



Glass Passivated Single-Phase Bridge Rectifier



Case Style WOG

FEATURES

- Ideal for printed circuit boards
- High case dielectric strength
- High surge current capability
- Typical I_R less than 0.1 μ A
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



RoHS COMPLIANT

TYPICAL APPLICATIONS

General purpose use in ac-to-dc bridge full wave rectification for power supply, adapter, charger, lighting ballaster on consumers and home appliances applications.

MECHANICAL DATA

Case: WOG

Epoxy meets UL 94V-0 flammability rating

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

E4 suffix for consumer grade

Polarity: As marked on body

| PRIMARY CHARACTERISTICS | |
|-------------------------|---------------|
| $I_{F(AV)}$ | 1.5 A |
| V_{RRM} | 65 V to 600 V |
| I_{FSM} | 50 A |
| I_R | 10 μ A |
| V_F | 1.0 V |
| T_J max. | 125 °C |

| MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted) | | | | | | | |
|--|-------------|---------------|------------|-------------|-------------|-------------|------------------|
| PARAMETER | SYMBOL | B40 C1500G | B80 C1500G | B125 C1500G | B250 C1500G | B380 C1500G | 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 DC blocking voltage | V_{DC} | 65 | 125 | 200 | 400 | 600 | V |
| Maximum peak working voltage | V_{RWM} | 90 | 180 | 300 | 600 | 800 | V |
| Maximum non-repetitive peak voltage | V_{RSM} | 100 | 200 | 350 | 600 | 1000 | V |
| Maximum repetitive peak forward surge current | I_{FRM} | 10 | | | | | A |
| Maximum average forward output current for R- and L-load free air operation at $T_A = 45$ °C | $I_{F(AV)}$ | 1.6 1.5 | | | | | A |
| Peak forward surge current single sine-wave on rated load | I_{FSM} | 50 | | | | | A |
| Rating for fusing at $T_J = 125$ °C ($t < 100$ ms) | I^2t | 12.5 | | | | | A ² s |
| Minimum series resistor C-load at $V_{RMS} = \pm 10$ % | R_t | 1.0 | 2.0 | 4.0 | 8.0 | 12 | Ω |
| Maximum load capacitance + 50 % - 10 % | C_L | 5000 | 2500 | 1000 | 500 | 200 | μ F |
| Operating junction temperature range | T_J | - 40 to + 125 | | | | | °C |
| Storage temperature range | T_{STG} | - 40 to + 150 | | | | | °C |

B40C1500G thru B380C1500G

Vishay General Semiconductor



| ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | |
|--|------------------------|----------------|------------|------------|-------------|-------------|-------------|------|
| PARAMETER | TEST CONDITIONS | SYMBOL | B40 C1500G | B80 C1500G | B125 C1500G | B250 C1500G | B380 C1500G | UNIT |
| Maximum instantaneous forward voltage drop per diode | 1.5 A | V _F | 1.0 | | | | | V |
| Maximum reverse current at rated repetitive peak voltage per diode | T _A = 25 °C | I _R | 10 | | | | | μA |

| THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | |
|---|--------------------------------------|------------|------------|-------------|-------------|-------------|------|
| PARAMETER | SYMBOL | B40 C1500G | B80 C1500G | B125 C1500G | B250 C1500G | B380 C1500G | UNIT |
| Typical thermal resistance ⁽¹⁾ | R _{θJA} R _{θJL} | 36 | | | 11 | | °C/W |

Note:

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

| ORDERING INFORMATION (Example) | | | | |
|--------------------------------|-----------------|------------------------|---------------|---------------|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| B380C1500G-E4/51 | 1.12 | 51 | 100 | Plastic bag |

