B40C800DM thru B380C800DM

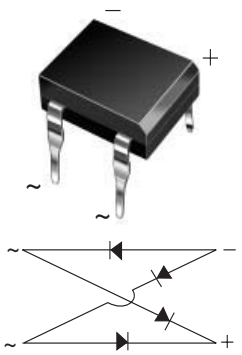
Vishay General Semiconductor

Glass Passivated Ultrafast Bridge Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	0.9 A
V_{RRM}	65 V to 600 V
I_{FSM}	45 A
I_R	10 µA
V_F	1.0 V
T_j max.	125 °C

Case Style DFM



Features

- UL Recognition, file number E54214
- Ideal for automated placement
- High surge current capability
- Solder Dip 260 °C, 40 seconds

Typical Applications

General purpose use in ac-to-dc bridge full wave rectification for SMPS, Lighting Ballaster, Adapter, Battery Charger, Home Appliances, Office Equipment, and Telecommunication applications

Mechanical Data

Case: DFM

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D

Polarity: As marked on body

Maximum Ratings

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbols	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 + 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 + L-load / C-load	$I_{F(AV)}$	0.9 / 0.8					A
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^2sec
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 and storage temperature range	T_J, T_{STG}	- 40 to + 125					°C

Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Test condition	Symbol	B40 C800DM	B80 C800DM	B125 C800DM	B250 C800DM	B380 C800DM	Unit
Maximum instantaneous forward voltage drop per leg	at 0.9 A	V_F	1.0					V
Maximum reverse current at rated repetitive peak voltage per leg		I_R	10					µA

Thermal Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbols	B40 C800DM	B80 C800DM	B125 C800DM	B250 C800DM	B380 C800DM	Units
Typical thermal resistance per leg (1)	$R_{\theta JA}$ $R_{\theta JL}$	40 15					°C/W

Notes:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.5 x 0.5" (13 x 13 mm) copper pads

Ratings and Characteristics Curves

(T_A = 25 °C unless otherwise noted)

