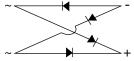


DFL15005S thru DFL1510S

Vishay General Semiconductor

Low Profile Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers





Case Style Low Pro le DFS

PRIMARY CHARACTERISTICS							
I _{F(AV)}	1.5 A						
V _{RRM}	50 V to 1000 V						
I _{FSM}	50 A						
I _R	5 μΑ						
V _F	1.1 V						
T _J max.	150 °C						

FEATURES

• Low profile: typical height of 2.5 mm



· Ideal for automated placement

· High surge current capability

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

• Solder dip 260 °C, 40 s

 Compliant to RoHS directive 2002/95/EC and in accordance to 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: Low profile DFS

Epoxy meets UL 94 V-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	DFL 15005S	DFL 1501S	DFL 1502S	DFL 1504S	DFL 1506S	DFL 1508S	DFL 1510S	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	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)	1.5							А
Peak forward surge current single half sine-wave superimposed on rated load	I _{FSM}	50							А
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 P.C.B. 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	DFL 15005S	DFL 1501S	DFL 1502S	DFL 1504S	DFL 1506S	DFL 1508S	DFL 1510S	UNIT
Max. instantaneous forward voltage drop per diode	1.5 A	V _F	1.1						٧	
Maximum DC reverse current at rated DC blocking	T _A = 25 °C							μA		
voltage per diode	T _A = 125 °C	I _R	500							μΑ
Typical junction capacitance per diode		C _J ⁽¹⁾	16					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 DFL 15005S DFL 1501S DFL 1502S DFL 1504S DFL 1506S DFL 1508S DFL 1510S UNIT						UNIT	
Typical thermal resistance	R _{0JA} (1)	40							°C/W
Typical thermal resistance	R ₀ JL (1)	15							- C/VV

Note

⁽¹⁾ Units mounted on P.C.B. 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					
DFL1506S-E3/45	0.341	45	50	Tube					
DFL1506S-E3/77	0.341	77	1500	13" diameter paper tape and reel					

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

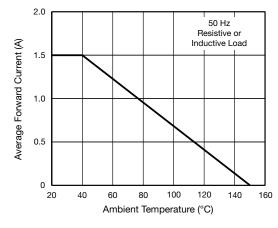


Fig. 1 - Forward Current Derating Curve Per Diode

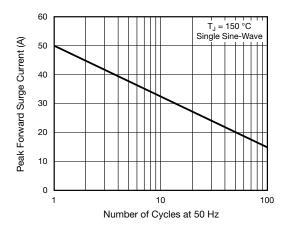


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode



DFL15005S thru DFL1510S

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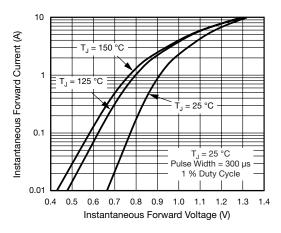


Fig. 3 - Typical Forward Voltage Characteristics Per Diode

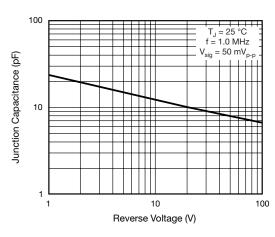


Fig. 5 - Typical Junction Capacitance Per Diode

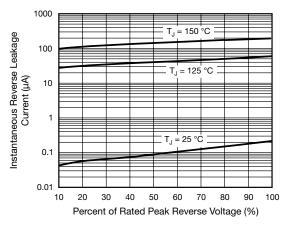


Fig. 4 - Typical Reverse Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters) Case Style Low Profile DFS **Mounting Pad Layout** 0.205 (5.2) 0.047 Min. 0.195 (5.0) (1.20 Min.) 0.047 (1.20) 0.040 (1.02) 0.404 Max. (10.26 Max.) 0.060 Min. (1.52 Min.) 0.205 (5.2) 0.195 (5.0) 0.335 (8.51) 0.404 (10.3) 0.386 (9.80) 0.320 (8.13) 0.013 (0.330) 0.255 (6.5) 0.009 (0.241) 0.245 (6.2) 0.102 (2.60) 0.094 (2.40) 0.060 (1.524) 0.040 (1.016) 0.013 (0.330) 0.003 (0.076)



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