

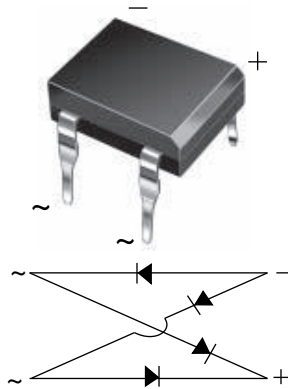


**THE DATASHEET OF  
DF005MA-E3/45**





## Miniature Glass Passivated Single-Phase Bridge Rectifiers



Case Style DFM

PRIMARY CHARACTERISTICS	
Package	DFM
$I_{F(AV)}$	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
Diode variations	Quad

### FEATURES

- UL recognition, file number E54214
- Ideal for printed circuit boards
- Applicable for automotive 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)

RoHS  
COMPLIANT

### 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

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

ELECTRICAL CHARACTERISTICS ( $T_A = 25$ °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	$T_A = 25$ °C	$I_R$					5.0			$\mu$ A
	$T_A = 125$ °C						500			
Typical junction capacitance per diode	4.0 V, 1 MHz	$C_J$					25			pF



THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	DF005MA	DF01MA	DF02MA	DF04MA	DF06MA	DF08MA	DF10MA	UNIT
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub>	40							°C/W
	R <sub>θJL</sub>	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

