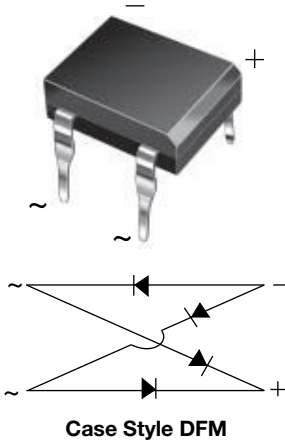




## Glass Passivated Ultrafast Bridge Rectifier



### 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

### 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                             |

| 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 | 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 <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   | $C_L$         | 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               |



| ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °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 <sub>F</sub> | 1.0           |               |                |                |                |      | V  |
| Maximum reverse current at rated repetitive peak voltage per diode         |                 | I <sub>R</sub> | 10            |               |                |                |                |      | μA |

| THERMAL CHARACTERISTICS (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 |  |
| 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<sub>A</sub> = 25 °C unless otherwise noted)

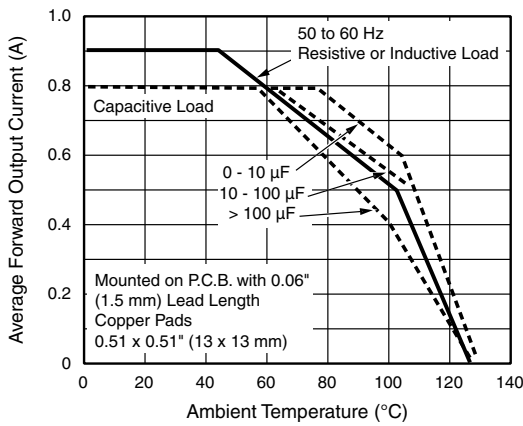


Fig. 1 - Derating Curves Output Rectified Current for B40C800D...B125C800DM

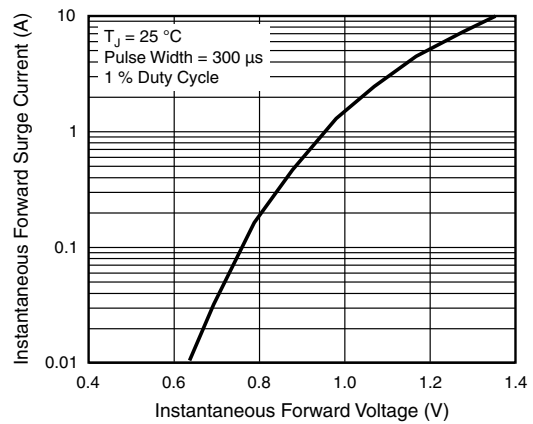


Fig. 4 - Typical Forward Characteristics Per Diode

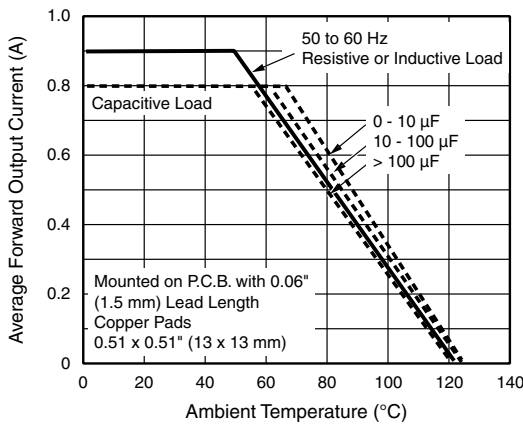


Fig. 2 - Derating Curves Output Rectified Current for B250C800D...B360C800DM

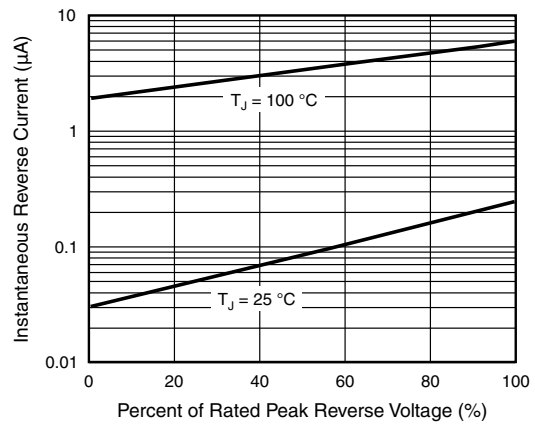


Fig. 5 - Typical Reverse Leakage Characteristics Per Diode

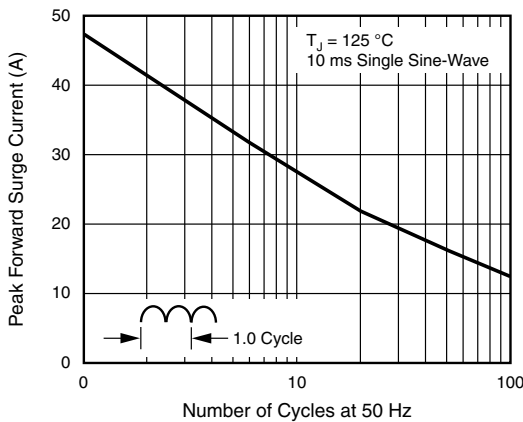


Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

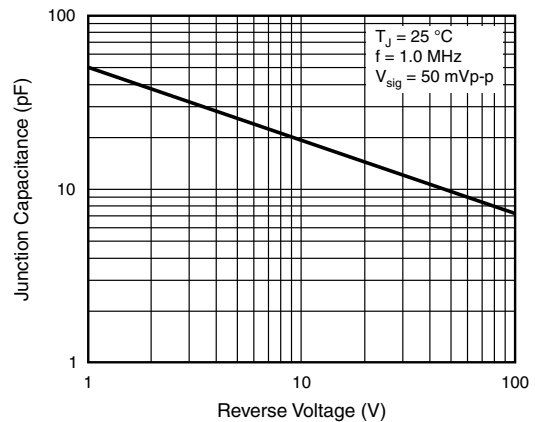
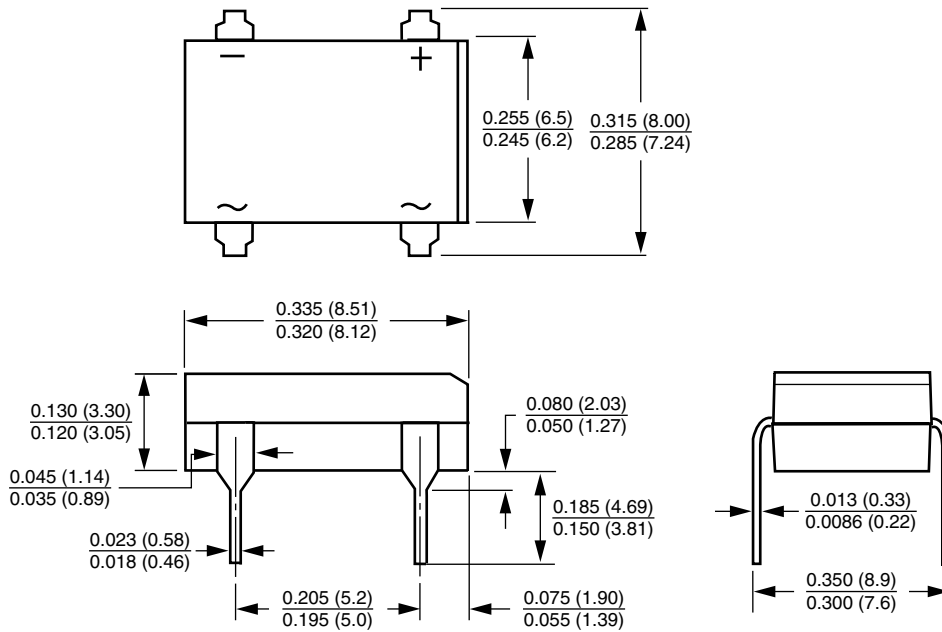


Fig. 6 - Typical Junction Capacitance Per Diode



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

**Case Style DFM**





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