DF005MA thru DF10MA

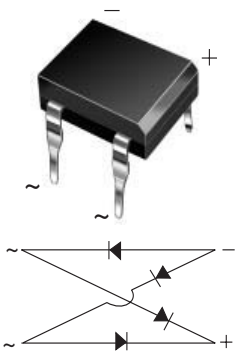
New Product **Vishay General Semiconductor**

Miniature Glass Passivated Single-Phase Bridge Rectifiers

Major Ratings and Characteristics

$I_{F(AV)}$	1 A
V_{RRM}	50 V to 1000 V
I_{FSM}	30 A
I_R	5 µA
V_F	1.1 V
T_j max.	150 °C

Case Style DFM



Features

- UL Recognition, file number E54214
- Ideal for printed circuit boards
- Applicable for automative insertion
- High surge current capability
- Solder Dip 260 °C, 40 seconds

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

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

Maximum Ratings

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	DF 005MA	DF 01MA	DF 02MA	DF 04MA	DF 06MA	DF 08MA	DF 10MA	Unit
Device Marking Code		DFA 005	DFA 01	DFA 02	DFA 04	DFA 06	DFA 08	DFA 10	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward output rectified current at T_A= 40 °C	$I_{F(AV)}$	1.0							A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	30							A
Rating for fusing (t < 8.3 ms)	I^2t	4.5							A^2sec
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150							°C

Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Test condition	Symbol	DF 005MA	DF 01MA	DF 02MA	DF 04MA	DF 06MA	DF 08MA	DF 10MA	Unit
Maximum instantaneous forward voltage drop per leg	at 1.0 A	V_F	1.1							V
Maximum reverse current at rated DC blocking voltage per leg	T_A = 25 °C T_A = 125 °C	I_R	5.0 500							µA
Typical junction capacitance per leg	at 4.0 V, 1 MHz	C_J	25							pF

Thermal Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	DF 005MA	DF 01MA	DF 02MA	DF 04MA	DF 06MA	DF 08MA	DF 10MA	Unit
Typical thermal resistance per leg (1)	$R_{\theta JA}$ $R_{\theta JL}$	40 15							°C/W

Note:

(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)

