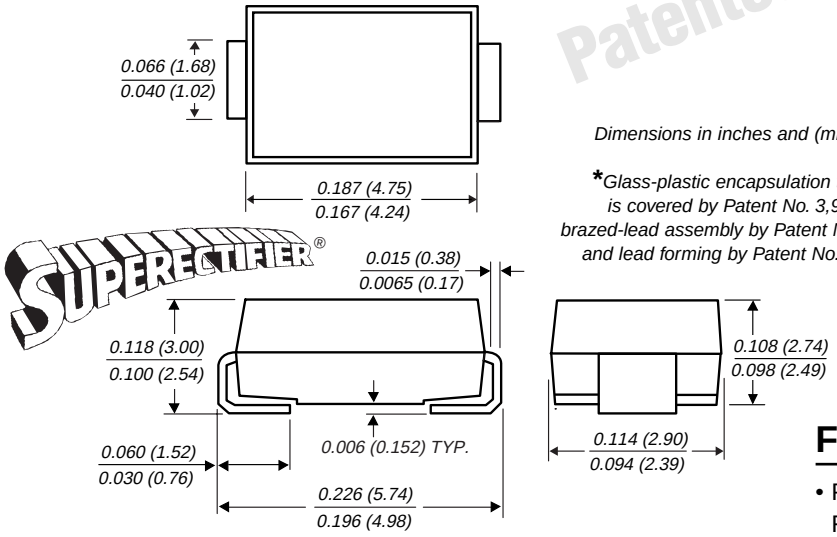
GENERAL SEMICONDUCTOR®

EGF1A thru EGF1D

Ultrafast Surface Mount Glass Passivated Rectifier

Reverse Voltage 50 to 200V
Forward Current 1.0A

DO-214BA (GF1)

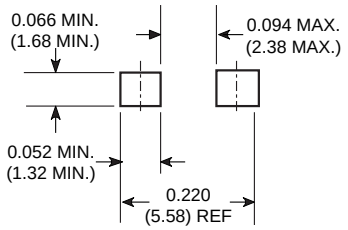


Patented*

Dimensions in inches and (millimeters)

**Glass-plastic encapsulation technique is covered by Patent No. 3,996,602, brazed-lead assembly by Patent No. 3,930,306 and lead forming by Patent No. 5,151,846*

Mounting Pad Layout



Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideal for surface mount automotive applications
- High temperature metallurgically bonded construction
- Superfast recovery times for high efficiency
- Cavity-free glass passivated junction
- Built-in strain relief • Easy pick and place
- High temperature soldering guaranteed: 450°C/5 seconds at terminals.
- Complete device submersible temperature of 265°C for 10 seconds in solder bath

Mechanical Data

Case: JEDEC DO-214BA, molded plastic over glass body
Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Weight: 0.0048 ounce, 0.120 gram

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	EGF1A	EGF1B	EGF1C	EGF1D	Unit
Device Marking Code		EA	EB	EC	ED	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	V
Maximum average forward rectified current at T_L = 125°C	$I_{F(AV)}$	1.0				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30				A
Typical thermal resistance (Note 1)	$R_{\Theta JA}$ $R_{\Theta JL}$	85 30				°C/W
Operating junction and storage temperature range	T_J,T_{STG}	–65 to +175				°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	EGF1A	EGF1B	EGF1C	EGF1D	Unit
Maximum instantaneous forward voltage at 1.0A	V_F	1.0				V
Maximum DC reverse current T_A=25°C at rated DC blocking voltage T_A=125°C	I_R	5.0 50				µA
Typical reverse recovery time at I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	t_{rr}	50				ns
Typical junction capacitance at 4V, 1MHz	C_J	15				pF

Note: (1) Thermal resistance from junction to ambient and from junction to lead, P.C.B. mounted on 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

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Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 1 – Maximum Forward Current Derating Curve

