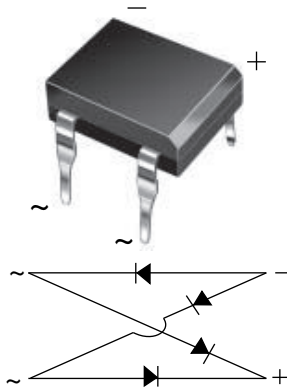




# Miniature Glass Passivated Single-Phase Bridge Rectifiers



Case Style DFM

## FEATURES

- UL recognition, file number E54214
- Ideal for printed circuit boards
- Applicable for automated insertion
- High surge current capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



## TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for SMPS, lighting ballaster, adapter, battery charger, home appliances, office equipment, and telecommunication applications.

## MECHANICAL DATA

Case: DFM

Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** as marked on body

## LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1 A
$V_{RRM}$	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
$I_{FSM}$	30 A
$I_R$	5 $\mu$ A
$V_F$ at $I_F = 1.0$ A	1.1 V
$T_J$ max.	150 °C
Package	DFM
Circuit configuration	Quad

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)									
PARAMETER	SYMBOL	DF005MA	DF01MA	DF02MA	DF04MA	DF06MA	DF08MA	DF10MA	UNIT
Device marking code		DFA005	DFA01	DFA02	DFA04	DFA06	DFA08	DFA10	
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> s
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							°C



<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)											
PARAMETER	TEST CONDITIONS	SYMBOL	DF005MA	DF01MA	DF02MA	DF04MA	DF06MA	DF08MA	DF10MA	UNIT	
Maximum instantaneous forward voltage drop per diode	1.0 A	$V_F$	1.1								V
Maximum reverse current at rated DC blocking voltage per diode	$T_A = 25\text{ }^\circ\text{C}$	$I_R$	5.0								$\mu\text{A}$
	$T_A = 125\text{ }^\circ\text{C}$		500								
Typical junction capacitance per diode	4.0 V, 1 MHz	$C_J$	25								pF

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	DF005MA	DF01MA	DF02MA	DF04MA	DF06MA	DF08MA	DF10MA	UNIT	
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	40								$^\circ\text{C/W}$
	$R_{\theta JL}$	15								

**Note**

<sup>(1)</sup> Thermal resistance from junction to ambient and from junction to lead mounted on PCB with 0.5" x 0.5" (13 mm x 13 mm) copper pads

<b>ORDERING INFORMATION</b> (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
DF06MA-E3/45	0.403	45	50	Tube



RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

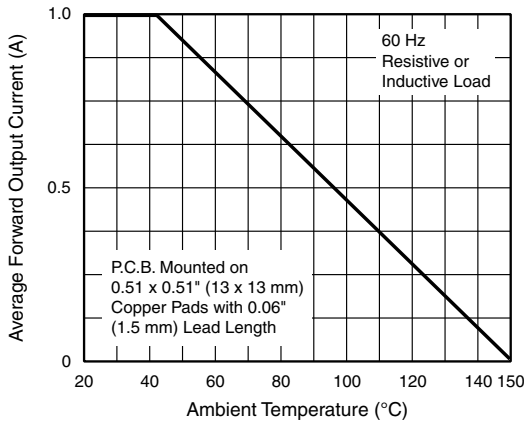


Fig. 1 - Derating Curve Output Rectified Current

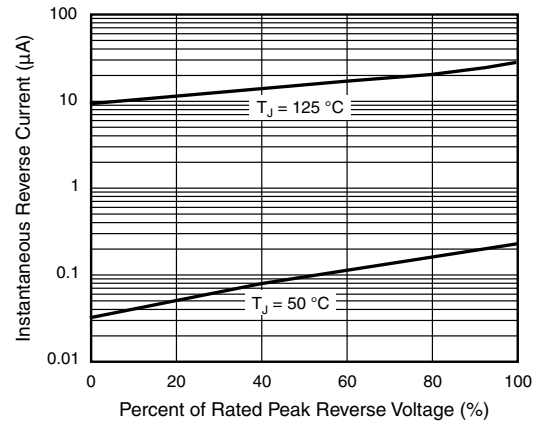


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

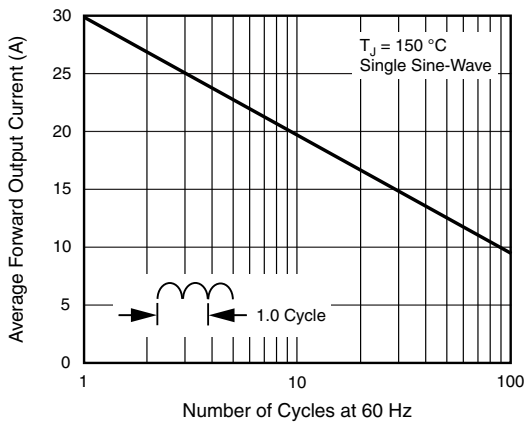


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

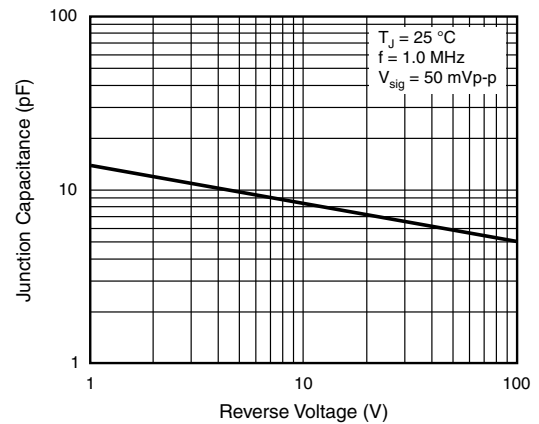


Fig. 5 - Typical Junction Capacitance Per Diode

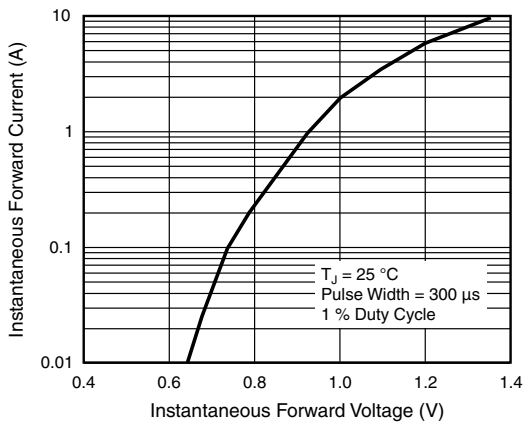


Fig. 3 - Typical Forward Characteristics Per Diode

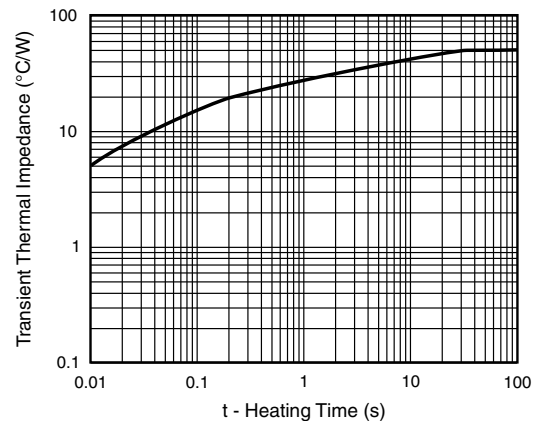
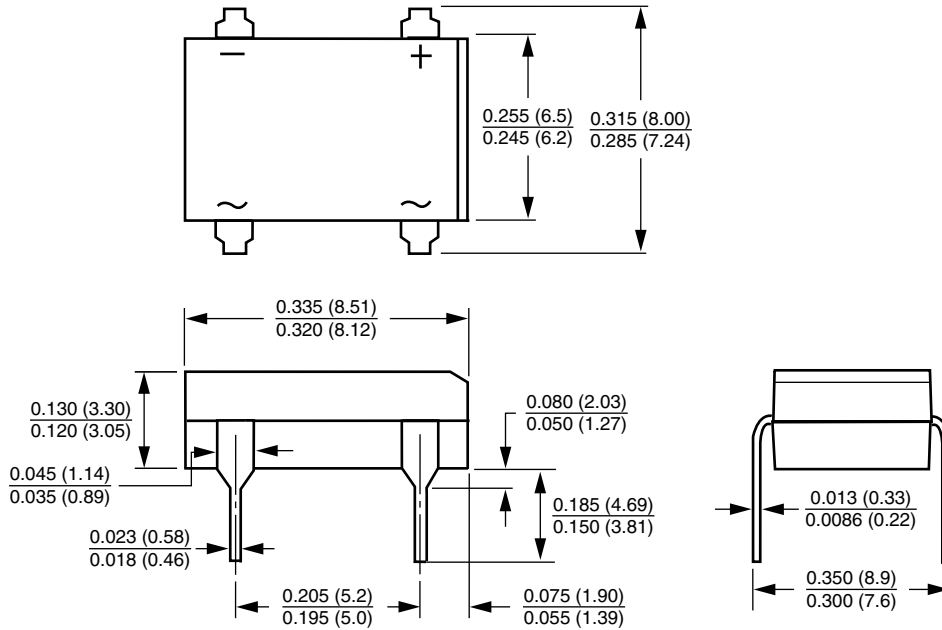


Fig. 6 - Typical Transient Thermal Impedance Per Diode



**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

Case Style DFM





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