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

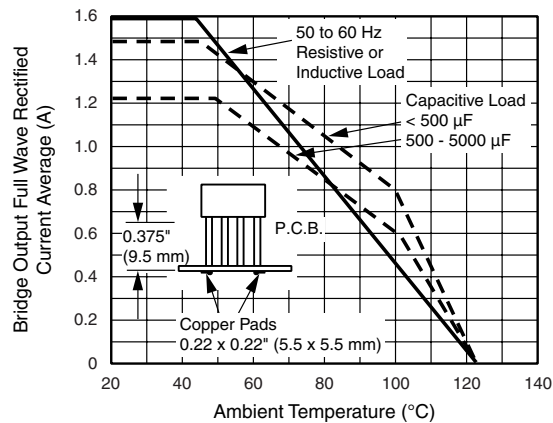


Figure 1. Derating Curves Output Rectified Current for B40C1500G...B125C1500G

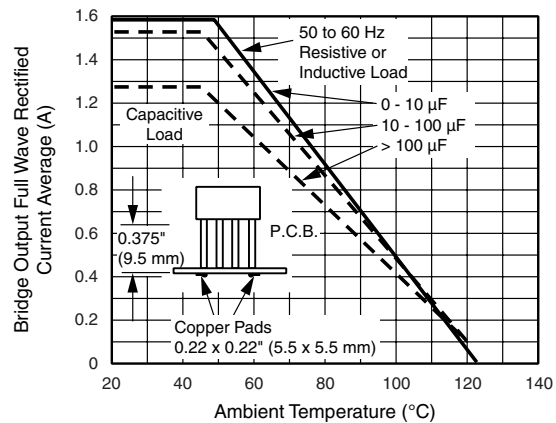


Figure 2. Derating Curves Output Rectified Current for B250C1500G...B380C1500G

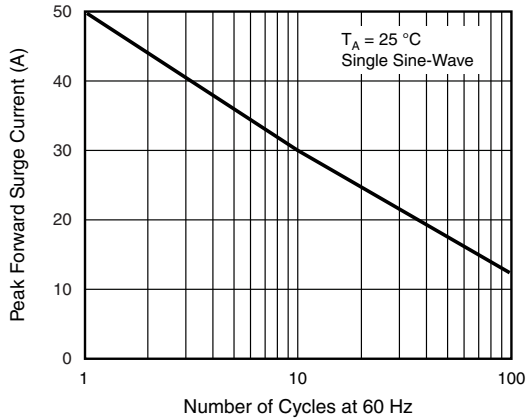


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

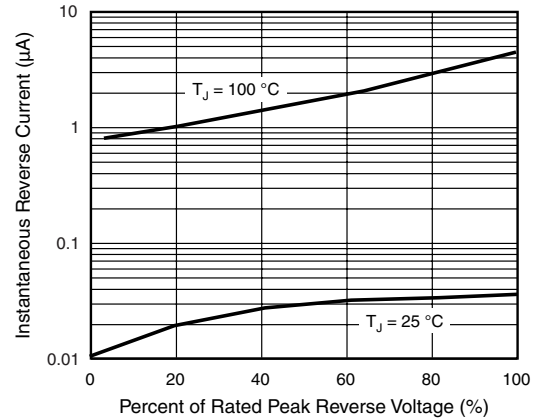


Figure 5. Typical Reverse Characteristics Per Diode

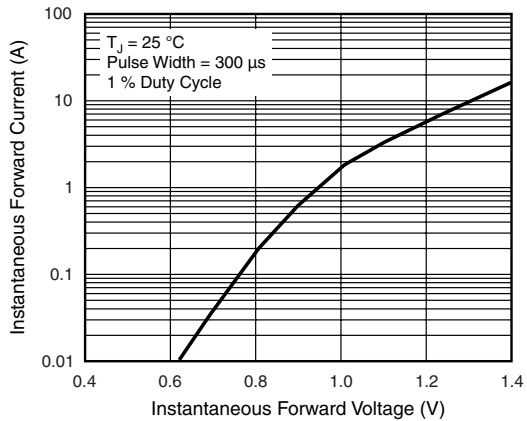


Figure 4. Typical Forward Characteristics Per Diode

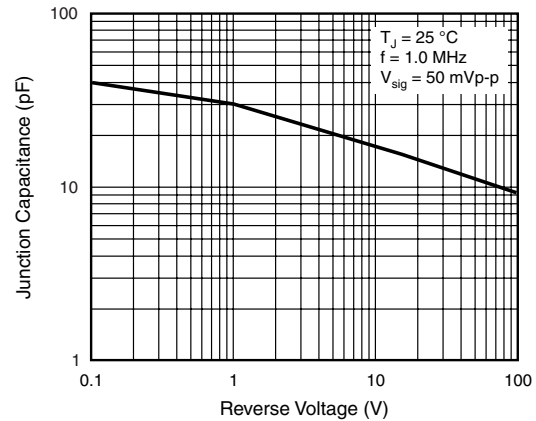


Figure 6. Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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