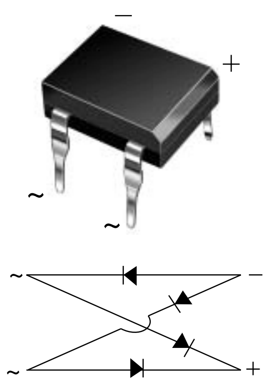
Miniature Glass Passivated Single-Phase Bridge Rectifiers



Case Style DFM

FEATURES

- UL recognition, file number E54214
- Ideal for printed circuit boards
- Applicable for automative insertion
- High surge current capability
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

RoHS
COMPLIANT

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-002 and JESD22-B102
E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

Polarity: As marked on body

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1 A
V_{RRM}	50 V to 1000 V
I_{FSM}	50 A
I_R	5 μA
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^2s
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**	**DF005M**	**DF01M**	**DF02M**	**DF04M**	**DF06M**	**DF08M**	**DF10M**	**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 T_A = 125 °C	I_R				5.0 500				µA
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**	**DF005M**	**DF01M**	**DF02M**	**DF04M**	**DF06M**	**DF08M**	**DF10M**	**UNIT**
Typical thermal resistance (1)	$R_{\theta JA}$ $R_{\theta JL}$				40 15				°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

ORDERING INFORMATION (Example)				
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 °C unless otherwise noted)

