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B40C800G, B80C800G, B125C800G, B250C800G, B380C800G

**Vishay Semiconductors** 

## **Glass Passivated Single-Phase Bridge Rectifier**



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|          |          |
| ~        | <br>-    |

Case Style WOG

| PRIMARY CHARACTERISTICS |                                  |  |  |  |  |  |
|-------------------------|----------------------------------|--|--|--|--|--|
| Package                 | WOG                              |  |  |  |  |  |
| I <sub>F(AV)</sub>      | 0.9 A                            |  |  |  |  |  |
| V <sub>RRM</sub>        | 65 V, 125 V, 200 V, 400 V, 600 V |  |  |  |  |  |
| I <sub>FSM</sub>        | 45 A                             |  |  |  |  |  |
| I <sub>R</sub>          | 10 µA                            |  |  |  |  |  |
| $V_F$ at $I_F = 0.9$ A  | 1.0 V                            |  |  |  |  |  |
| T <sub>J</sub> max.     | 125 °C                           |  |  |  |  |  |
| Diode variations        | Quad                             |  |  |  |  |  |

#### **FEATURES**

- Ideal for printed circuit boards
- · High case dielectric strength
- High surge current capability
- Typical I<sub>R</sub> less than 0.1 μA
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- · Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

#### **TYPICAL APPLICATIONS**

General purpose use in AC/DC bridge full wave rectification for power supply, adapter, charger, lighting ballaster on consumers, and home appliances applications.

#### **MECHANICAL DATA**

#### Case: WOG

Molding compound meets UL 94 V-0 flammability rating Base P/N-E4 - RoHS-compliant, commercial grade

Terminals: Silver plated leads, solderable per J-STD-002 and JESD22-B102

Polarity: As marked on body

| <b>MAXIMUM RATINGS</b> (T <sub>A</sub> = 25 °C unless otherwise noted) |                    |               |              |               |               |                  |      |
|--|--------------------|---------------|--------------|---------------|---------------|------------------|------|
| PARAMETER  | SYMBOL             | B40<br>C800G  | B80<br>C800G | B125<br>C800G | B250<br>C800G | B380<br>C800G    | 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 R- and L-load                   |                    | 0.9           |              |               |               |                  |      |
| for free air operation at $T_A = 45$ °C C-load                         | I <sub>F(AV)</sub> | 0.8           |              |               |               |                  | A    |
| Maximum non-repetitive peak voltage                                    | V <sub>RSM</sub>   | 100           | 200          | 350           | 600           | 1000             | V    |
| 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 repetitive peak forward surge current                          | I <sub>FRM</sub>   | 10            |              |               |               | А                |      |
| Peak forward surge current single sine-wave on rated load              | I I <sub>FSM</sub> | 45            |              |               |               | А                |      |
| Rating for fusing at $T_J = 125 \text{ °C}$ (t < 100 ms)               | l <sup>2</sup> t   | 10            |              |               |               | A <sup>2</sup> s |      |
| Minimum series resistor C-load at $V_{RMS} = \pm 10 \%$                | R <sub>T</sub>     | 1.0           | 2.0          | 4.0           | 8.0           | 12               | Ω    |
| Maximum load capacitance + 50 %<br>- 10 %                              | CL                 | 5000          | 2500         | 1000          | 500           | 200              | μF   |
| Operating junction temperature range                                   | TJ                 | - 40 to + 125 |              |               |               | °C               |      |
| Storage temperature range  | T <sub>STG</sub>   | - 40 to + 150 |              |               |               | °C               |      |

| ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                 |                |              |              |               |               |               |      |
|--|-----------------|----------------|--------------|--------------|---------------|---------------|---------------|------|
| PARAMETER  | TEST CONDITIONS | SYMBOL         | B40<br>C800G | B80<br>C800G | B125<br>C800G | B250<br>C800G | B380<br>C800G | 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   |

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RoHS

COMPLIANT

### B40C800G, B80C800G, B125C800G, B250C800G, B380C800G www.vishay.com

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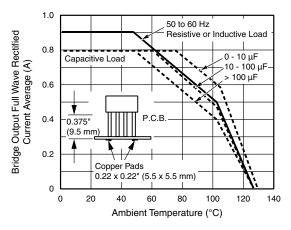
| <b>THERMAL CHARACTERISTICS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted) |                 |              |              |               |               |               |      |
|--|-----------------|--------------|--------------|---------------|---------------|---------------|------|
| PARAMETER  | SYMBOL          | B40<br>C800G | B80<br>C800G | B125<br>C800G | B250<br>C800G | B380<br>C800G | UNIT |
| Typical thermal resistance <sup>(1)</sup>                                      | $R_{\theta JA}$ | 36           |              |               |               |               | °C/W |
|  | $R_{\theta JL}$ | 11           |              |               |               |               | 0/11 |

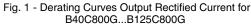
Note

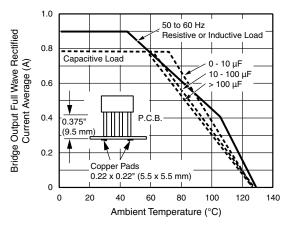
(1) Thermal resistance from junction to ambient and from junction to lead mounted on PCB at 0.375" (9.5 mm) lead lengths with 0.22" x 0.22" (5.5 mm x 5.5 mm) copper pads

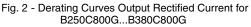
| ORDERING INFORMATION (Example) |                 |                        |               |               |  |  |  |  |
|--------------------------------|-----------------|------------------------|---------------|---------------|--|--|--|--|
| PREFERRED P/N                  | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |  |  |  |  |
| B380C800G-E4/51                | 1.12            | 51                     | 100           | Plastic bag   |  |  |  |  |

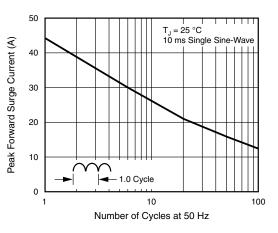
#### RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

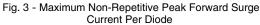












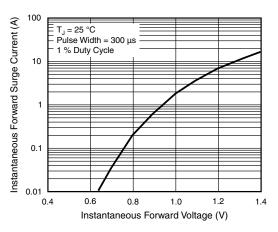


Fig. 4 - Typical Forward Characteristics Per Diode

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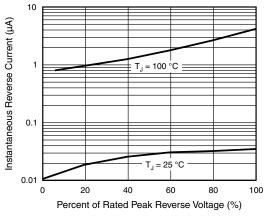


Fig. 5 - Typical Reverse Characteristics Per Diode

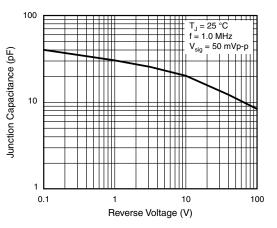
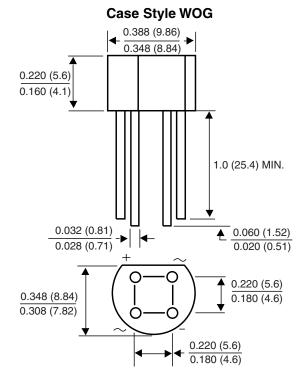


Fig. 6 - Typical Junction Capacitance Per Diode







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