



# DF005MA thru DF10MA

New Product

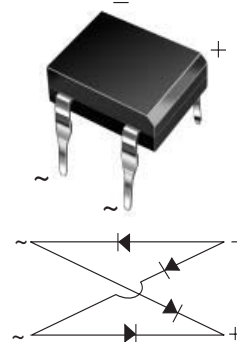
Vishay General Semiconductor

## 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 $\mu$ A
$V_F$	1.1 V
$T_j$ max.	150 °C

Case Style DFM



### Features

- UL Recognition, file number E54214
- Ideal for printed circuit boards
- Applicable for automotive 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	DF	DF	DF	DF	DF	DF	DF	Unit
		005MA	01MA	02MA	04MA	06MA	08MA	10MA		
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 <sup>2</sup> sec	
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150							°C	

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## Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Test condition	Symbol	DF	DF	DF	DF	DF	DF	DF	Unit
			005MA	01MA	02MA	04MA	06MA	08MA	10MA	
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	$T_A = 25\text{ °C}$ $T_A = 125\text{ °C}$	$I_R$	5.0 500							$\mu\text{A}$
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	DF	DF	DF	DF	DF	DF	Unit
		005MA	01MA	02MA	04MA	06MA	08MA	10MA	
Typical thermal resistance per leg <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$	40 15							$^{\circ}\text{C/W}$

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

( $T_A = 25\text{ °C}$  unless otherwise noted)

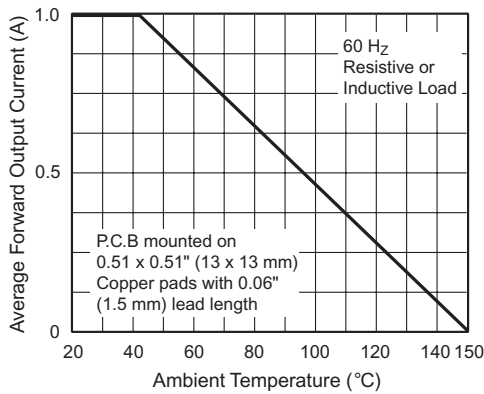


Figure 1. Derating Curve Output Rectified Current

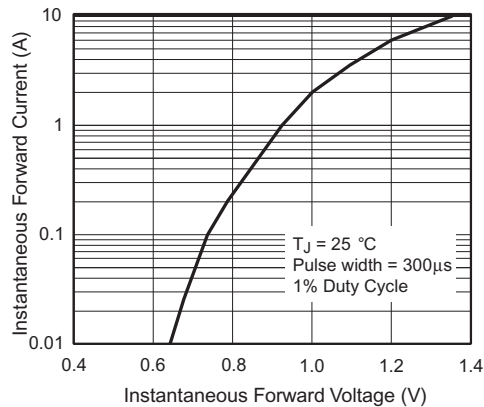


Figure 3. Typical Forward Characteristics Per Leg

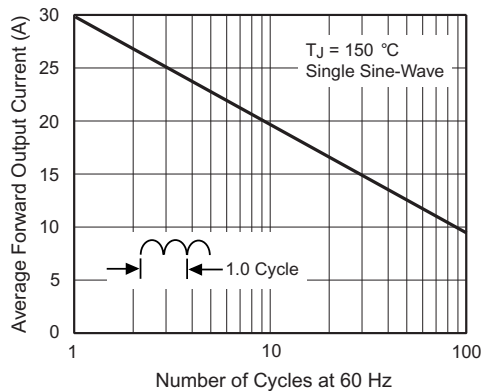


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

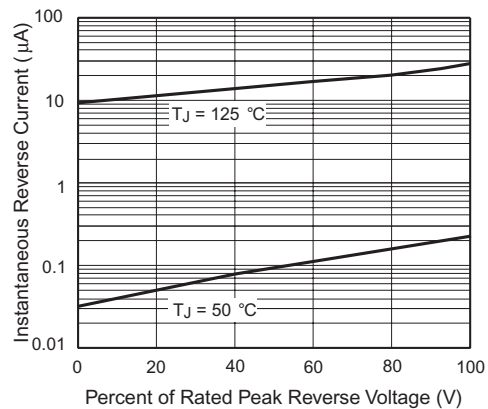


Figure 4. Typical Reverse Leakage Characteristics Per Leg

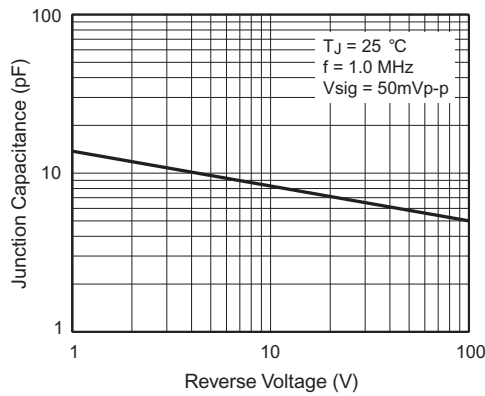


Figure 5. Typical Junction Capacitance Per Leg

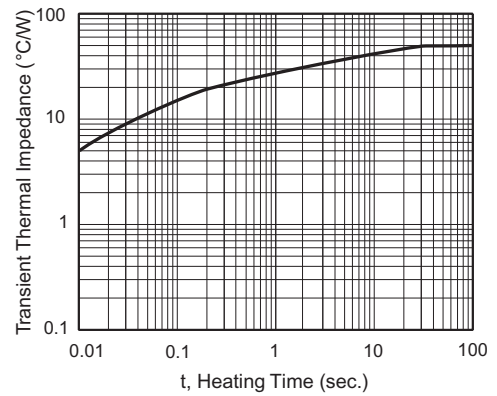
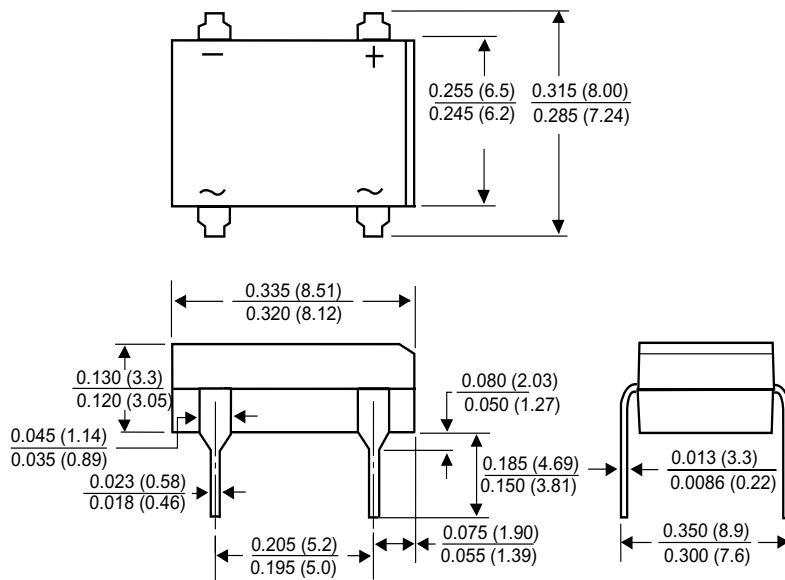


Figure 6. Typical Transient Thermal Impedance Per Leg

## Package outline dimensions in inches (millimeters)

### Case Style DFM





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