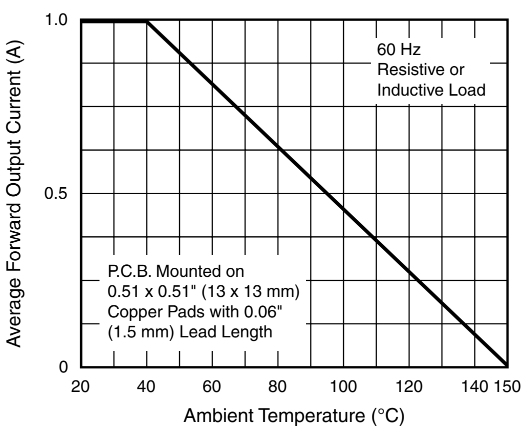


Figure 1. Derating Curve Output Rectified Current

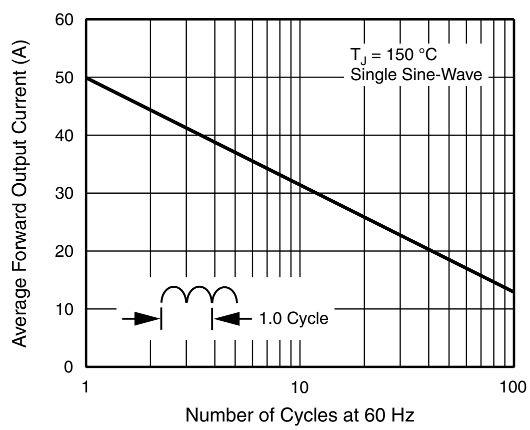


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

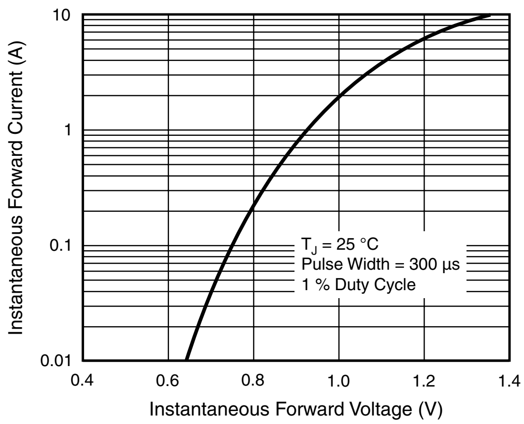


Figure 3. Typical Forward Characteristics Per Diode

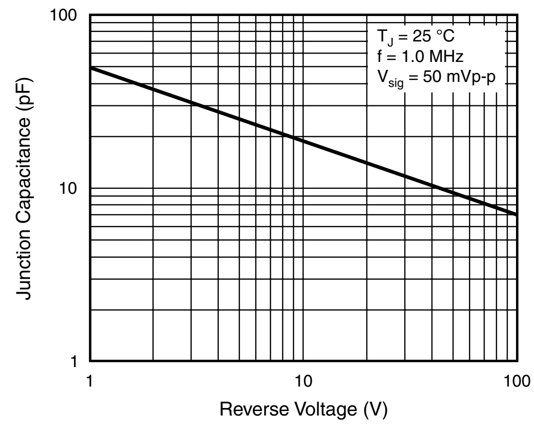


Figure 5. Typical Junction Capacitance Per Diode

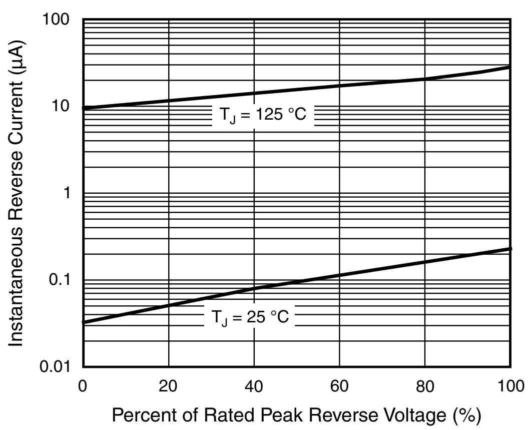


Figure 4. Typical Reverse Leakage Characteristics Per Diode

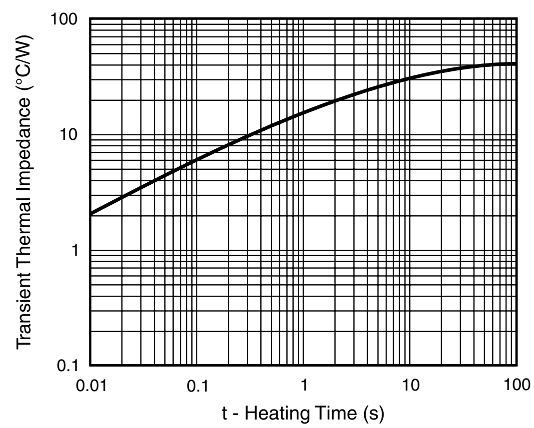
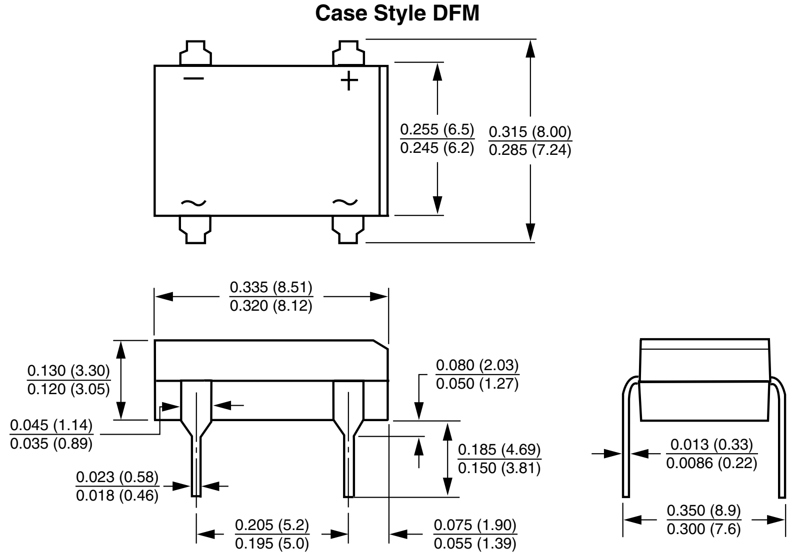


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style DFM



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