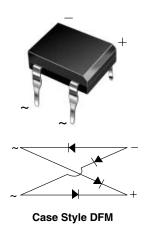




Vishay General Semiconductor

Miniature Glass Passivated Single-Phase Bridge Rectifiers



PRIMARY CHARACTERISTICS							
I _{F(AV)} 1 A							
V_{RRM}	50 V to 1000 V						
I _{FSM}	30 A						
I _R	5 μΑ						
V _F	1.1 V						
T _J max.	150 °C						

FEATURES





· Ideal for printed circuit boards



Applicable for automative insertion

RoHS

· High surge current capability

• Solder dip 260 °C, 40 s

 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-002 and JESD22-B102

E3 suffix for consumer grade, 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	٧
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 $T_A = 40 ^{\circ}\text{C}$	I _{F(AV)}		1.0						
Peak forward surge current single sine-wave superimposed on rated load	I _{FSM}		30						
Rating for fusing (t < 8.3 ms)	l ² t	4.5							A ² s
Operating junction and storage temperature range	T _J , T _{STG}	- 55 to + 150						°C	

DF005MA thru DF10MA

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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				>			
Maximum reverse current at rated DC blocking voltage per diode	T _A = 25 °C T _A = 125 °C	I _R	5.0 500				μΑ			
Typical junction capacitance per diode	4.0 V, 1 MHz	CJ	25				pF			

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL DF005MA DF01MA DF02MA DF04MA DF06MA DF08MA DF10MA				DF10MA	UNIT		
Typical thermal resistance (1)	$R_{ hetaJA} \ R_{ hetaJL}$	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	REFERRED 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 °C unless otherwise noted)

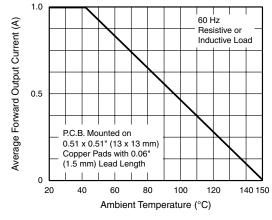


Figure 1. Derating Curve Output Rectified Current

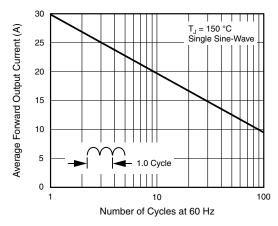


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode





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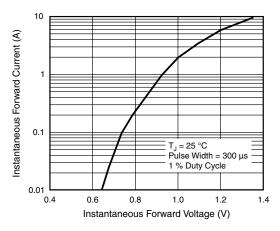


Figure 3. Typical Forward Characteristics Per Diode

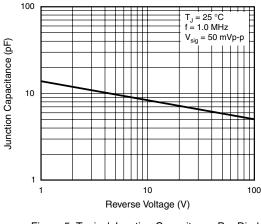


Figure 5. Typical Junction Capacitance Per Diode

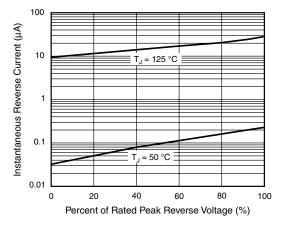


Figure 4. Typical Reverse Leakage Characteristics Per Diode

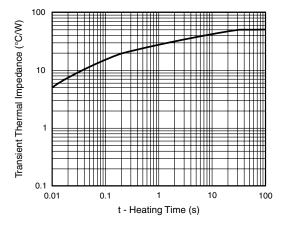
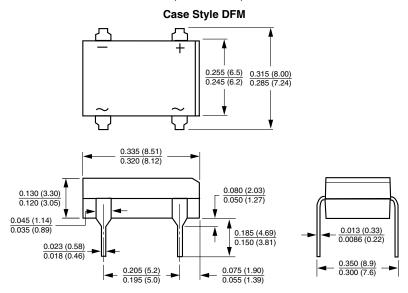


Figure 6. Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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