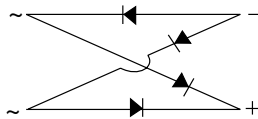


## Miniature Glass Passivated Ultrafast Surface Mount Bridge Rectifiers



Case Style DFS

### FEATURES

- UL recognition, file number E54214
- Ideal for automated placement
- Ultrafast reverse recovery time for high frequency
- 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:** 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 A
$V_{RRM}$	50 V to 200 V
$I_{FSM}$	50 A
$I_R$	5 $\mu$ A
$V_F$	1.05 V
$t_{rr}$	50 ns
$T_J$ max.	150 °C

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:**

(1) Pulse test: 300 ms pulse width, 1 % duty cycle

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 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 <sub>F</sub>			1.05		V
Maximum DC reverse current at rated DC blocking voltage per diode	T <sub>A</sub> = 25 °C T <sub>A</sub> = 125 °C	I <sub>R</sub>		5.0	1.0		μA mA
Maximum reverse recovery time per diode	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A	t <sub>rr</sub>			50		ns

**Note:**

(1) Pulse test: 300 ms pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	EDF1AS	EDF1BS	EDF1CS	EDF1DS	UNIT	
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub> R <sub>θJL</sub>			38	12	°C/W	

**Note:**

(1) P.C.B. mounted with 0.2 x 0.2" (5.0 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<sub>A</sub> = 25 °C unless otherwise noted)

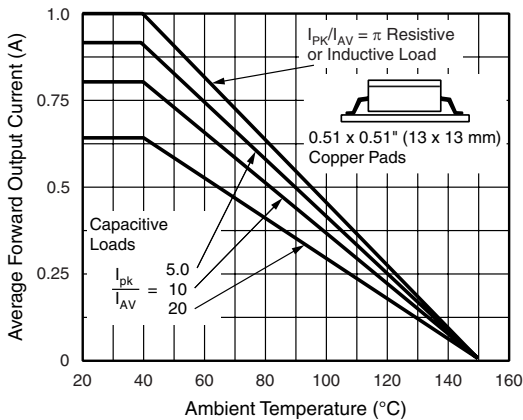


Figure 1. Derating Curves Output Rectified Current

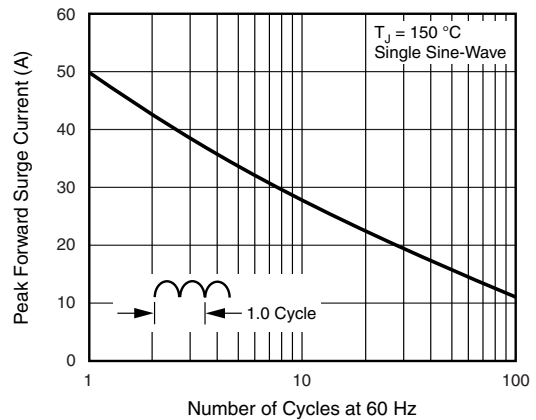


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

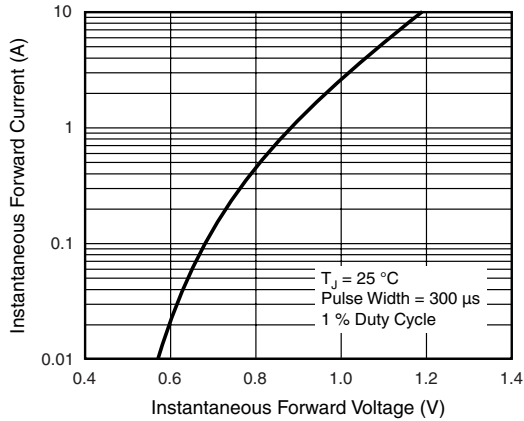


Figure 3. Typical Forward Characteristics Per Diode

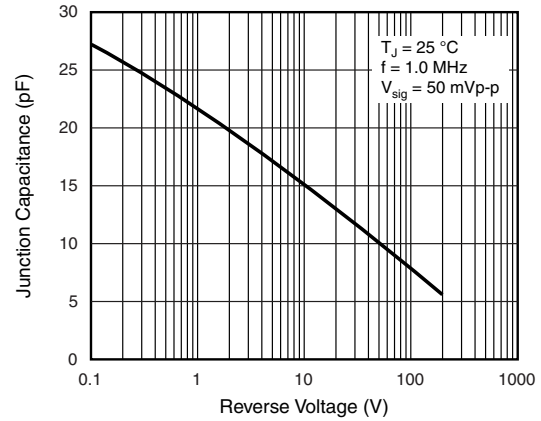


Figure 5. Typical Junction Capacitance Per Diode

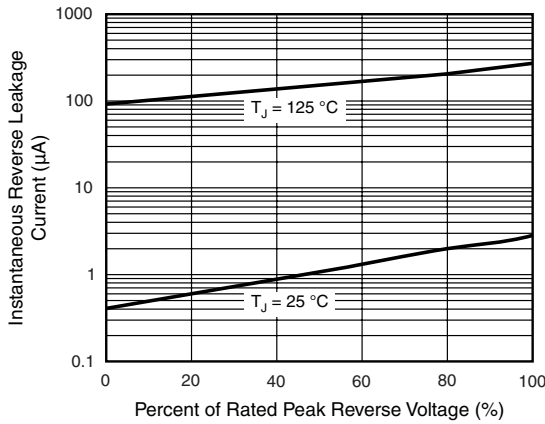
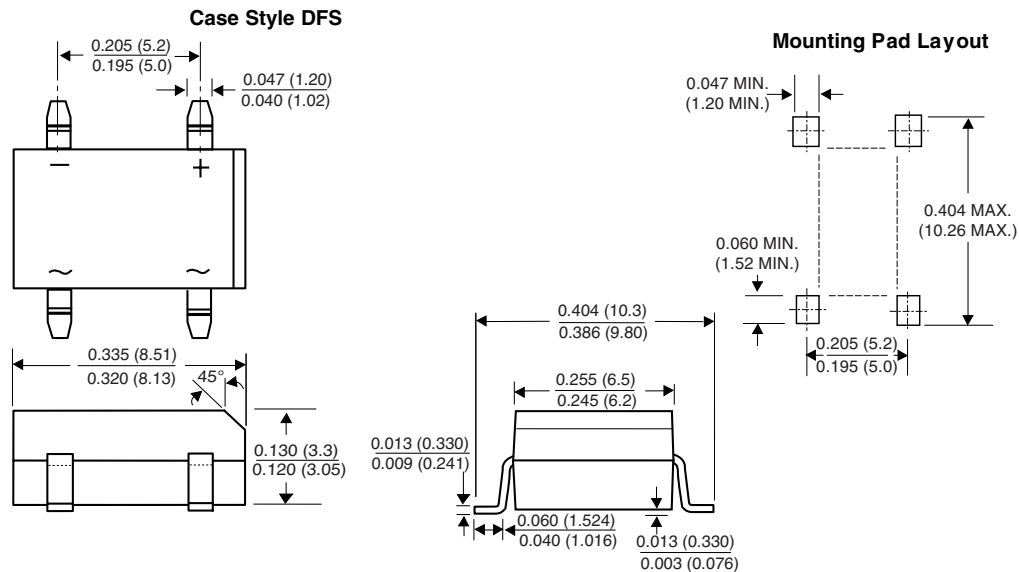


Figure 4. Typical Reverse Leakage Characteristics Per Diode

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





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- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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