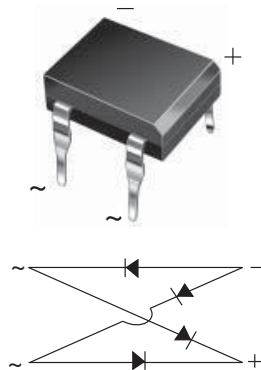


## Glass Passivated Ultrafast Bridge Rectifier



Case Style DFM

### FEATURES

- Ideal for automated placement
- High surge current capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC


**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 JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

**Polarity:** As marked on body

### PRIMARY CHARACTERISTICS

|             |               |
|-------------|---------------|
| $I_{F(AV)}$ | 0.9 A         |
| $V_{RRM}$   | 65 V to 600 V |
| $I_{FSM}$   | 45 A          |
| $I_R$       | 10 $\mu$ A    |
| $V_F$       | 1.0 V         |
| $T_J$ max.  | 125 °C        |

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

| PARAMETER   | SYMBOL      | B40<br>C800DM | B80<br>C800DM | B125<br>C800DM | B250<br>C800DM | B380<br>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<br>R- and L-load<br>C-load | $I_{F(AV)}$ | 0.9<br>0.8    |               |                |                |                | A                |
| 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 <sup>2</sup> s |
| Minimum series resistor C-load at $V_{RMS} = \pm 10$ %  | $R_T$       | 1.0           | 2.0           | 4.0            | 8.0            | 12.0           | $\Omega$         |
| Maximum load capacitance<br>+ 50 %<br>- 10 %  | $C_L$       | 5000          | 2500          | 1000           | 500            | 200            | $\mu$ F          |
| Operating junction temperature range  | $T_J$       | - 40 to + 125 |               |                |                |                | °C               |
| Storage temperature range   | $T_{STG}$   | - 40 to + 150 |               |                |                |                | °C               |



| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ 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         |            |             |             |             | $\mu\text{A}$ |

