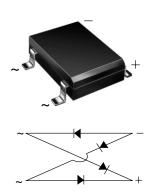




Vishay General Semiconductor

Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers



Case Style DFS

PRIMARY CHARACTERISTICS							
$I_{F(AV)}$	1 A						
V_{RRM}	50 V to 1000 V						
I _{FSM}	30 A						
1	F A						

1.1 V

150 °C

FEATURES

• UL recognition, file number E54214



· Ideal for automated placement

· Middle surge current capability



 Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C

RoHS COMPLIANT

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: DFS

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	DF005SA	DF01SA	DF02SA	DF04SA	DF06SA	DF08SA	DF10SA	UNIT
Device marking code		DFA005S	DFA01S	DFA02S	DFA04S	DFA06S	DFA08S	DFA10S	
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	٧
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	٧
Maximum average forward output rectified current at T _A = 40 °C ⁽¹⁾	I _{F(AV)}		1.0						
Peak forward surge current single half sine-wave superimposed on rated load	I _{FSM}	30						А	
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	

Note:

(1) Units mounted on P.C.B. with 0.51 x 0.51" (13 x 13 mm) copper pads

 V_{F}

 T_J max.

DF005SA thru DF10SA

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	DF005SA	DF01SA	DF02SA	DF04SA	DF06SA	DF08SA	DF10SA	UNIT
Maximum instantaneous forward voltage drop per diode	1.0 A	V _F	1.1					٧		
Maximum DC 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 ⁽¹⁾		CJ	25				pF			

Note:

(1) Measured at 1.0 MHz and applied reverse voltage of 4.0 V

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER SYMBOL DF005SA DF01SA DF02SA DF04SA DF06SA DF08SA DF10SA					DF10SA	UNIT		
Typical thermal resistance (1)	$R_{ hetaJA} \ R_{ hetaJL}$	40 15			°C/W			

Note:

(1) Units mounted on P.C.B. with 0.51 x 0.51" (13 x 13 mm) copper pads

ORDERING INFORMATION (Example)									
PREFERRED P/N UNIT WEIGHT (g) PREFERRED PACKAGE CODE BASE QUANTITY DELIVERY MODE									
DF06SA-E3/45	0.386	45	50	Tube					
DF06SA-E3/77	0.386	77	1500	13" diameter paper tape and reel					

RATINGS AND CHARACTERISTICS CURVES

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

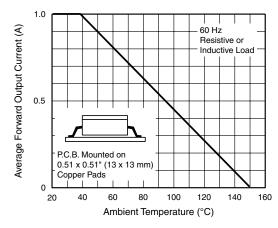


Figure 1. Derating Curve Output Rectified Current

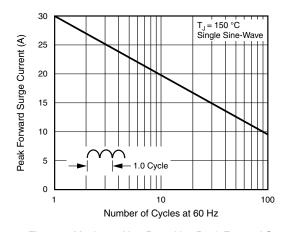


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode





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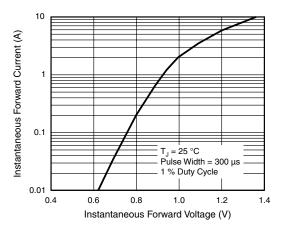


Figure 3. Typical Forward Characteristics Per Diode

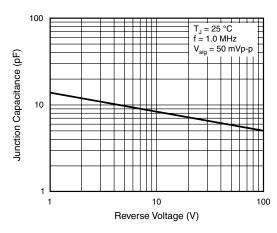


Figure 5. Typical Junction Capacitance Per Diode

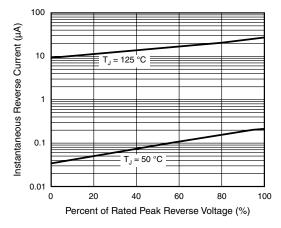


Figure 4. Typical Reverse Leakage Characteristics Per Diode

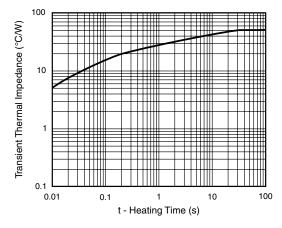
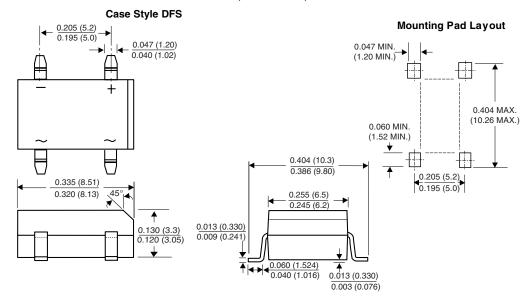


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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