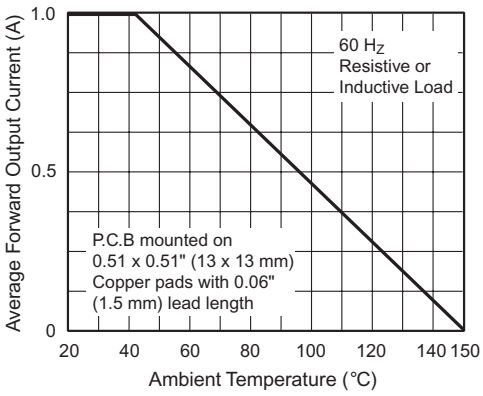


Figure 1. Derating Curve Output Rectified Current

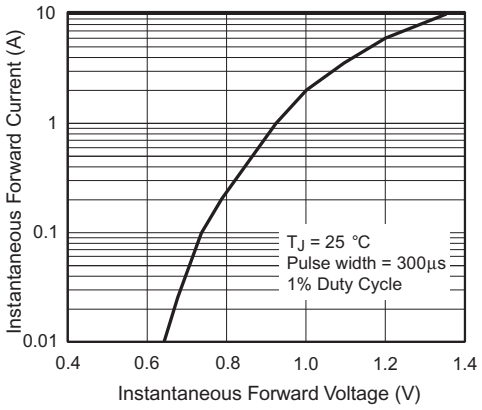


Figure 3. Typical Forward Characteristics Per Leg

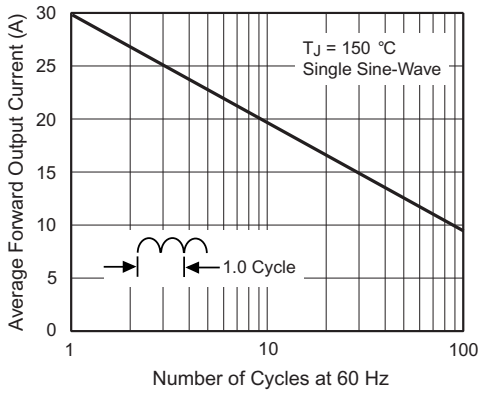


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

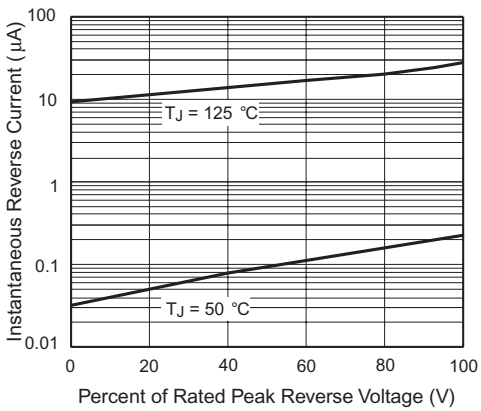


Figure 4. Typical Reverse Leakage Characteristics Per Leg

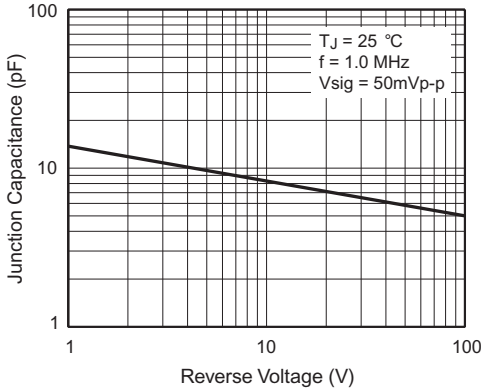


Figure 5. Typical Junction Capacitance Per Leg

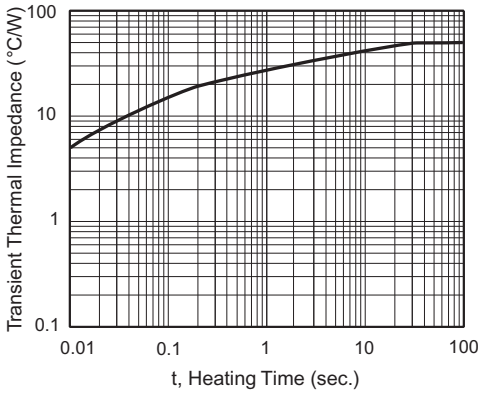
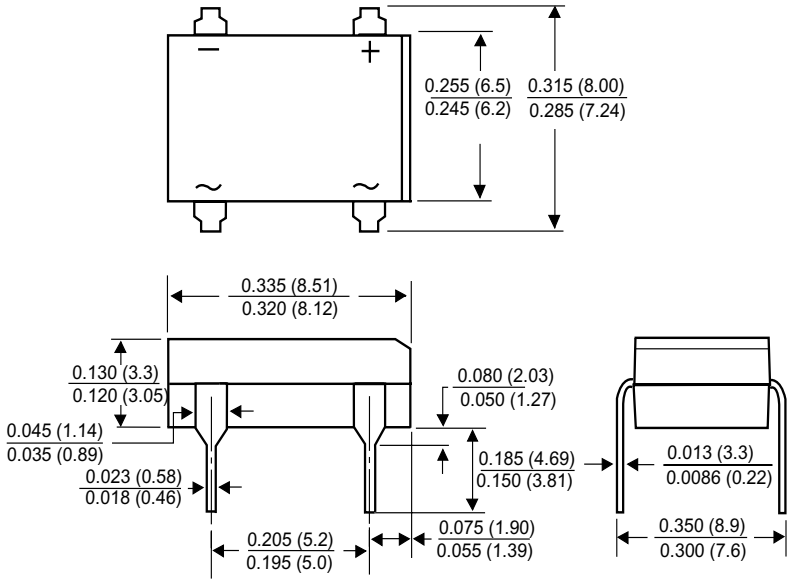


Figure 6. Typical Transient Thermal Impedance Per Leg

Package outline dimensions in inches (millimeters)

Case Style DFM



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