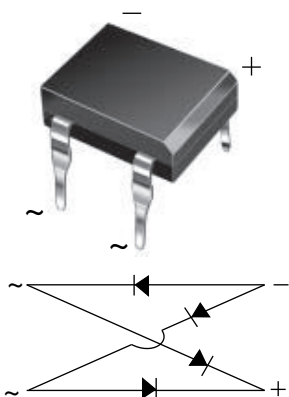




THE DATASHEET OF EDF1DM-E3/45

Miniature Glass Passivated Ultrafast Bridge Rectifier



Case Style DFM

LINKS TO ADDITIONAL RESOURCES


[3D Models](#)

PRIMARY CHARACTERISTICS

$I_{F(AV)}$	1 A
V_{RRM}	50 V, 100 V, 150 V, 200 V
I_{FSM}	50 A
I_R	5 μ A
V_F at $I_F = 1.0$ A	1.05 V
t_{rr}	50 ns
T_J max.	150 °C
Package	DFM
Circuit configuration	Quad

FEATURES

- UL recognition, file number E54214
- Ideal for printed circuit boards
- Ultrafast reverse recovery time for high frequency
- Applicable for automated insertion
- High surge current capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see 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: DFM

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 JESD 22-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	EDF1AM	EDF1BM	EDF1CM	EDF1DM	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	$I_{F(AV)}$	1.0				A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	50				A
Rating for fusing ($t < 8.3$ ms)	I^2t	10				A ² s
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150				°C

**ELECTRICAL CHARACTERISTICS** ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	EDF1AM	EDF1BM	EDF1CM	EDF1DM	UNIT
Maximum instantaneous forward voltage drop per diode	1.0 A	V_F	1.05				V
Maximum reverse current at rated DC blocking voltage per diode	$T_A = 25\text{ }^{\circ}\text{C}$	I_R	5.0				μA
	$T_A = 125\text{ }^{\circ}\text{C}$		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

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	EDF1AM	EDF1BM	EDF1CM	EDF1DM	UNIT
Typical thermal resistance ⁽¹⁾	R _{θJA}	38				°C/W
	R _{θJL}	12				

Note

⁽¹⁾ Thermal resistance from junction to ambient and from junction to lead mounted on PCB with 0.5" x 0.5" (13 mm x 13 mm) copper pads

ORDERING INFORMATION (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
EDF1DM-E3/45	0.418	45	50	Tube



