

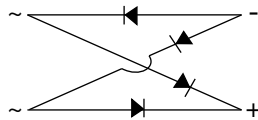
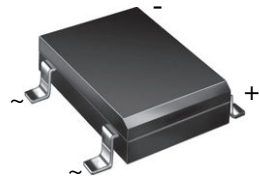


**THE DATASHEET OF  
DFL1510S-E3/45**





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



Case Style DFS Low Profile

### 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 260 °C
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

RoHS  
COMPLIANT

### 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.

### LINKS TO ADDITIONAL RESOURCES



3D Models

### 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 $\mu$ A
$V_F$ at $I_F = 1.5$ A	1.1 V
$T_J$ max.	150 °C
Package	DFS low profile
Circuit configuration	Quad

### MECHANICAL DATA

**Case:** DFS low profile

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	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	$I_{F(AV)}$ <sup>(1)</sup>	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 <sup>2</sup> s
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							°C

#### Note

<sup>(1)</sup> Units mounted on PCB with 0.51" x 0.51" (13 mm x 13 mm) copper pads



<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)											
PARAMETER	TEST CONDITIONS	SYMBOL	DFL 15005S	DFL 1501S	DFL 1502S	DFL 1504S	DFL 1506S	DFL 1508S	DFL 1510S	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	$T_A = 25\text{ }^\circ\text{C}$	$I_R$	5.0								$\mu\text{A}$
	$T_A = 125\text{ }^\circ\text{C}$		500								
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

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	DFL 15005S	DFL 1501S	DFL 1502S	DFL 1504S	DFL 1506S	DFL 1508S	DFL 1510S	UNIT	
Typical thermal resistance	$R_{\theta JA}^{(1)}$	40								$^\circ\text{C/W}$
	$R_{\theta JL}^{(1)}$	15								

**Note**

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

<b>ORDERING INFORMATION</b> (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** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