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

**Note**

<sup>(1)</sup> 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

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

**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

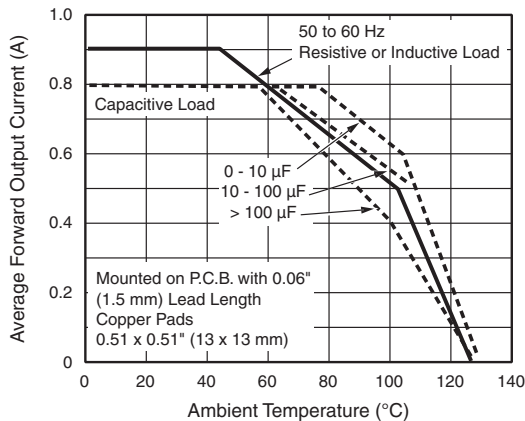


Fig. 1 - Derating Curves Output Rectified Current for B40C800D...B125C800DM

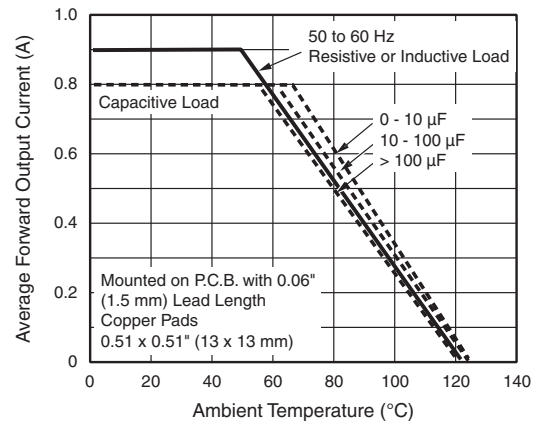


Fig. 2 - Derating Curves Output Rectified Current for B250C800D...B360C800DM

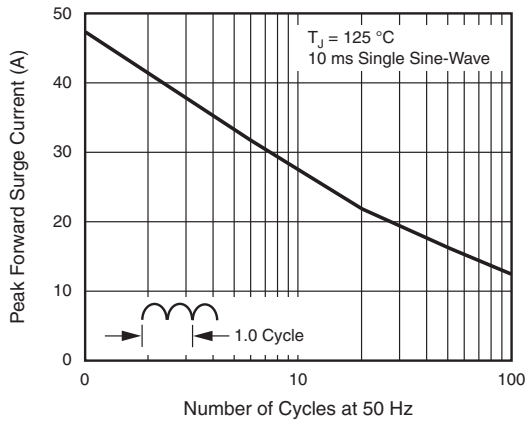


Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

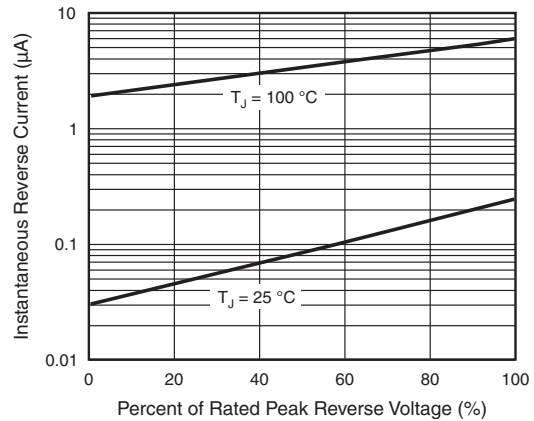


Fig. 5 - Typical Reverse Leakage Characteristics Per Diode

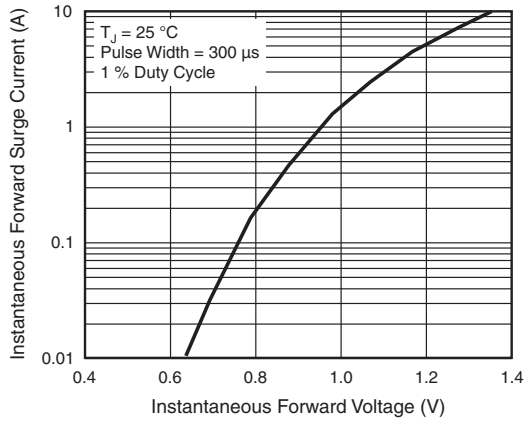


Fig. 4 - Typical Forward Characteristics Per Diode

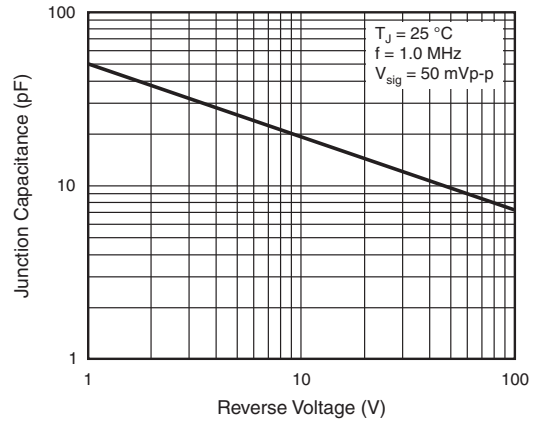
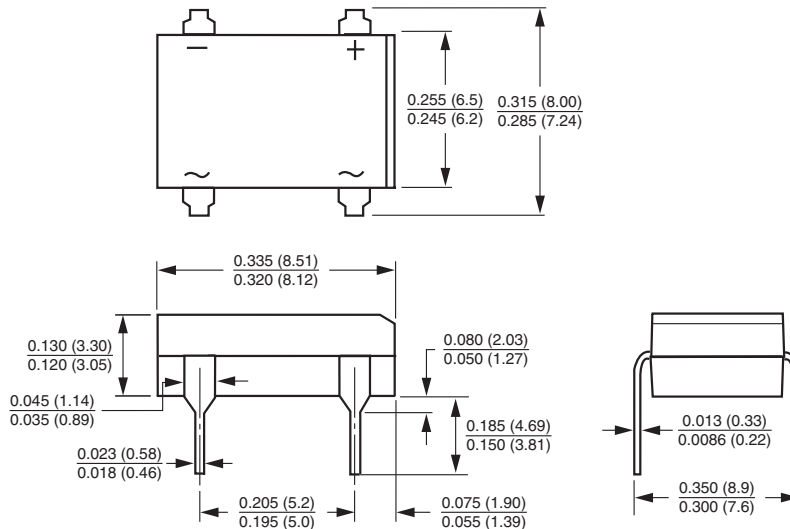


Fig. 6 - Typical Junction Capacitance Per Diode

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### Case Style DFM





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