

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.

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

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

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)

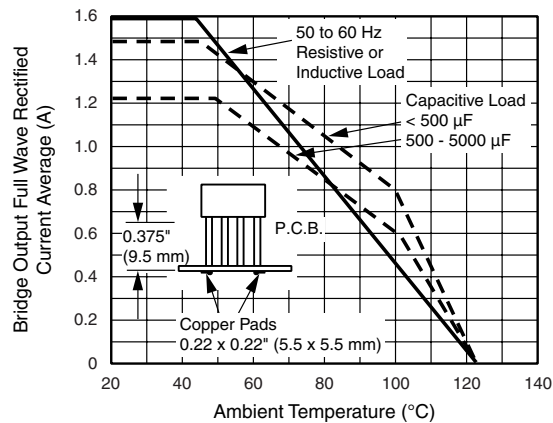


Figure 1. Derating Curves Output Rectified Current for B40C1500G...B125C1500G

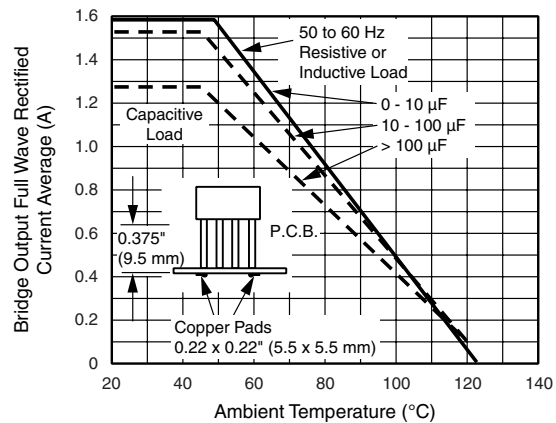


Figure 2. Derating Curves Output Rectified Current for B250C1500G...B380C1500G

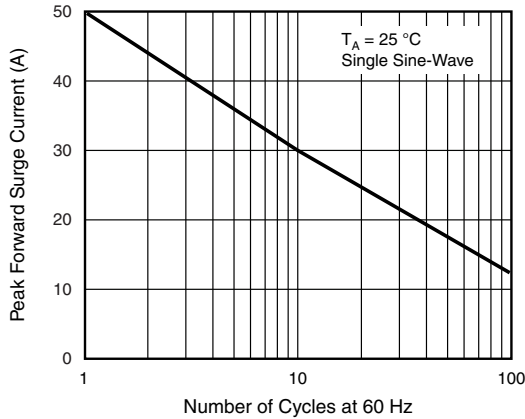


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

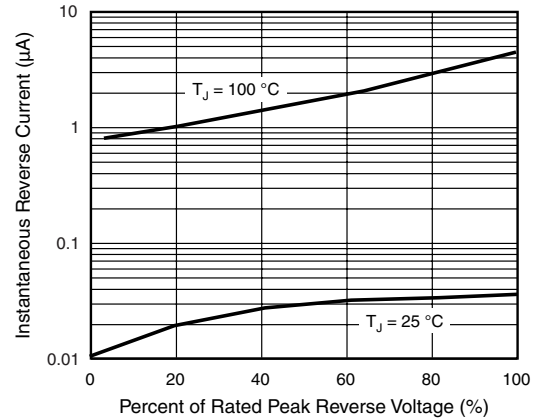


Figure 5. Typical Reverse Characteristics Per Diode

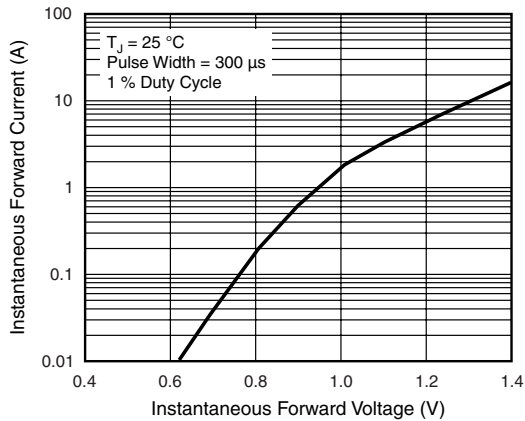


Figure 4. Typical Forward Characteristics Per Diode

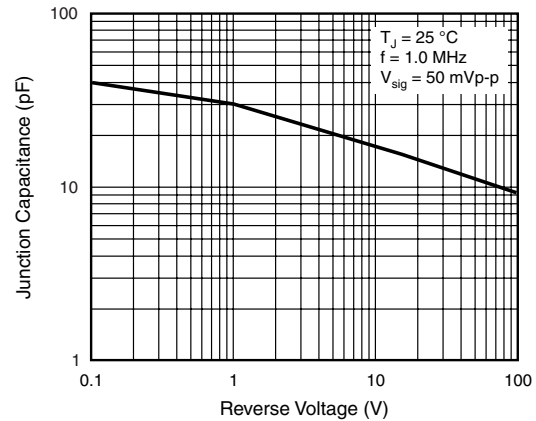


Figure 6. Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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