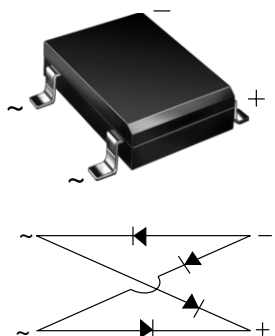


Low Profile Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers



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-020C, LF max peak of 250 °C
- Solder Dip 260 °C, 40 seconds
- 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: Low Profile DFS

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade

Polarity: As marked on body

MAJOR RATINGS AND CHARACTERISTICS	
$I_{F(AV)}$	1.5 A
V_{RRM}	50 V to 1400 V
I_{FSM}	50 A
I_R	5 μ A
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 ² sec
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 ($T_A = 25\text{ }^{\circ}\text{C}$ 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	at 1.5 A	V_F	1.1								V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 125\text{ }^{\circ}\text{C}$	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 Volts

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 _{θJA} R _{θJL}	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				
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 & Reel

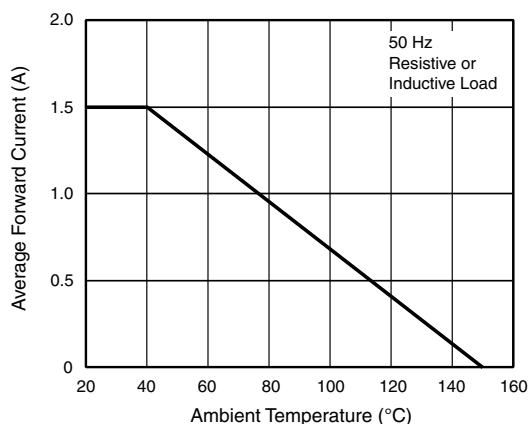
RATINGS AND CHARACTERISTICS CURVES($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Figure 1. Forward Current Derating Curve Per Diode

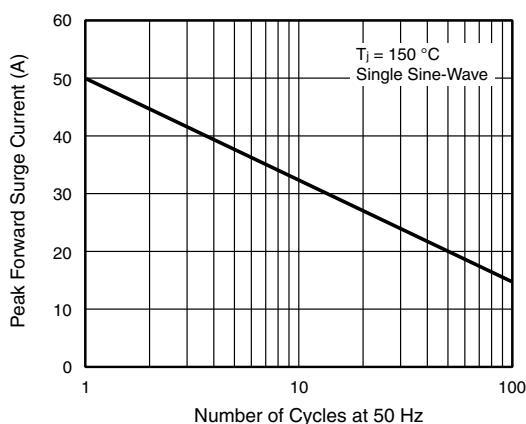


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

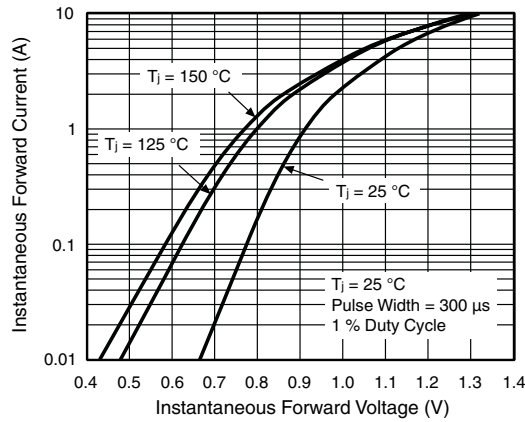


Figure 3. Typical Forward Voltage Characteristics Per Diode

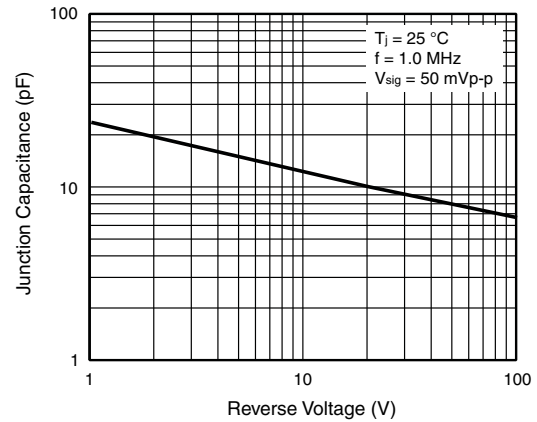


Figure 5. Typical Junction Capacitance Per Diode

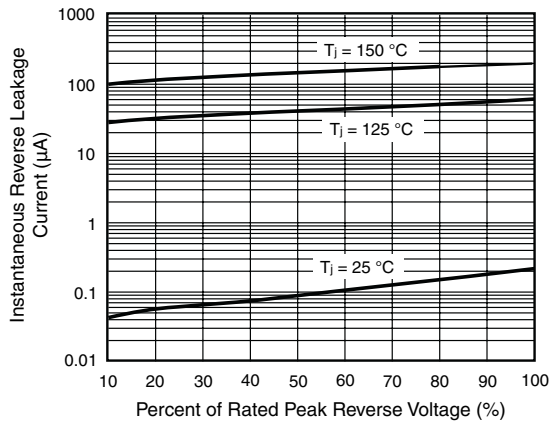
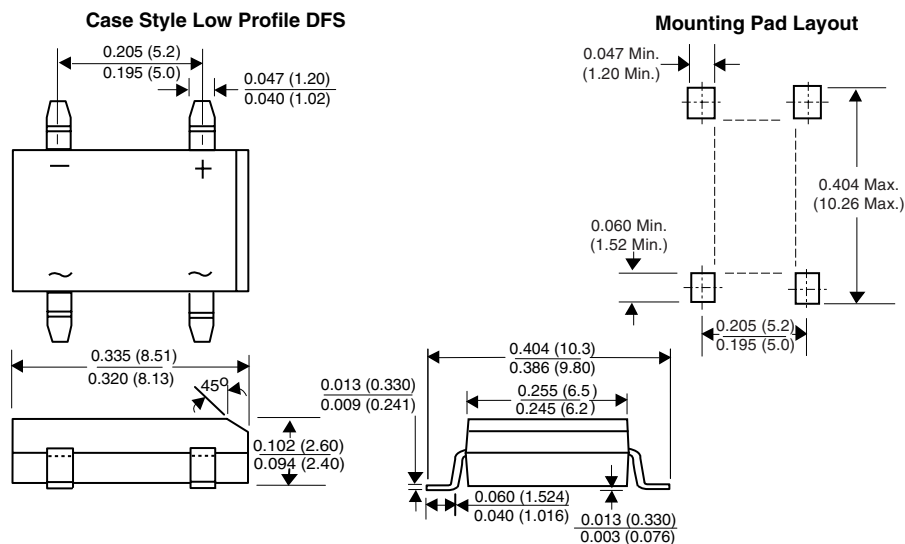


Figure 4. Typical Reverse Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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