ORDERING INFORMATION (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)**

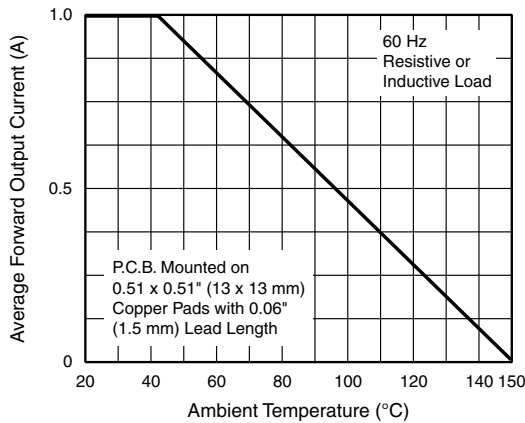


Fig. 1 - Derating Curve Output Rectified Current

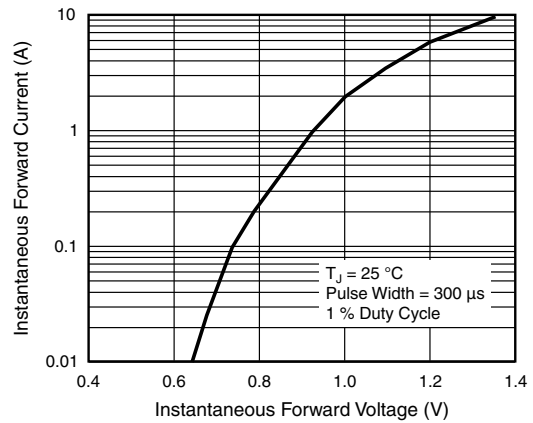


Fig. 3 - Typical Forward Characteristics Per Diode

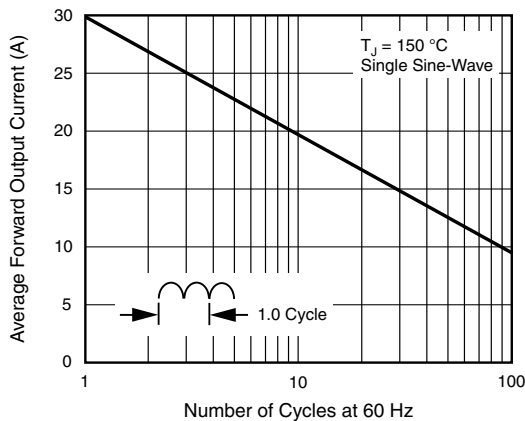


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

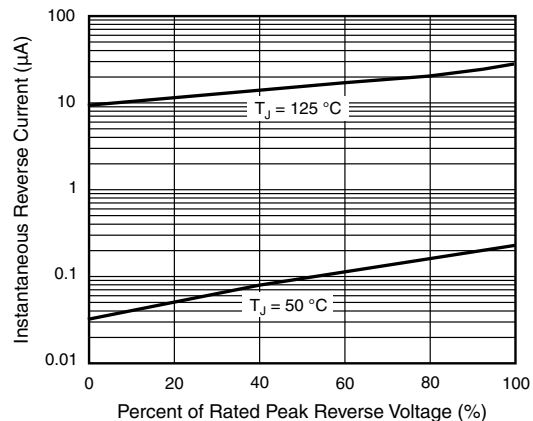


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

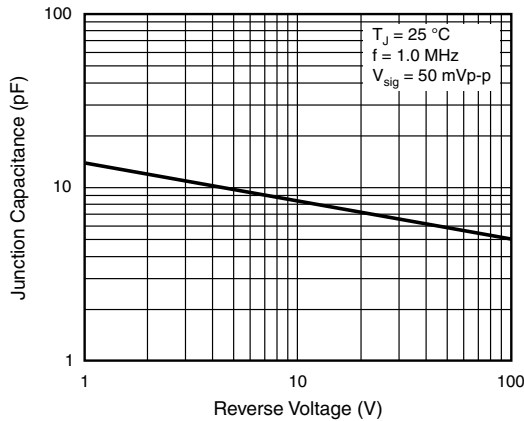


Fig. 5 - Typical Junction Capacitance Per Diode

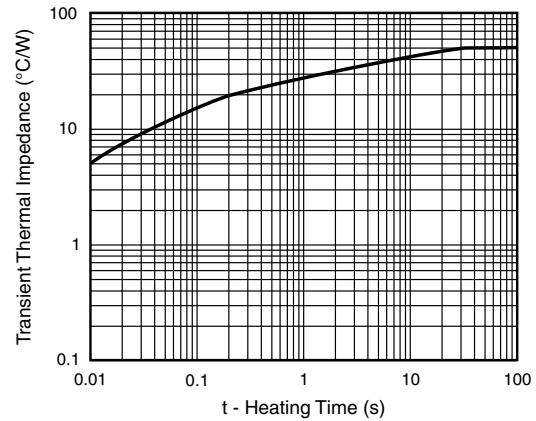
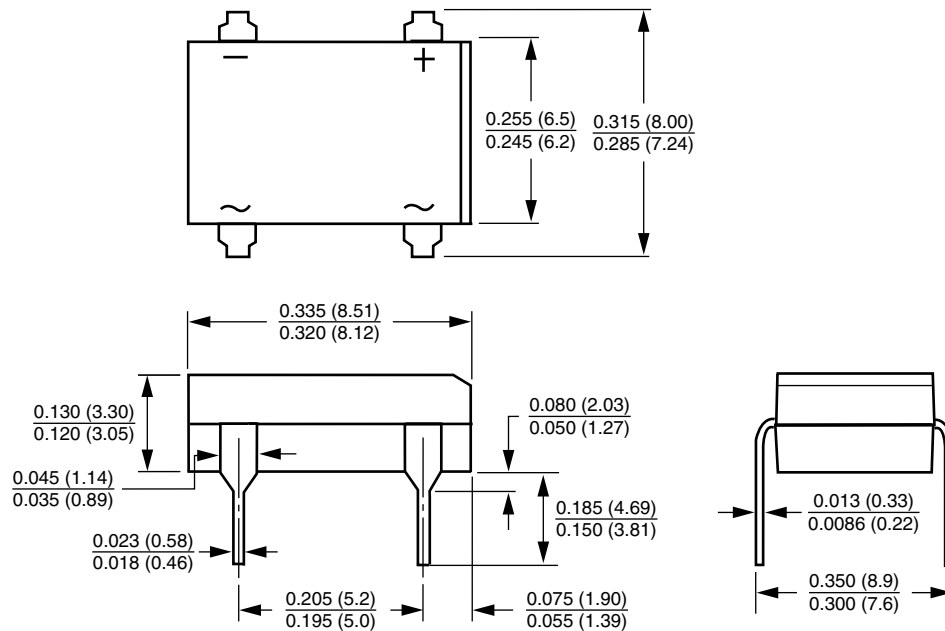


Fig. 6 - Typical Transient Thermal Impedance Per Diode

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

**Case Style DFM**





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