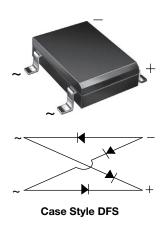


DF15005S, DF1501S, DF1502S, DF1504S, DF1506S, DF1508S, DF1510S

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Miniature Glass Passivated Single-Phase Surface-Mount Bridge Rectifiers



LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS							
I _{F(AV)}	1.5 A						
V _{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V						
I _{FSM}	50 A						
I _R	5 μΑ						
V _F at I _F = 1.5 A	1.1 V						
T _J max.	150 °C						
Package	DFS						
Circuit configuration	Quad						

FEATURES

• UL recognition, file number E54214

• Ideal for automated placement

RoHS

· High surge current capability

- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- 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: DFS

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 JESD22-B102

E3 suffix meets JESD 201 class 1A whisker test

Polarity: as marked on body

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	DF15005S	DF1501S	DF1502S	DF1504S	DF1506S	DF1508S	DF1510S	UNIT
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				700	V		
Maximum DC blocking voltage	V_{DC}	50 100 200 400 600 800 1000				1000	V		
Maximum average forward output rectified current at $T_A = 40 ^{\circ}\text{C}^{(1)}$	I _{F(AV)}	1.5						Α	
Peak forward surge current single half sine-wave superimposed on rated load	I _{FSM}	50						Α	
Rating for fusing (t < 8.3 ms)	l ² t	10						A ² s	
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150						°C	

Note

 $^{(1)}$ Units mounted on PCB with 0.51" x 0.51" (13 mm x 13 mm) copper pads

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	DF15005S	DF1501S	DF1502S	DF1504S	DF1506S	DF1508S	DF1510S	UNIT
Maximum instantaneous forward voltage drop per diode	1.5 A	V _F	1.1						V	
Maximum DC reverse current at	T _A = 25 °C		5.0						μΑ	
rated DC blocking voltage per diode	T _A = 125 °C	I _R	500							
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	SYMBOL DF15005S DF1501S DF1502S DF1504S DF1506S DF1508S DF1510S UNIT							UNIT
Typical thermal resistance (1)		40							
Typical trieffial resistance (*)	$R_{\theta JL}$	15						°C/W	

Note

⁽¹⁾ Units mounted on PCB with 0.51" x 0.51" (13 mm x 13 mm) copper pads

ORDERING INFORMATION (Example)									
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE					
DF1506S-E3/45	0.399	45	50	Tube					
DF1506S-E3/77	0.399	77	1500	13" diameter paper tape and reel					

RATINGS AND CHARACTERISTICS CURVES ($T_A = 25$ °C unless otherwise noted)

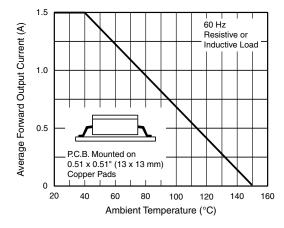


Fig. 1 - Derating Curve Output Rectified Current

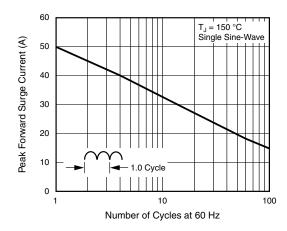


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

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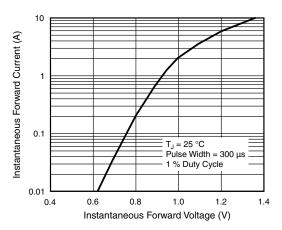


Fig. 3 - Typical Forward Characteristics Per Diode

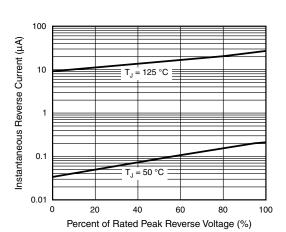


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

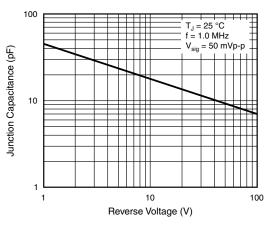


Fig. 5 - Typical Junction Capacitance Per Diode

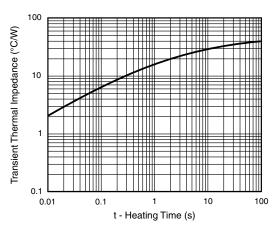
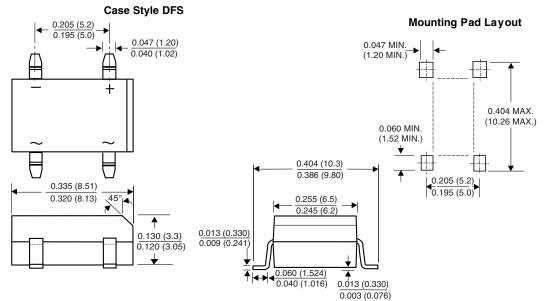


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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