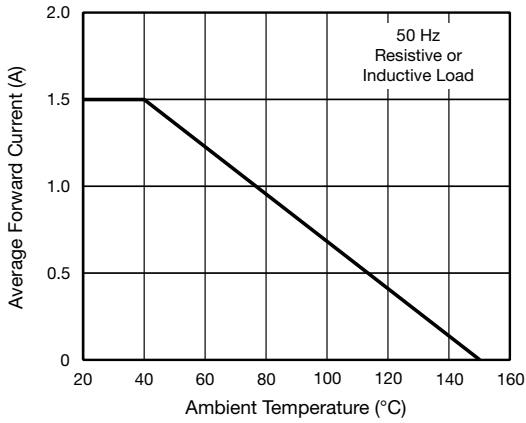


Fig. 1 - Forward Current Derating Curve Per Diode

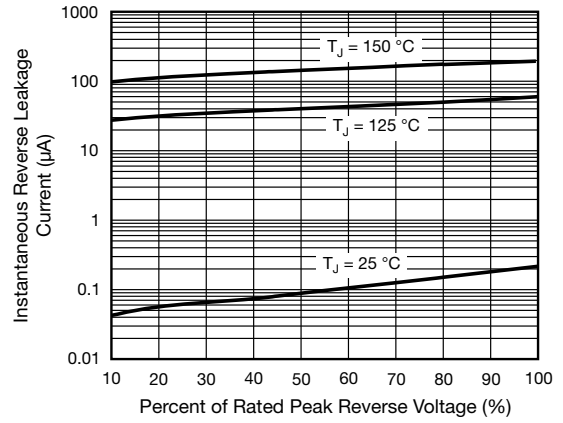


Fig. 4 - Typical Reverse Characteristics Per Diode

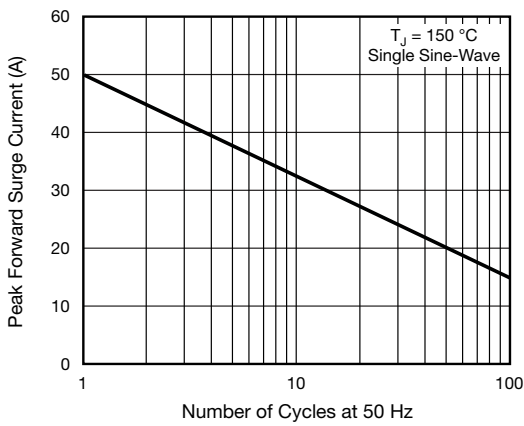


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

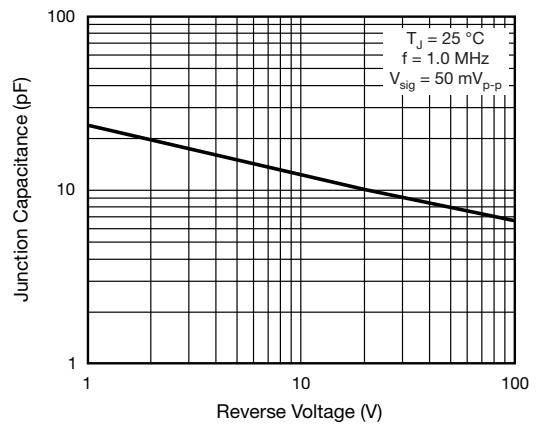


Fig. 5 - Typical Junction Capacitance Per Diode

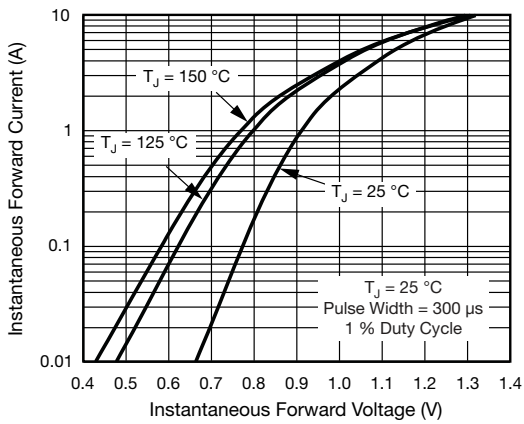
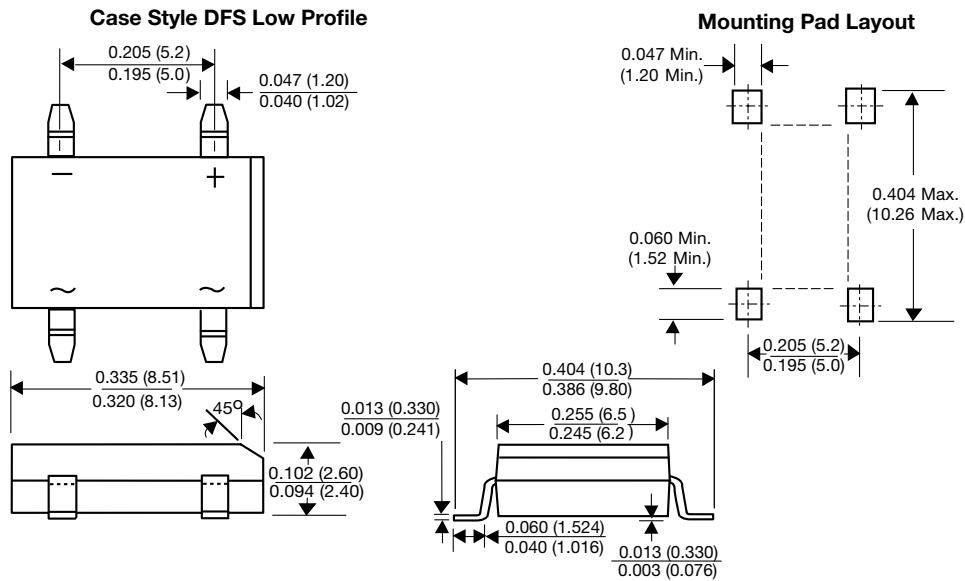


Fig. 3 - Typical Forward Voltage Characteristics Per Diode



**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





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