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

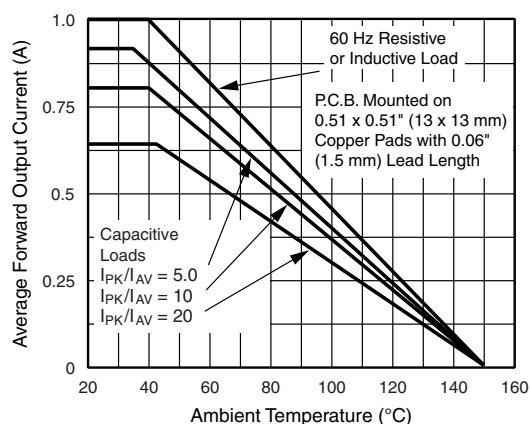


Fig. 1 - Derating Curves Output Rectified Current

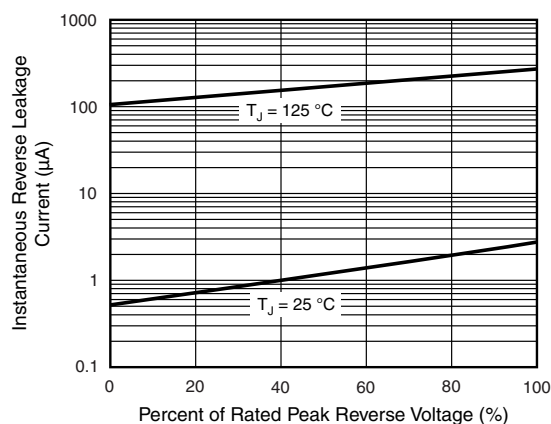


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

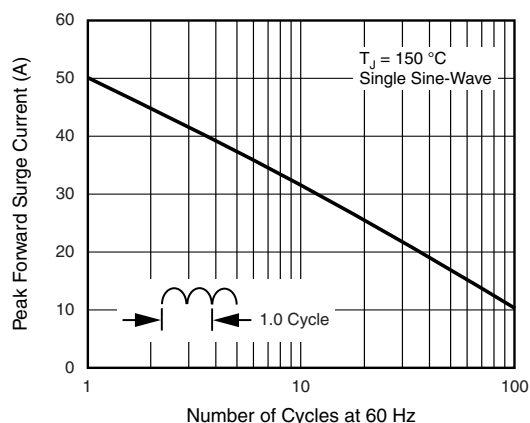


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

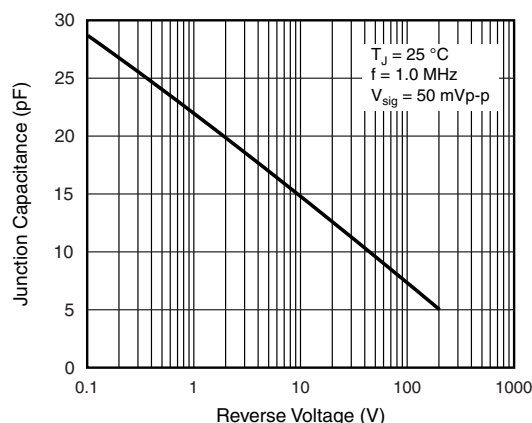


Fig. 5 - Typical Junction Capacitance Per Diode

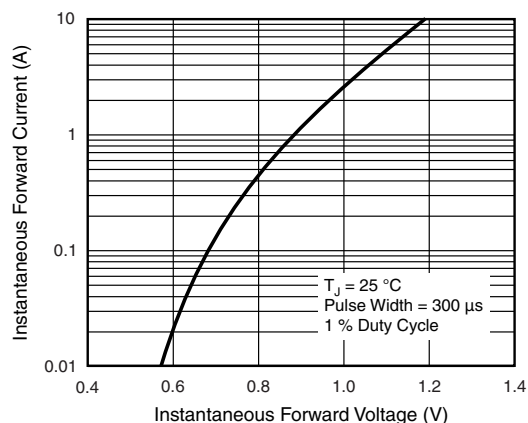
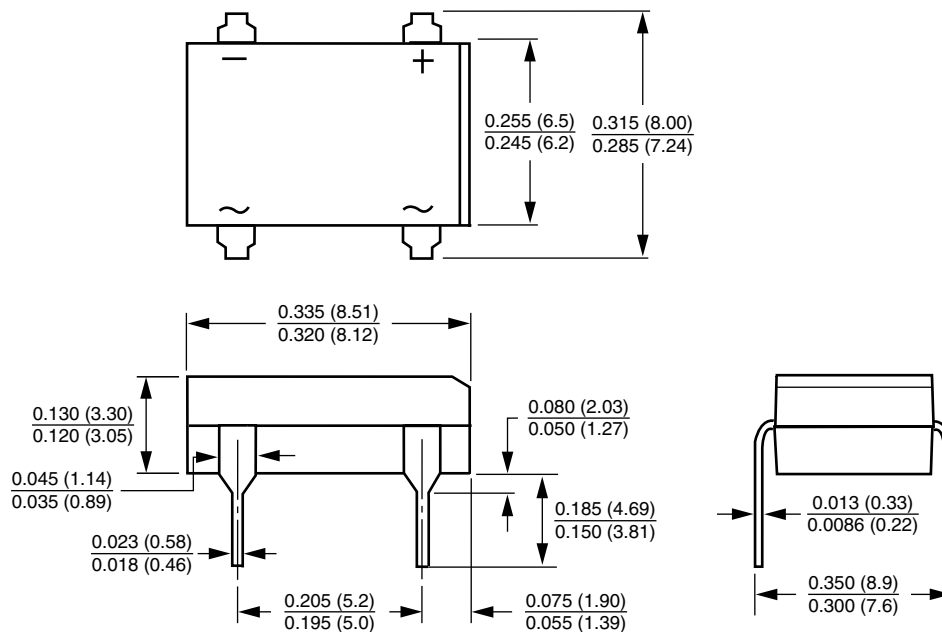


Fig. 3 - Typical Forward Characteristics Per Diode



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style DFM





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