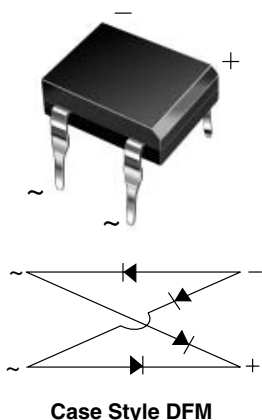


Miniature Glass Passivated Ultrafast Bridge Rectifier



FEATURES

- UL recognition, file number E54214
- Ideal for printed circuit boards
- Ultrafast reverse recovery time for high frequency
- Applicable for automotive insertion
- High surge current capability
- 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: DFM

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 μ 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	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
Max. 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 ($T_A = 25$ °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	$T_A = 25$ °C $T_A = 125$ °C	I_R	5.0 1.0				μ A 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

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

PARAMETER	SYMBOL	EDF1AM	EDF1BM	EDF1CM	EDF1DM	UNIT
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$		38 12			$^{\circ}\text{C/W}$

Note:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.5 x 0.5" (13 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)

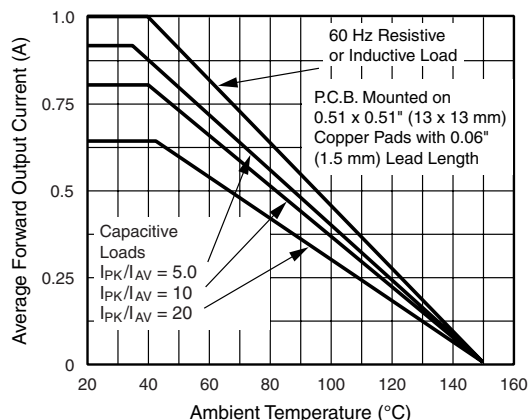


Figure 1. Derating Curves Output Rectified Current

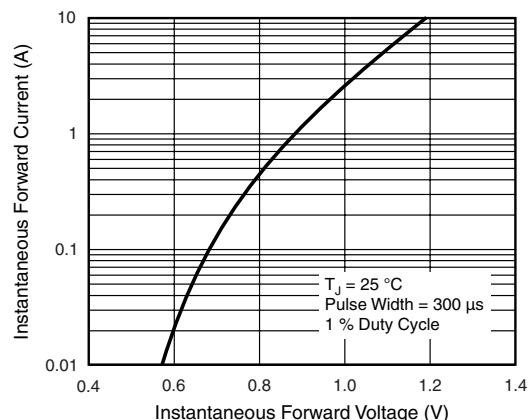


Figure 3. Typical Forward Characteristics Per Diode

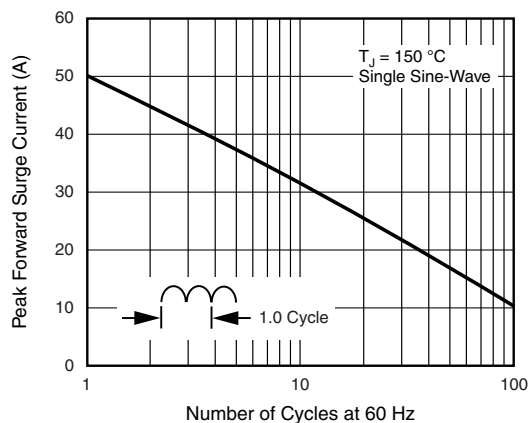


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

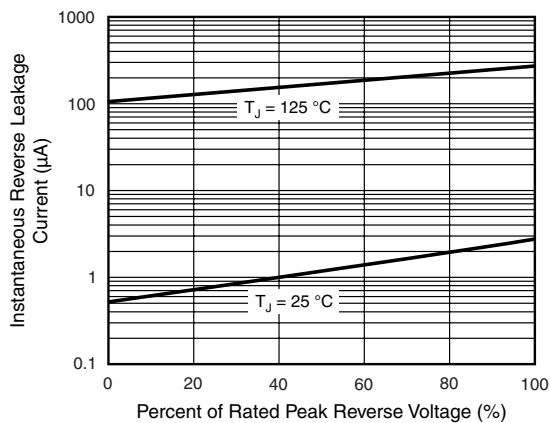


Figure 4. Typical Reverse Leakage Characteristics Per Diode

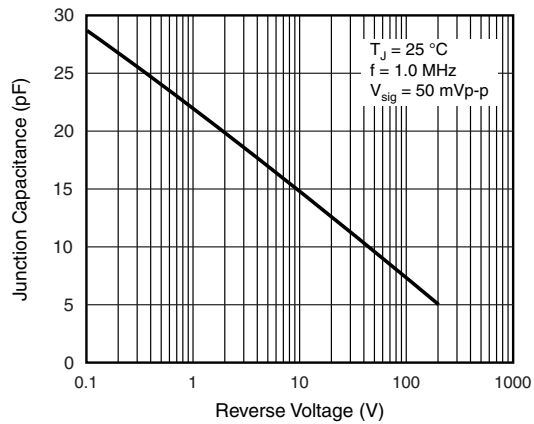
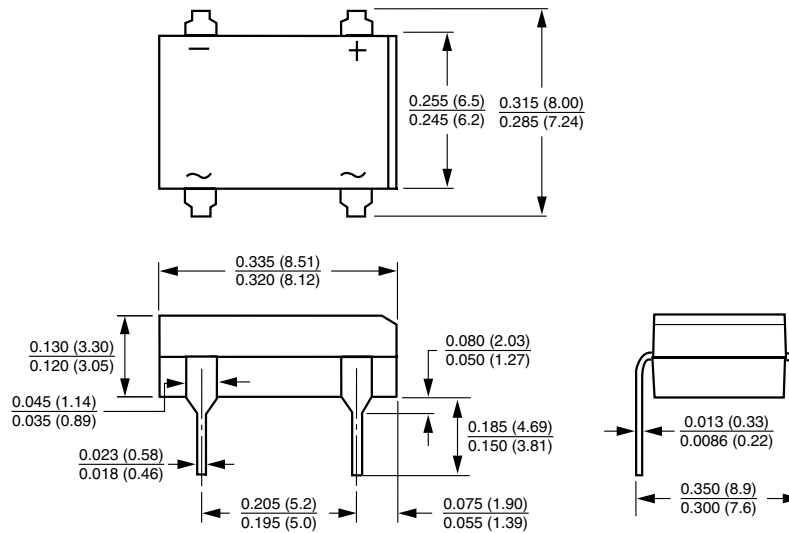


Figure 5. Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style DFM





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