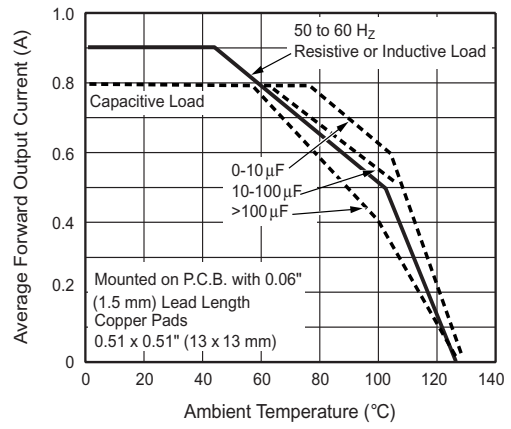


Figure 1. Derating Curves Output Rectified Current for B40C800D...B125C800DM

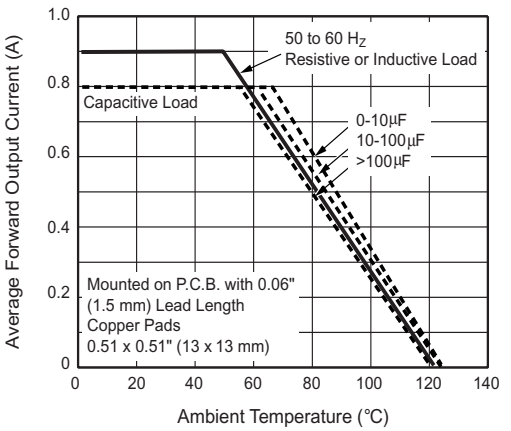


Figure 2. Derating Curves Output Rectified Current for B250C800D...B360C800DM

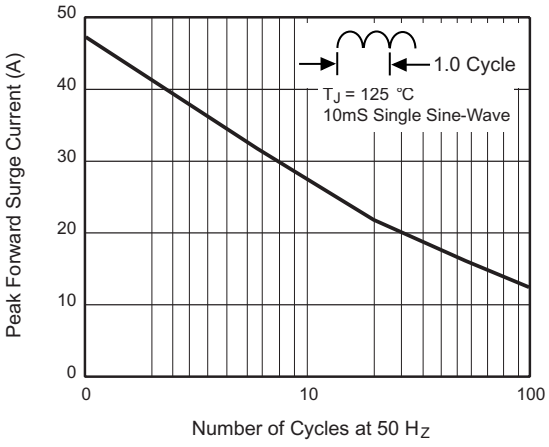


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

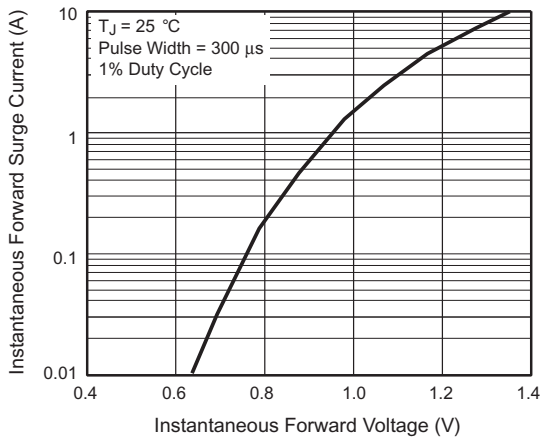


Figure 4. Typical Forward Characteristics Per Leg

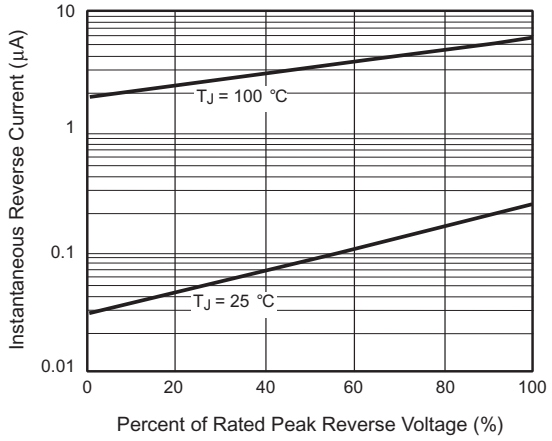


Figure 5. Typical Reverse Leakage Characteristics Per Leg

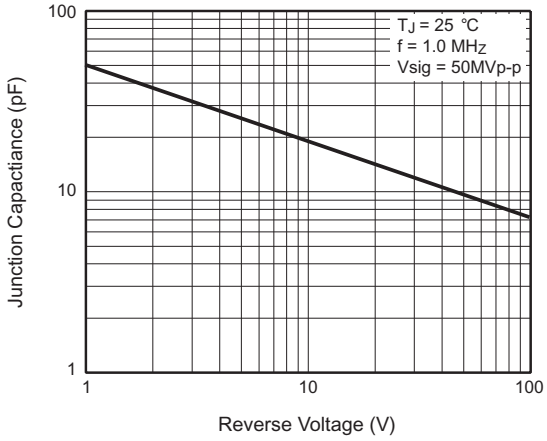
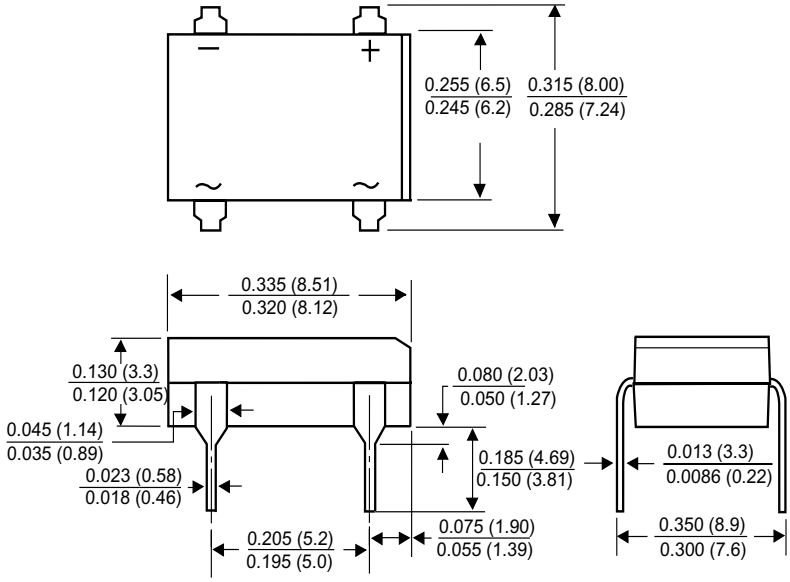


Figure 6. Typical Junction Capacitance Per Leg

Package outline dimensions in inches (millimeters)

Case Style DFM



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