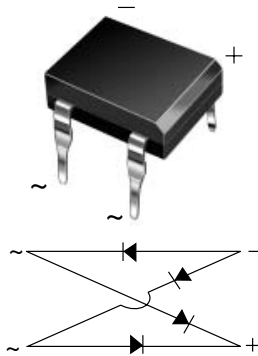


# Miniature Glass Passivated Single-Phase Bridge Rectifiers



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
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


**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.

**MECHANICAL DATA**

**Case:** DFM

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade

**Polarity:** As marked on body

**MAJOR RATINGS AND CHARACTERISTICS**

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

**MAXIMUM RATINGS** ( $T_A = 25$  °C unless otherwise noted)

PARAMETER	SYMBOL	DF005M	DF01M	DF02M	DF04M	DF06M	DF08M	DF10M	UNIT
Device marking code		DF005	DF01	DF02	DF04	DF06	DF08	DF10	
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	$I_{FSM}$	50							A
Rating for fusing ( $t < 8.3$ ms)	$I^2t$	10							A <sup>2</sup> sec
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	DF005M	DF01M	DF02M	DF04M	DF06M	DF08M	DF10M	UNIT
Maximum instantaneous forward voltage drop per diode	at 1.0 A	$V_F$				1.1				V
Maximum reverse current at rated DC blocking voltage per diode	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 125\text{ }^\circ\text{C}$	$I_R$				5.0	500			$\mu\text{A}$
Typical junction capacitance per diode	at 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	DF 005M	DF 01M	DF 02M	DF 04M	DF 06M	DF 08M	DF 10M	UNIT	
Typical thermal resistance	$R_{\theta JA}$ $R_{\theta JL}$					40			$^\circ\text{C/W}$	
						15				

**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

<b>ORDERING INFORMATION</b>				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
DF06M-E3/45	0.416	45	50	Tube

