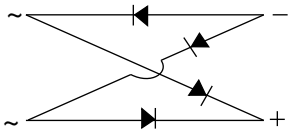
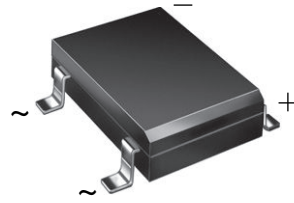




**THE DATASHEET OF  
EDF1DS-E3/77**



## Miniature Glass Passivated Ultrafast Surface Mount Bridge Rectifiers



Case Style DFS

### FEATURES

- UL recognition, file number E54214
- Ideal for automated placement
- Glass passivated pellet chip junction
- Ultrafast reverse recovery time for high frequency
- 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.

### 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

PRIMARY CHARACTERISTICS	
Package	DFS
$I_{F(AV)}$	1 A
$V_{RRM}$	50 V, 100 V, 150 V, 200 V
$I_{FSM}$	50 A
$I_R$	5 $\mu$ A
$V_F$ at $I_F = 1.0$ A	1.05 V
$t_{rr}$	50 ns
$T_J$ max.	150 °C
Diode variations	Quad

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)						
PARAMETER	SYMBOL	EDF1AS	EDF1BS	EDF1CS	EDF1DS	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	V
Maximum RMS voltage	$V_{RMS}$	35	70	106	140	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	V
Maximum average forward output rectified current at $T_A = 40$ °C <sup>(1)</sup>	$I_{F(AV)}$	1.0				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> Pulse test: 300 ms pulse width, 1 % duty cycle

ELECTRICAL CHARACTERISTICS ( $T_A = 25$ °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	EDF1AS	EDF1BS	EDF1CS	EDF1DS	UNIT
Maximum instantaneous forward voltage drop per diode	1.0 A <sup>(1)</sup>	$V_F$	1.05				V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_A = 25$ °C	$I_R$	5.0				$\mu$ A
	$T_A = 125$ °C		1.0				mA
Maximum reverse recovery time per diode	$I_F = 0.5$ A, $I_R = 1.0$ A, $I_{rr} = 0.25$ A	$t_{rr}$	50				ns

#### Note

<sup>(1)</sup> Pulse test: 300 ms pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	SYMBOL	EDF1AS	EDF1BS	EDF1CS	EDF1DS	UNIT
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	38				$^\circ\text{C/W}$
	$R_{\theta JL}$	12				

**Note**

<sup>(1)</sup> PCB mounted with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
EDF1DS-E3/45	0.406	45	50	Tube
EDF1DS-E3/77	0.406	77	1500	13" diameter paper tape and reel

