ | 45 A |
| $I_R$ | 10 µA |
| $V_F$ at $I_F$ = 0.9 A | 1.0 V |
| $T_J$ max. | 125 °C |
| Diode variations | Quad |

**MAXIMUM RATINGS** ($T_A$ = 25 °C unless otherwise noted)

| PARAMETER | | SYMBOL | B40 C800DM | B80 C800DM | B125 C800DM | B250 C800DM | B380 C800DM | UNIT |
|---|---|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | | $V_{RRM}$ | 65 | 125 | 200 | 400 | 600 | V |
| Maximum RMS input voltage R- and C-load | | $V_{RMS}$ | 40 | 80 | 125 | 250 | 380 | V |
| Maximum average forward output current for free air operation at $T_A$ = 45 °C | R- and L-load | $I_{F(AV)}$ | 0.9 | | | | | A |
| | C-load | | 0.8 | | | | | |
| Maximum DC blocking voltage | | $V_{DC}$ | 65 | 125 | 200 | 400 | 600 | V |
| Maximum peak working voltage | | $V_{RWM}$ | 90 | 180 | 300 | 600 | 900 | V |
| Maximum non-repetitive peak voltage | | $V_{RSM}$ | 100 | 200 | 350 | 650 | 1000 | V |
| Maximum repetitive peak forward surge current | | $I_{FRM}$ | 10 | | | | | A |
| Peak forward surge current single sine-wave on rated load | | $I_{FSM}$ | 45 | | | | | A |
| Rating for fusing at $T_J$ = 125 °C (t < 100 ms) | | $I^2t$ | 10 | | | | | $A^2s$ |
| Minimum series resistor C-load at $V_{RMS}$ = ± 10 % | | $R_T$ | 1.0 | 2.0 | 4.0 | 8.0 | 12.0 | Ω |
| Maximum load capacitance | + 50 % - 10 % | $C_L$ | 5000 | 2500 | 1000 | 500 | 200 | µF |
| Operating junction temperature range | | $T_J$ | - 40 to + 125 | | | | | °C |
| Storage temperature range | | $T_{STG}$ | - 40 to + 150 | | | | | °C |

**ELECTRICAL CHARACTERISTICS** ($T_A$ = 25 °C unless otherwise noted)

| PARAMETER | TEST CONDITIONS | SYMBOL | B40 C800DM | B80 C800DM | B125 C800DM | B250 C800DM | B380 C800DM | UNIT |
|---|---|---|---|---|---|---|---|---|
| Maximum instantaneous forward voltage drop per diode | 0.9 A | $V_F$ | 1.0 | | | | | V |
| Maximum reverse current at rated repetitive peak voltage per diode | | $I_R$ | 10 | | | | | µA |

| THERMAL CHARACTERISTICS ($T_A$ = 25 °C unless otherwise noted) | | | | | | | |
|---|---|---|---|---|---|---|---|
| PARAMETER | SYMBOL | B40 C800DM | B80 C800DM | B125 C800DM | B250 C800DM | B380 C800DM | UNIT |
| Typical thermal resistance (1) | $R_{\theta JA}$ | 40 | | | | | °C/W |
| | $R_{\theta JL}$ | 15 | | | | | |

**Note**

(1) Thermal resistance from junction to ambient and from junction to lead mounted on PCB with 0.5" x 0.5" (13 mm x 13 mm) copper pads

| ORDERING INFORMATION (Example) | | | | |
|---|---|---|---|---|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| B380C800DM-E3/45 | 0.416 | 45 | 50 | Tube |

