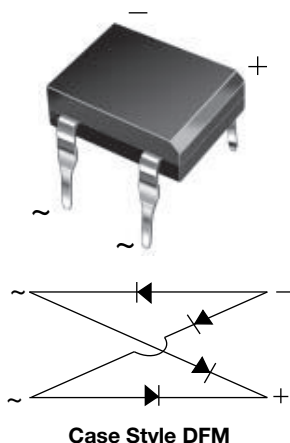


## Glass Passivated Ultrafast Bridge Rectifier



### LINKS TO ADDITIONAL RESOURCES



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

### 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](http://www.vishay.com/doc?99912)



### 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

| MAXIMUM RATINGS (T <sub>A</sub> = 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 <sub>RRM</sub>                              | 65            | 125           | 200            | 400            | 600            | V                |
| Maximum RMS input voltage R- and C-load  | V <sub>RMS</sub>                              | 40            | 80            | 125            | 250            | 380            | V                |
| Maximum average forward output current<br>for free air operation at T <sub>A</sub> = 45 °C | I <sub>F(AV)</sub><br>R- and L-load<br>C-load | 0.9           |               |                |                |                | A                |
|  |   | 0.8           |               |                |                |                |                  |
| Maximum DC blocking voltage  | V <sub>DC</sub>                               | 65            | 125           | 200            | 400            | 600            | V                |
| Maximum peak working voltage   | V <sub>RWM</sub>                              | 90            | 180           | 300            | 600            | 900            | V                |
| Maximum non-repetitive peak voltage  | V <sub>RSM</sub>                              | 100           | 200           | 350            | 650            | 1000           | V                |
| Maximum repetitive peak forward surge current  | I <sub>FRM</sub>                              | 10            |               |                |                |                | A                |
| Peak forward surge current single sine-wave on rated load                                  | I <sub>FSM</sub>                              | 45            |               |                |                |                | A                |
| Rating for fusing at T <sub>J</sub> = 125 °C (t < 100 ms)                                  | I <sup>2</sup> t                              | 10            |               |                |                |                | A <sup>2</sup> s |
| Minimum series resistor C-load at V <sub>RMS</sub> = ± 10 %                                | R <sub>T</sub>                                | 1.0           | 2.0           | 4.0            | 8.0            | 12.0           | Ω                |
| Maximum load capacitance<br>+ 50 %<br>- 10 %   | C <sub>L</sub>                                | 5000          | 2500          | 1000           | 500            | 200            | μF               |
| Operating junction temperature range   | T <sub>J</sub>                                | -40 to +125   |               |                |                |                | °C               |
| Storage temperature range  | T <sub>STG</sub>                              | -40 to +150   |               |                |                |                | °C               |

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

| PARAMETER  | TEST CONDITIONS | SYMBOL | B40<br>C800DM | B80<br>C800DM | B125<br>C800DM | B250<br>C800DM | B380<br>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            |               |                |                |                | $\mu\text{A}$ |

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

| PARAMETER                                 | SYMBOL           | B40<br>C800DM | B80<br>C800DM | B125<br>C800DM | B250<br>C800DM | B380<br>C800DM | UNIT |
|---|------------------|---------------|---------------|----------------|----------------|----------------|------|
| Typical thermal resistance <sup>(1)</sup> | R <sub>θJA</sub> | 40            |               |                |                |                | °C/W |
|   | R <sub>θJL</sub> | 15            |               |                |                |                |      |

**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

**ORDERING INFORMATION** (Example)

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

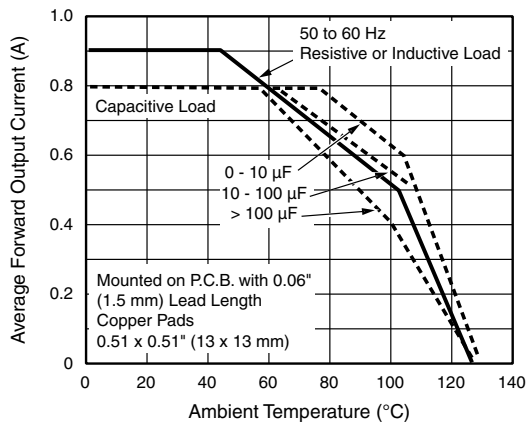
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