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

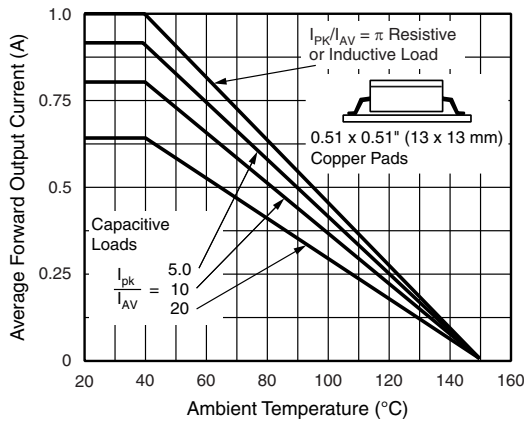


Fig. 1 - Derating Curves Output Rectified Current

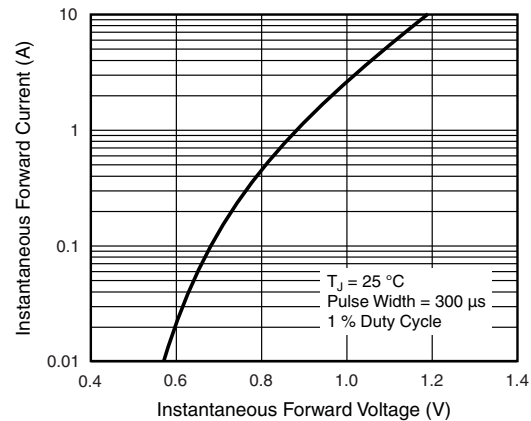


Fig. 3 - Typical Forward Characteristics Per Diode

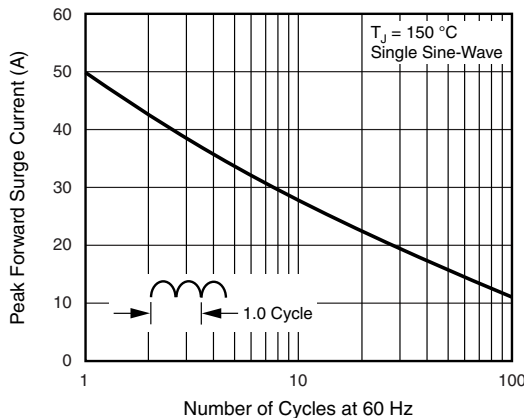


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

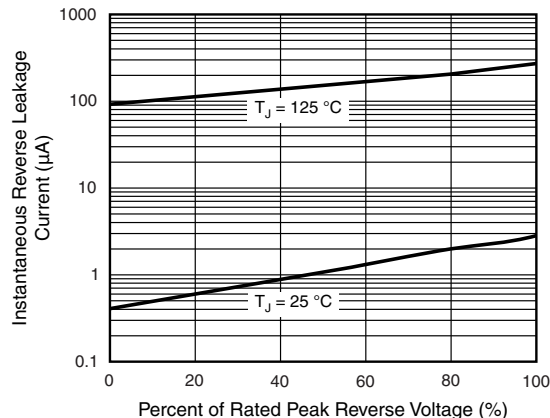


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

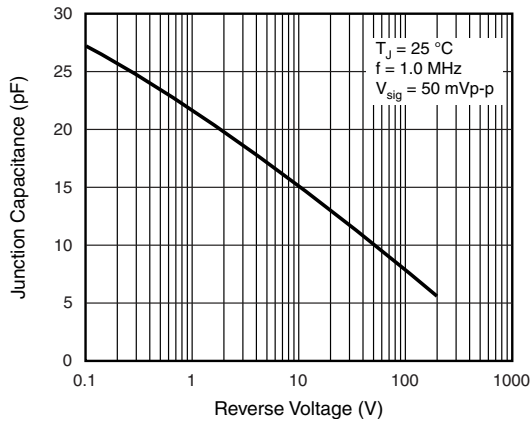
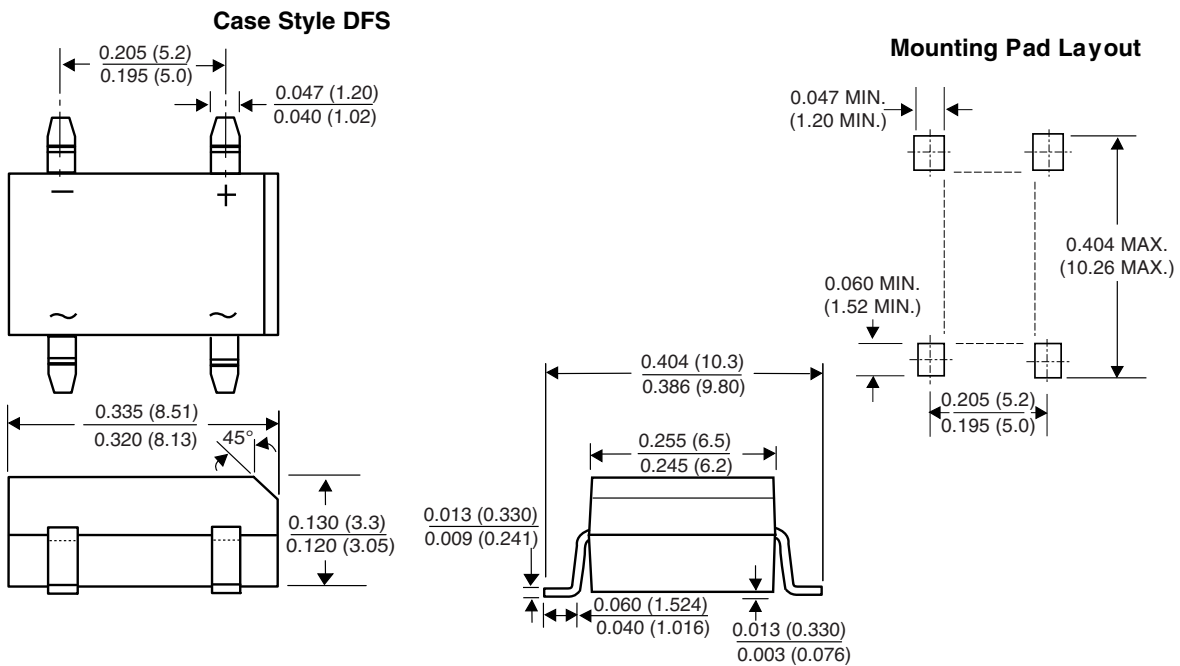


Fig. 5 - Typical Junction Capacitance Per Diode

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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