

B40C800G, B80C800G, B125C800G, B250C800G, B380C800G

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Vishay Semiconductors

Glass Passivated Single-Phase Bridge Rectifier





| PRIMARY CHARACTERISTICS | | | | | | |
|--|----------------------------------|--|--|--|--|--|
| Package | WOG | | | | | |
| 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 | | | | | |

FEATURES







Typical I_R 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





RoHS COMPLIANT

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

| MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted) | | | | | | | |
|---|--------------------|---------------|--------------|---------------|---------------|---------------|------------------|
| PARAMETER | SYMBOL | B40 C800G | B80 C800G | B125 C800G | B250 C800G | B380 C800G | 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 R- and L-load | | 0.9 | | | | | |
| for free air operation at T _A = 45 °C C-load | I _{F(AV)} | 0.8 | | | | | _ A |
| Maximum non-repetitive peak voltage | V _{RSM} | 100 | 200 | 350 | 600 | 1000 | V |
| 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 repetitive peak forward surge current | I _{FRM} | 10 | | | | Α | |
| Peak forward surge current single sine-wave on rated load | I _{FSM} | 45 | | | | | Α |
| Rating for fusing at T _J = 125 °C (t < 100 ms) | I ² t | 10 | | | | | A ² s |
| Minimum series resistor C-load at V _{RMS} = ± 10 % | R _T | 1.0 | 2.0 | 4.0 | 8.0 | 12 | Ω |
| Maximum load capacitance + 50 % - 10 % | C _L | 5000 | 2500 | 1000 | 500 | 200 | μF |
| Operating junction temperature range | TJ | - 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 C800G | B80 C800G | B125 C800G | B250 C800G | B380 C800G | UNIT |
| Maximum instantaneous forward voltage drop per diode | 0.9 A | V _F | 1.0 | | | | ٧ | |
| Maximum reverse current at rated repetitive peak voltage per diode | | I _R | | | 10 | | | μA |

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| THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | |
|---|--|----|--|----|--|------|------|
| PARAMETER | SYMBOL B40 C800G B80 C800G B125 C800G B250 C800G B380 C800G | | | | | UNIT | |
| Typical thermal resistance (1) | $R_{\theta JA}$ | 36 | | | | | °C/W |
| Typical triefmarresistance (7) | $R_{	heta JL}$ | | | 11 | | | C/VV |

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_A = 25 °C unless otherwise noted)

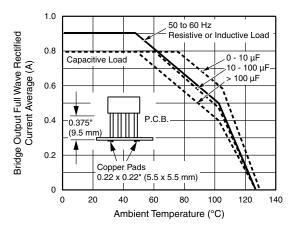


Fig. 1 - Derating Curves Output Rectified Current for B40C800G...B125C800G

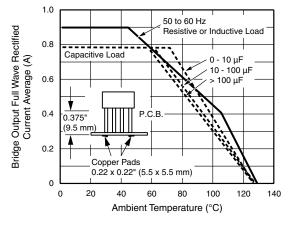


Fig. 2 - Derating Curves Output Rectified Current for B250C800G...B380C800G

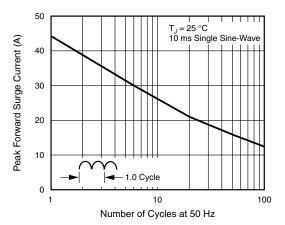


Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

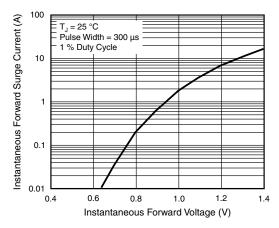
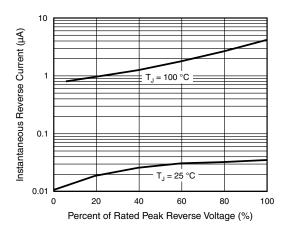
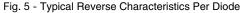


Fig. 4 - Typical Forward Characteristics Per Diode

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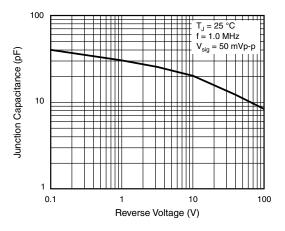
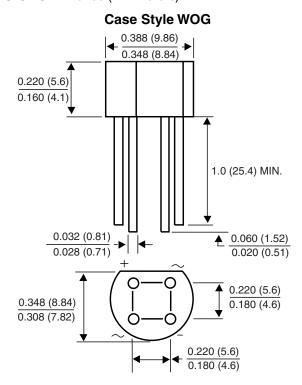


Fig. 6 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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