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

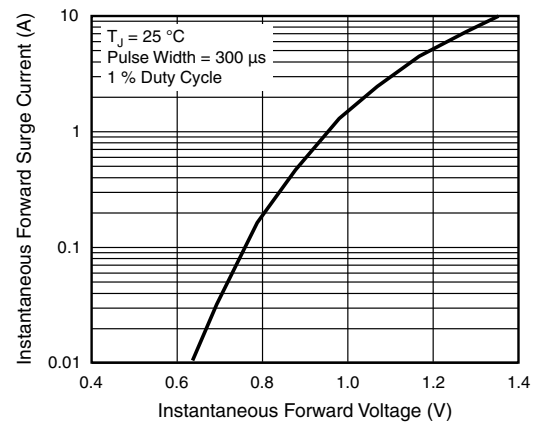


Fig. 4 - Typical Forward Characteristics Per Diode

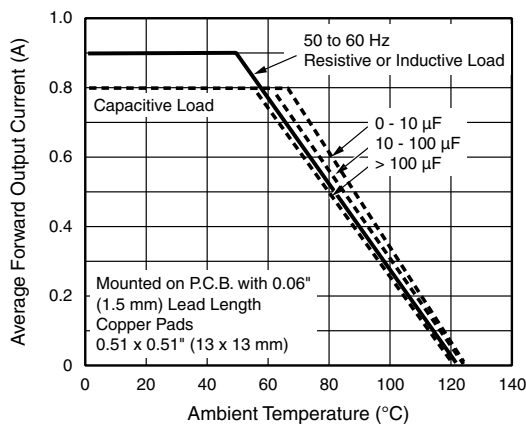


Fig. 2 - Derating Curves Output Rectified Current for B250C800D...B360C800DM

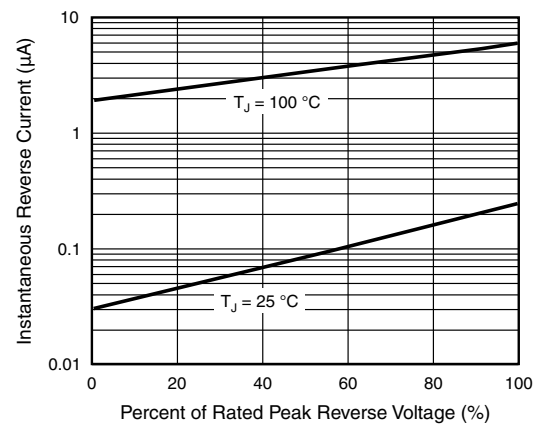


Fig. 5 - Typical Reverse Leakage Characteristics Per Diode

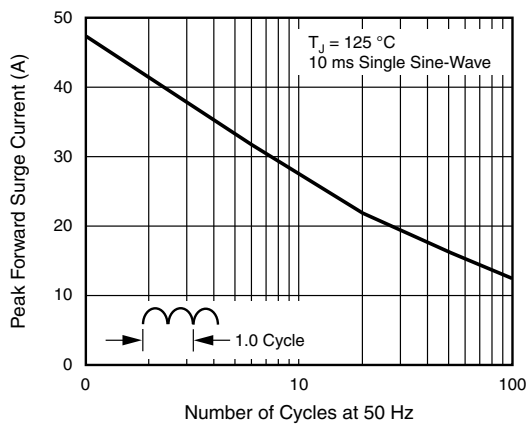


Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

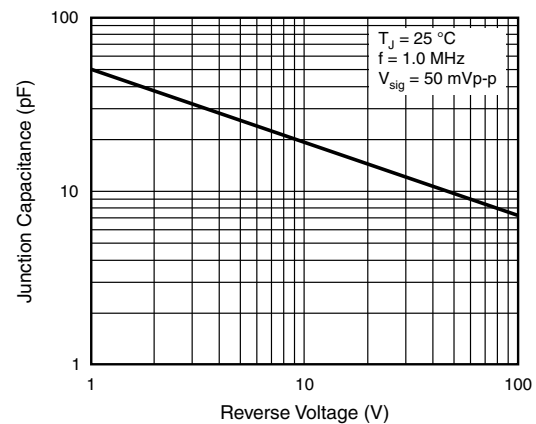
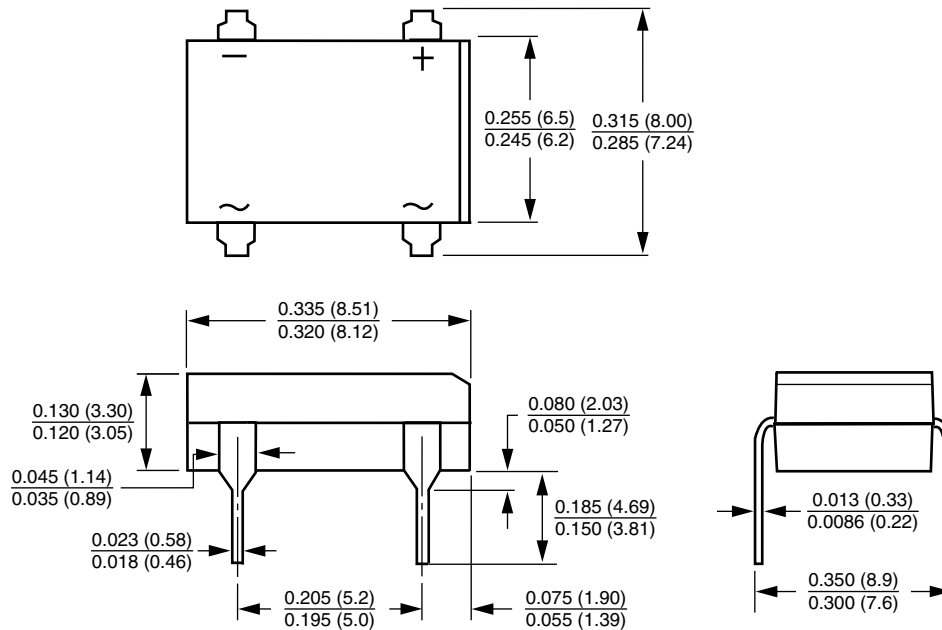


Fig. 6 - Typical Junction Capacitance Per Diode



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

**Case Style DFM**





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