EDF1AS thru EDF1DS

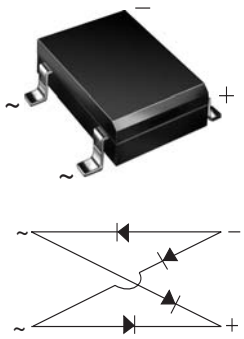
New Product **Vishay General Semiconductor**

Miniature Glass Passivated Ultrafast Surface Mount Bridge Rectifiers

Major Ratings and Characteristics

$I_{F(AV)}$	1 A
V_{RRM}	50 V to 200 V
I_{FSM}	50 A
I_R	5 µA
V_F	1.05 V
t_{rr}	50 ns
T_j max.	150 °C

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-020C
- Solder Dip 260 °C, 40 seconds

Mechanical Data

Case: DFS

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D

Polarity: As marked on body

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

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(2)	$I_{F(AV)}$	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^2sec
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150				°C

Electrical Characteristics

(T_A = 25 °C unless otherwise noted)

Parameter	Test condition	Symbol	EDF1AS	EDF1BS	EDF1CS	EDF1DS	Unit
Max. instantaneous forward voltage drop per leg	at 1.0 A (2)	V_F	1.05				V

Parameter	Test condition	Symbol	EDF1AS	EDF1BS	EDF1CS	EDF1DS	Unit
Maximum DC reverse current at rated DC blocking voltage	T_A = 25 °C T_A = 125 °C	I_R	5.0 1.0				µA mA
Max. reverse recovery time	at I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	t_{rr}	50				ns

Thermal Characteristics

(T_A = 25 °C unless otherwise noted)

Parameter	Symbol	EDF1AS	EDF1BS	EDF1CS	EDF1DS	Unit
Typical thermal resistance per leg(1)	$R_{\theta JA}$ $R_{\theta JL}$	38 12				°C/W

Notes:

(1) P.C.B. mounted with 0.2 x 0.2" (5.0 x 5.0 mm) copper pad areas

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

Ratings and Characteristics Curves

(T_A = 25 °C unless otherwise noted)

