

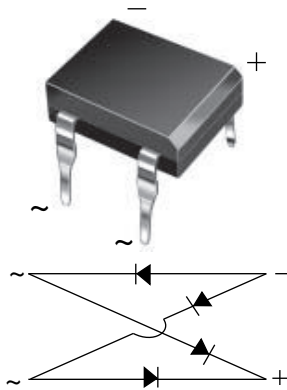


**THE DATASHEET OF
DF02MA-E3/45**





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



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 μ 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 ² 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								μA
	T _A = 125 °C		500								
Typical junction capacitance per diode	4.0 V, 1 MHz	C _J	25								pF

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	SYMBOL	DF005MA	DF01MA	DF02MA	DF04MA	DF06MA	DF08MA	DF10MA	UNIT	
Typical thermal resistance ⁽¹⁾	R _{θJA}	40								°C/W
	R _{θJL}	15								

Note

⁽¹⁾ 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 ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

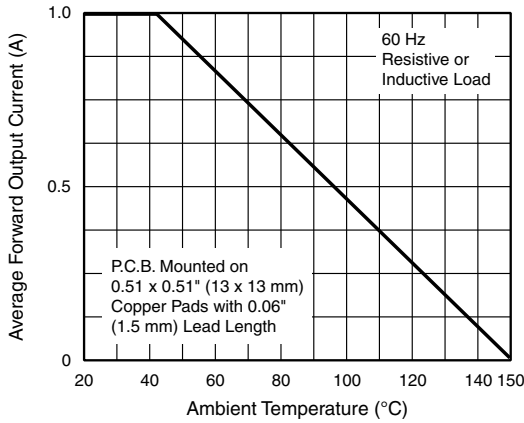


Fig. 1 - Derating Curve Output Rectified Current

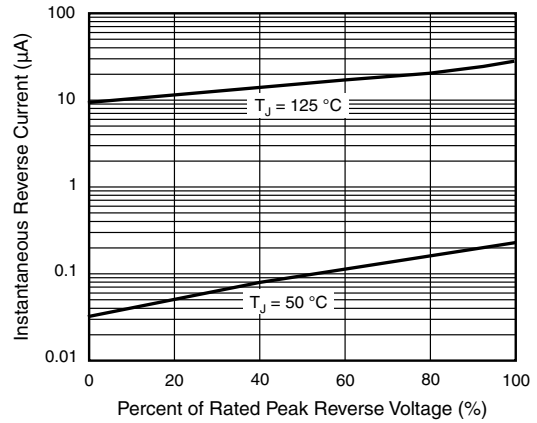


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

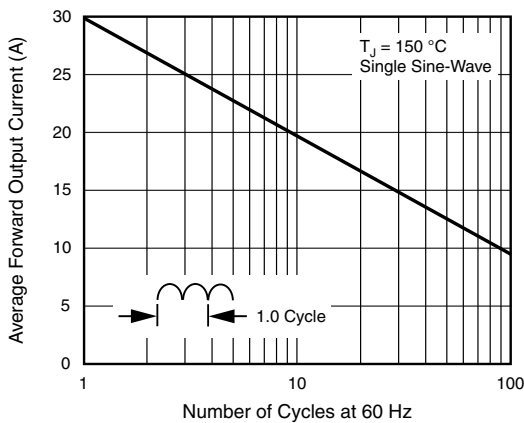


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

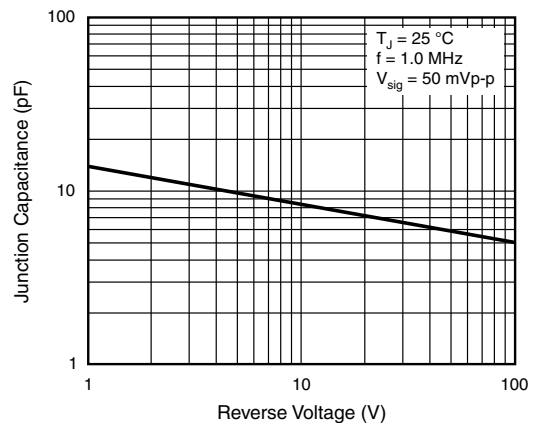


Fig. 5 - Typical Junction Capacitance Per Diode

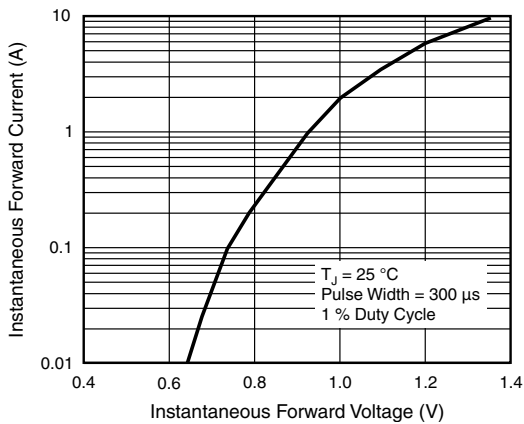


Fig. 3 - Typical Forward Characteristics Per Diode

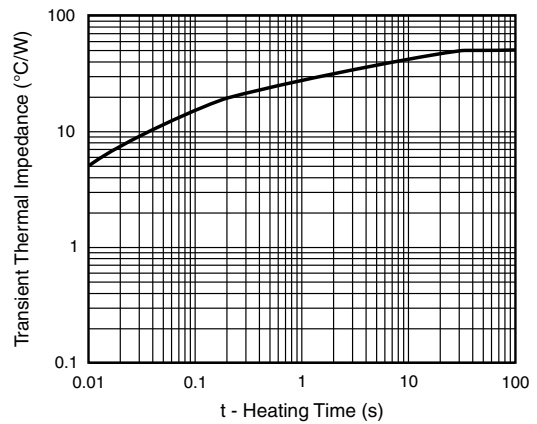
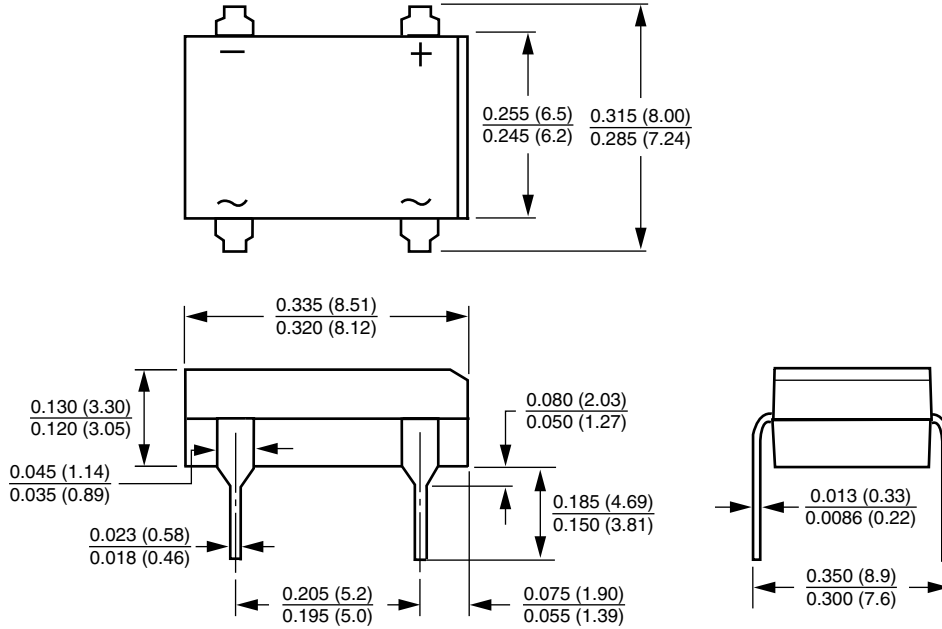


Fig. 6 - Typical Transient Thermal Impedance Per Diode



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style DFM





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