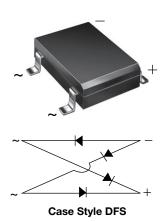
EDF1AS, EDF1BS, EDF1CS, EDF1DS

Vishay General Semiconductor

Miniature Glass Passivated Ultrafast Surface Mount Bridge Rectifiers



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 μΑ					
V_F at $I_F = 1.0 A$	1.05 V					
t _{rr}	50 ns					
T _J max.	150 °C					
Diode variations	Quad					

FEATURES

• UL recognition, file number E54214



- · 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 <u>www.vishay.com/doc?99912</u>

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

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 (1)	I _{F(AV)}	1.0				Α
Peak forward surge current single half sine-wave superimposed on rated load	I _{FSM}	50			Α	
Rating for fusing (t < 8.3 ms)	I ² t	10			A ² 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 _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 ⁽¹⁾	V _F	1.05				V
Maximum DC reverse current at rated DC	T _A = 25 °C	5.0			μΑ		
blocking voltage per diode	T _A = 125 °C	IR	1.0				mA
Maximum reverse recovery time per diode	$I_F = 0.5 \text{ A}, I_R = 1.0 \text{ A}, I_{rr} = 0.25 \text{ A}$	t _{rr}	50			ns	

Note

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

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THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	EDF1AS	EDF1BS	EDF1CS	EDF1DS	UNIT
Typical thermal resistance (1)	$R_{\theta JA}$		°C/W			
	$R_{\theta JL}$		1:	2	·	C/ VV

Note

⁽¹⁾ PCB mounted with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

ORDERING INFORMATION (Example)						
PREFERRED P/N	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 °C unless otherwise noted)

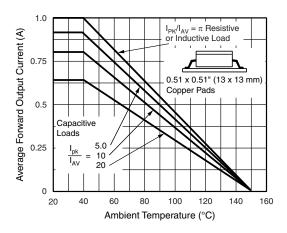


Fig. 1 - Derating Curves Output Rectified Current

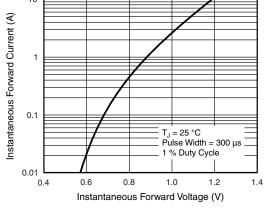


Fig. 3 - Typical Forward Characteristics Per Diode

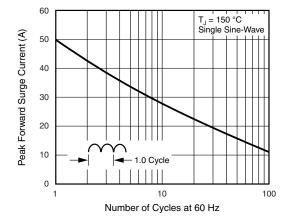


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

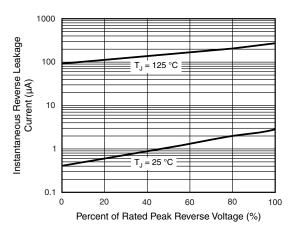


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode



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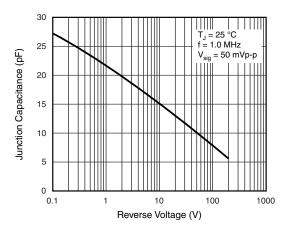
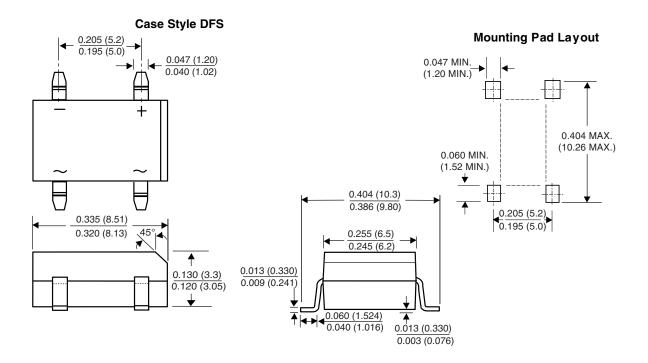


Fig. 5 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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