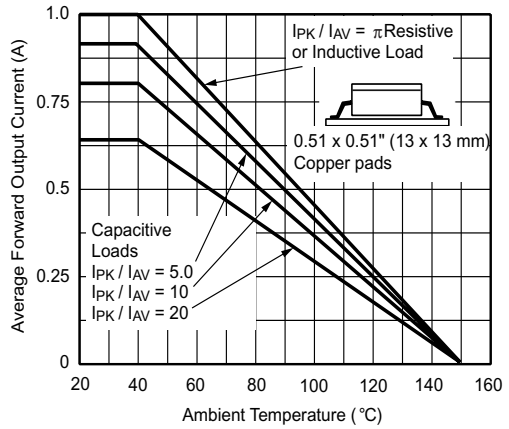


Figure 1. Derating Curves Output Rectified Current

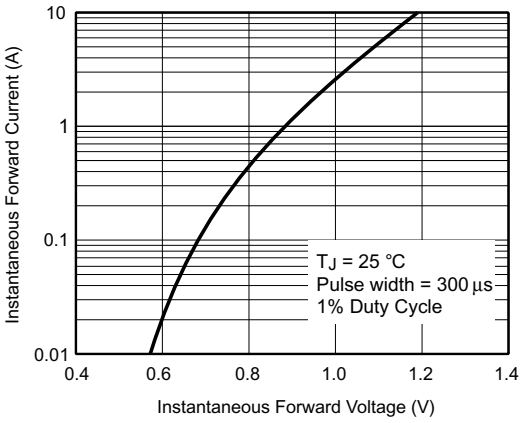


Figure 3. Typical Forward Characteristics Per Leg

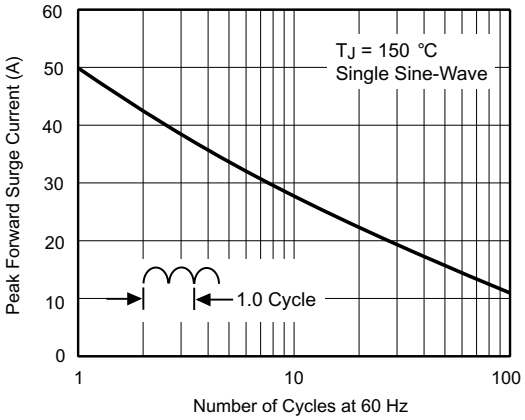


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

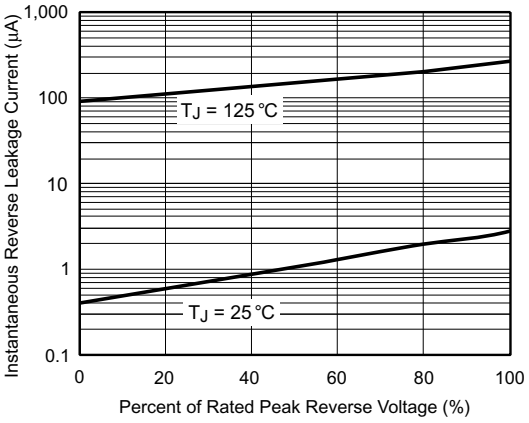


Figure 4. Typical Reverse Leakage Characteristics Per Leg

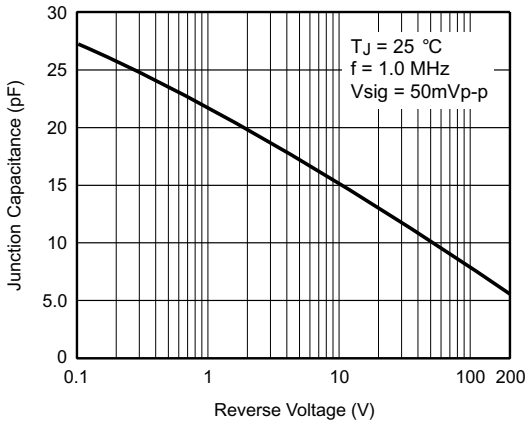
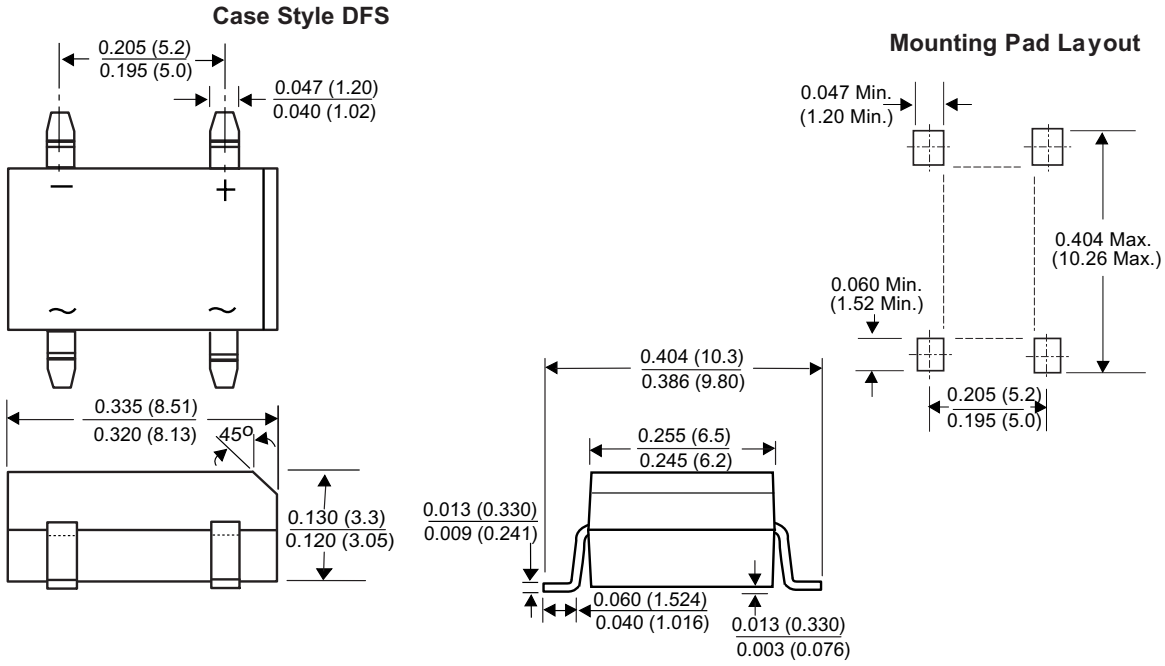


Figure 5. Typical Junction Capacitance Per Leg

Package outline dimensions in inches (millimeters)



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