## RATINGS AND CHARACTERISTICS CURVES ($T_A$ = 25 °C unless otherwise noted)

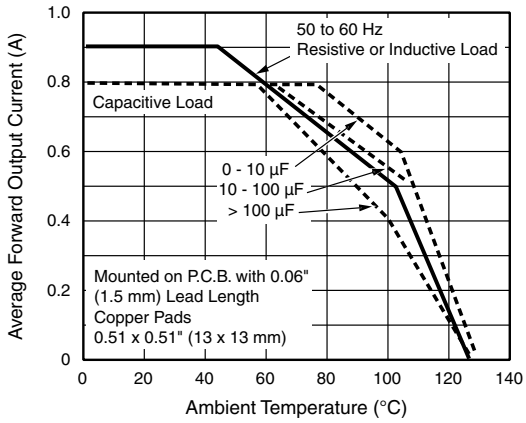



Fig. 1 - Derating Curves Output Rectified Current for B40C800D...B125C800DM

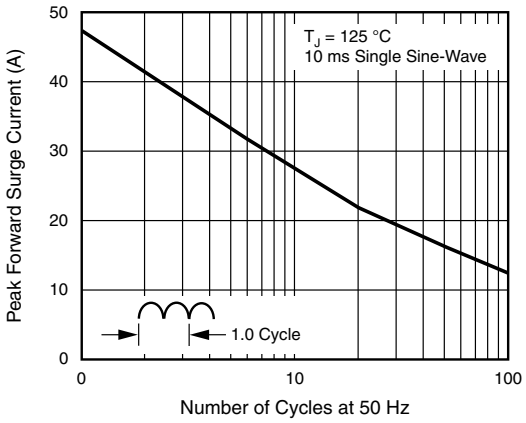



Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

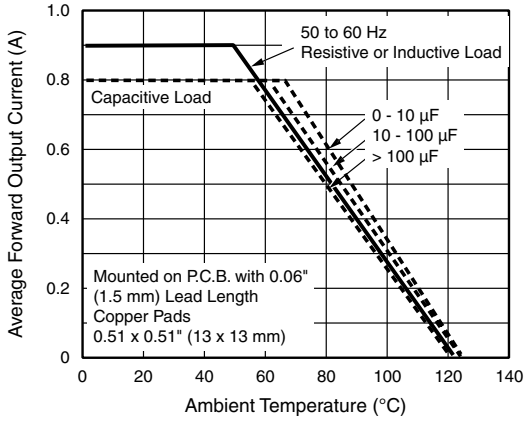



Fig. 2 - Derating Curves Output Rectified Current for B250C800D...B360C800DM

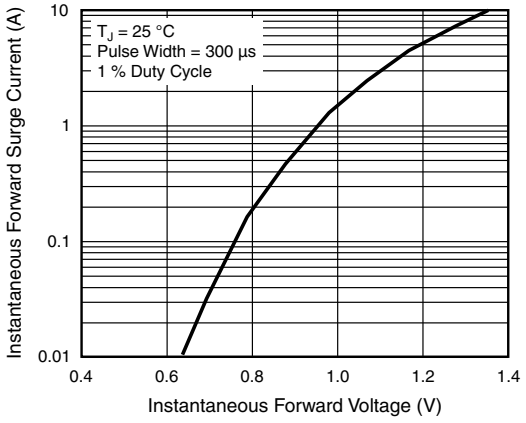



Fig. 4 - Typical Forward Characteristics Per Diode

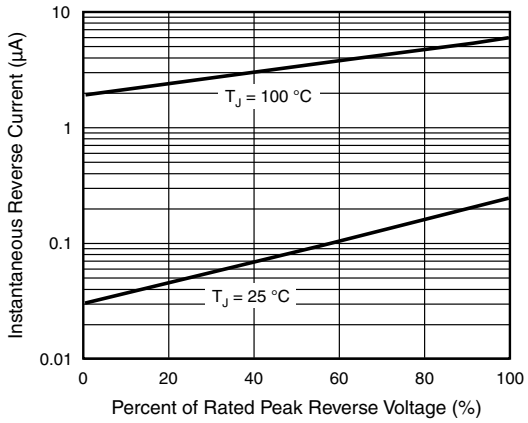



Fig. 5 - Typical Reverse Leakage Characteristics Per Diode

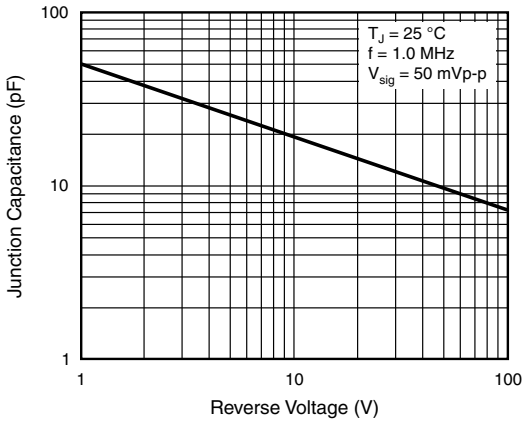
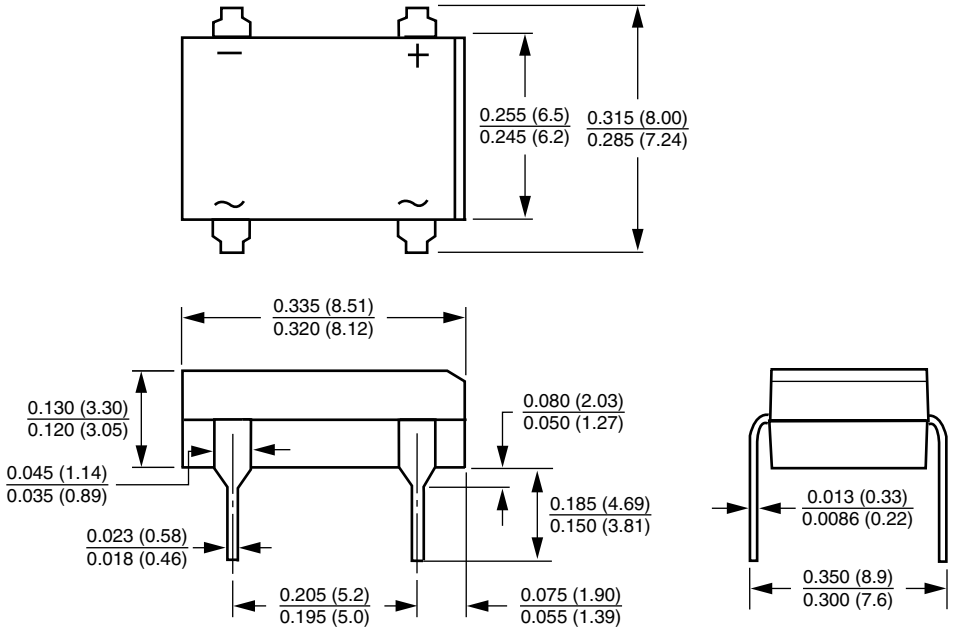



Fig. 6 - Typical Junction Capacitance Per Diode

## **PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

### Case Style DFM



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