## RATINGS AND CHARACTERISTICS CURVES

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

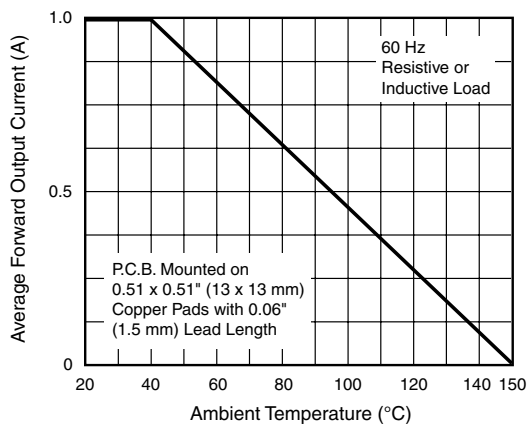


Figure 1. Derating Curve Output Rectified Current

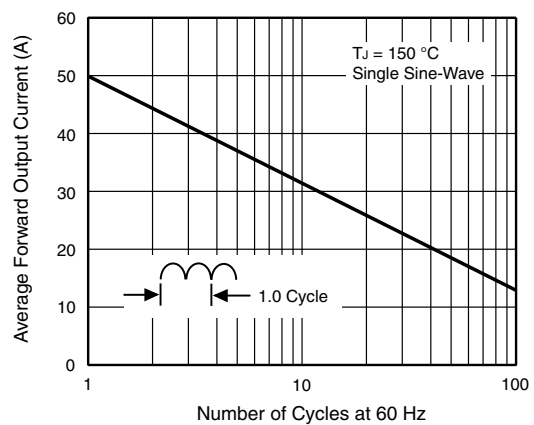


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

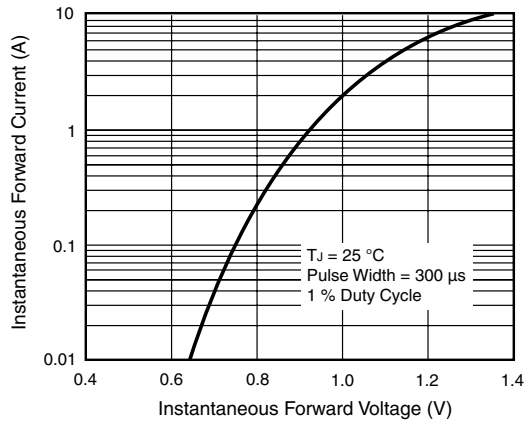


Figure 3. Typical Forward Characteristics Per Diode

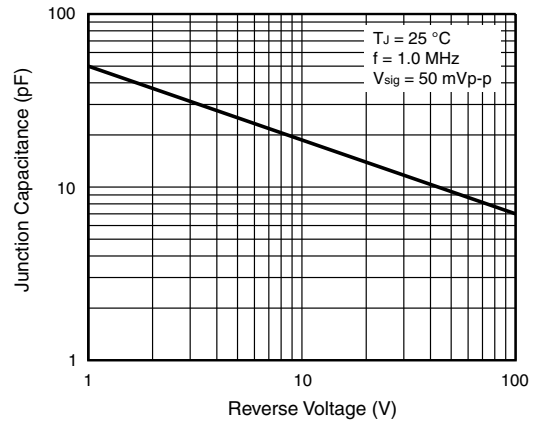


Figure 5. Typical Junction Capacitance Per Diode

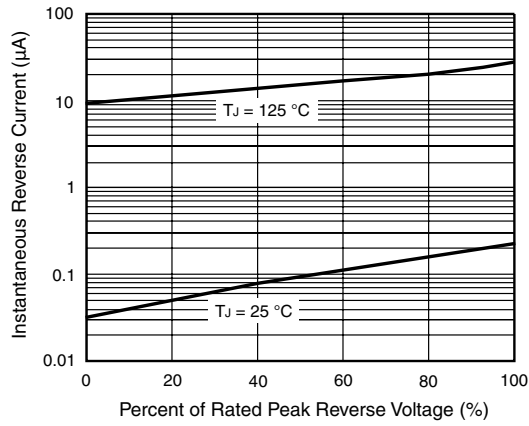


Figure 4. Typical Reverse Leakage Characteristics Per Diode

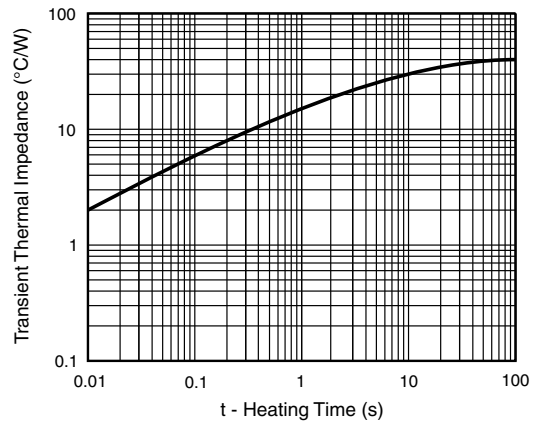
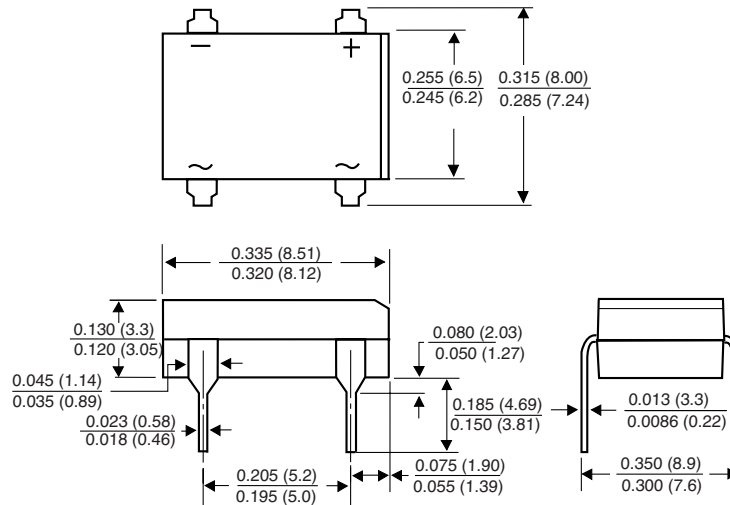


Figure 6. Typical Transient Thermal Impedance

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### Case Style DFM





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