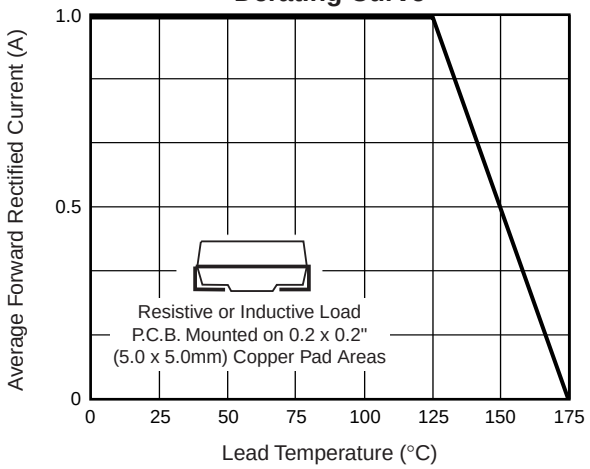

Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

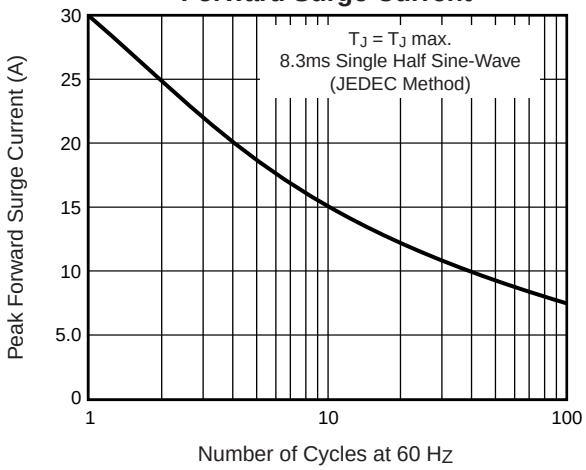

Fig. 3 – Typical Instantaneous Forward Characteristics

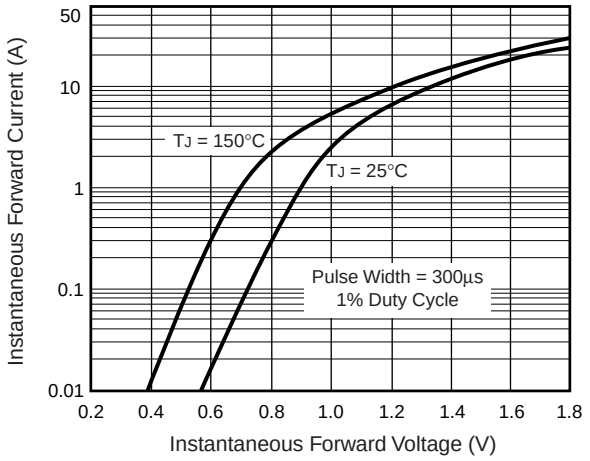

Fig. 4 – Typical Reverse Leakage Characteristics

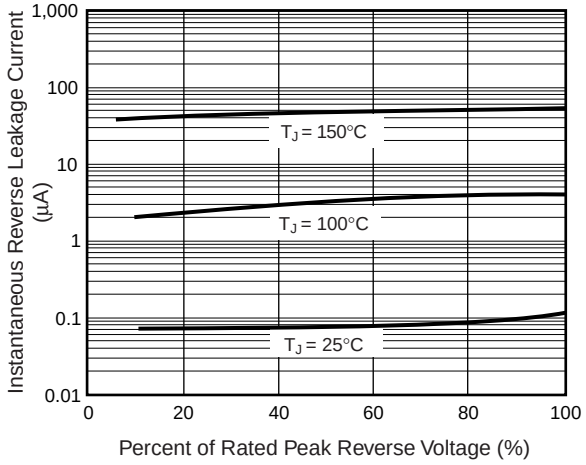

Fig. 5 – Typical Junction Capacitance

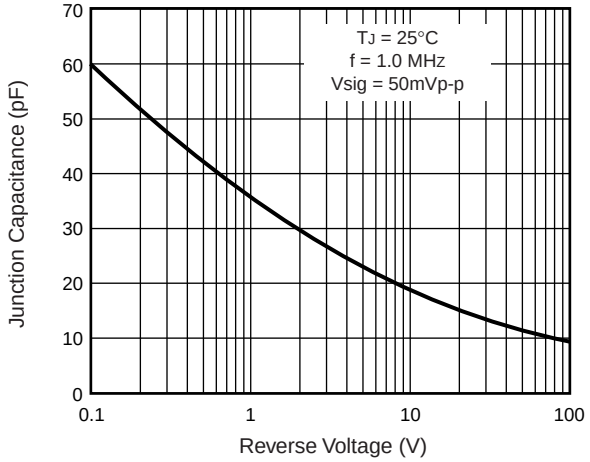

Fig. 6 – Typical Transient Thermal Impedance