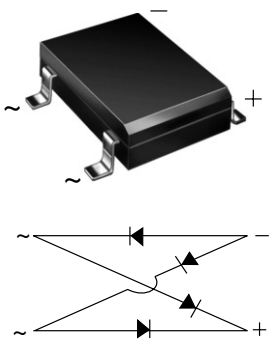
Low Profile Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers



Case Style Low Profile DFS

FEATURES

- Low profile: typical height of 2.5 mm
- UL recognition, file number E54214
- Ideal for automated placement
- High surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C
- 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: Low profile 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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.5 A
V_{RRM}	50 V to 1400 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	DFL 15005S	DFL 1501S	DFL 1502S	DFL 1504S	DFL 1506S	DFL 1508S	DFL 1510S	DFL 1514S	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	1400	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	980	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	1400	V
Maximum average forward output rectified current at T_A = 40 °C (1)	$I_{F(AV)}$	1.5								A
Peak forward surge current single half 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

Note:

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

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**	**DFL 1514S**	**UNIT**
Max. instantaneous forward voltage drop per diode	1.5 A	V_F	1.1								V
Maximum DC 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 (1)		C_J	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**	**DFL 15005S**	**DFL 1501S**	**DFL 1502S**	**DFL 1504S**	**DFL 1506S**	**DFL 1508S**	**DFL 1510S**	**DFL 1514S**	**UNIT**
Typical thermal resistance (1)	$R_{\theta JA}$ $R_{\theta JL}$	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**
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)

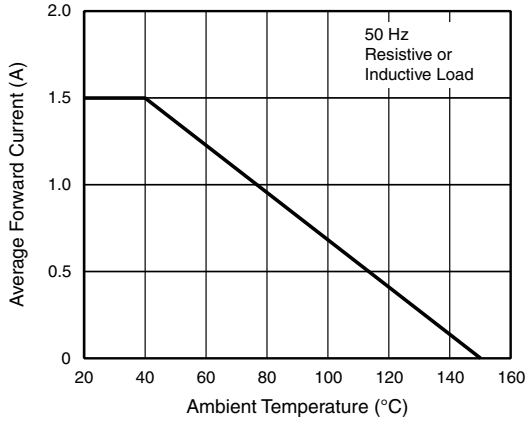


Figure 1. Forward Current Derating Curve Per Diode

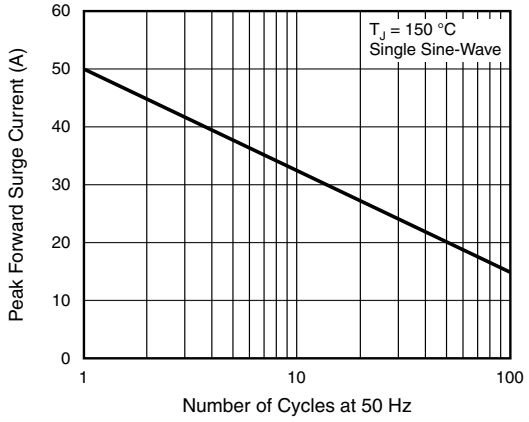


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

For technical questions within your region, please contact one of the following:
PDD-Americas@vishay.com, PDD-Asia@vishay.com, PDD-Europe@vishay.com

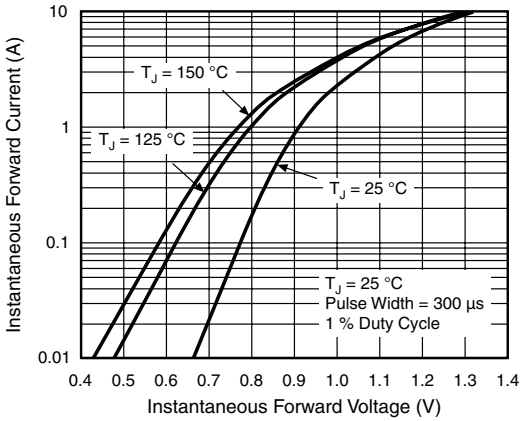


Figure 3. Typical Forward Voltage Characteristics Per Diode

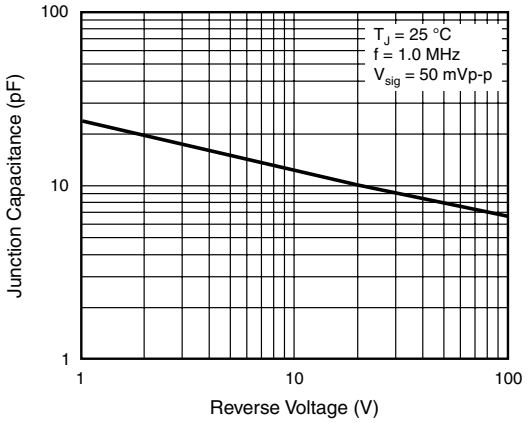


Figure 5. Typical Junction Capacitance Per Diode

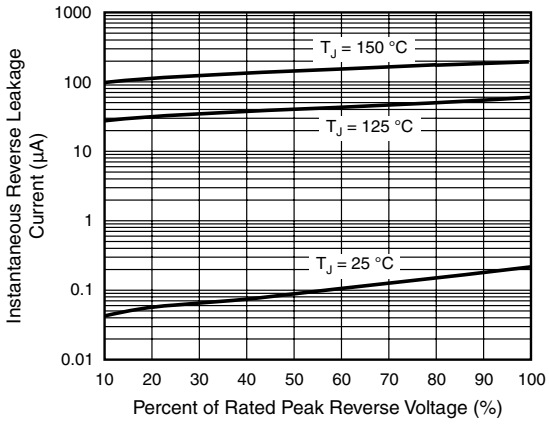
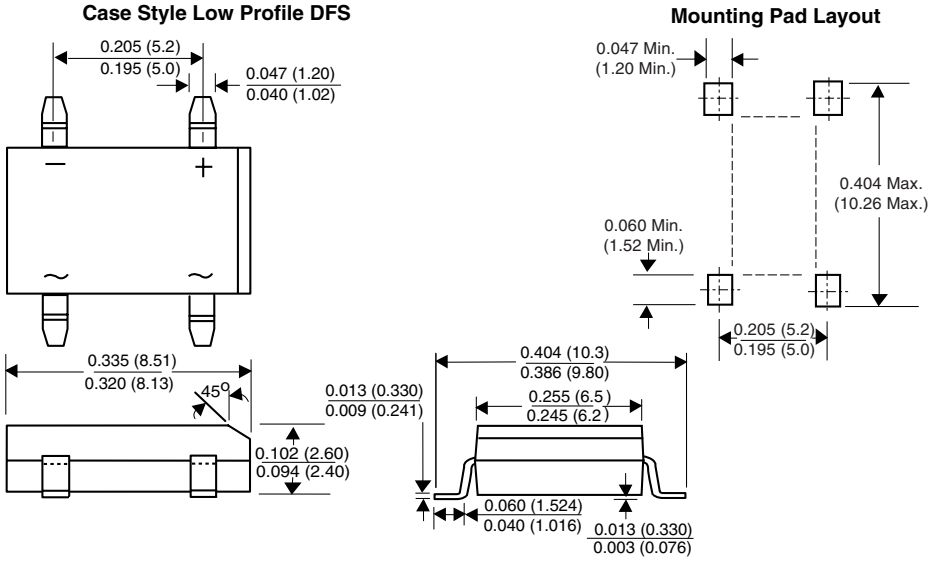


Figure 4. Typical Reverse Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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