



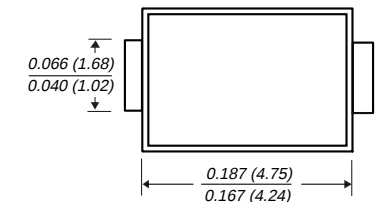
GF1A thru GF1M

Vishay Semiconductors
formerly General Semiconductor

Surface Mount Glass Passivated Rectifier

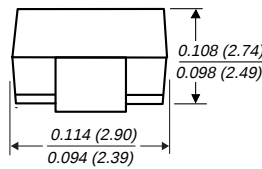
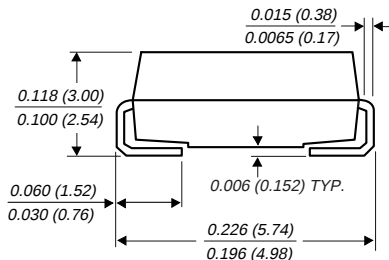
DO-214BA (GF1)

Reverse Voltage 50 to 1000V
Forward Current 1.0A

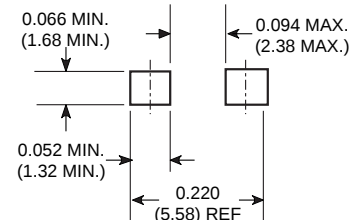


Dimensions in inches and (millimeters)

Glass-plastic encapsulation technique is covered by
Patent No. 3,996,602, brazen-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
- Cavity-free glass passivated junction
- Capable of meeting environmental standards of MIL-S-19500
- 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

Mounting Position: Any

Weight: 0.0048 oz, 0.120 g

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	GF1A	GF1B	GF1D	GF1G	GF1J	GF1K	GF1M	Unit
Device marking code		GA	GB	GD	GG	GJ	GK	GM	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_L = 125^\circ\text{C}$	$I_F(AV)$	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 ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	80 26							°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175							°C

Electrical Characteristics ($T_J = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	GF1A	GF1B	GF1D	GF1G	GF1J	GF1K	GF1M	Unit
Maximum instantaneous forward voltage at 1.0A	V_F	1.10					1.20		V
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 125^\circ\text{C}$	I_R	5.0 50							μA
Typical reverse recovery time at $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$	t_{rr}	3.0							μs
Typical junction capacitance at 4.0V, 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

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

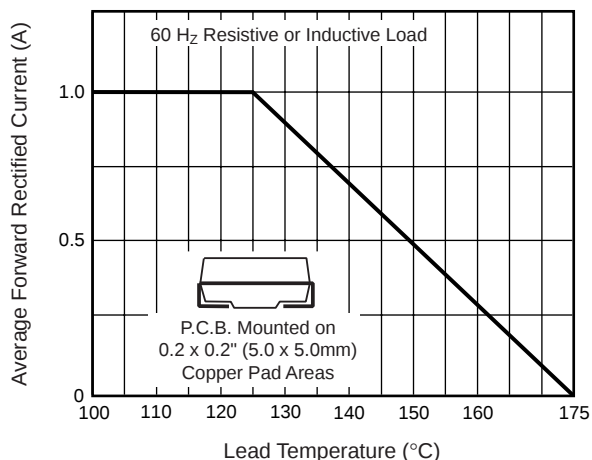


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

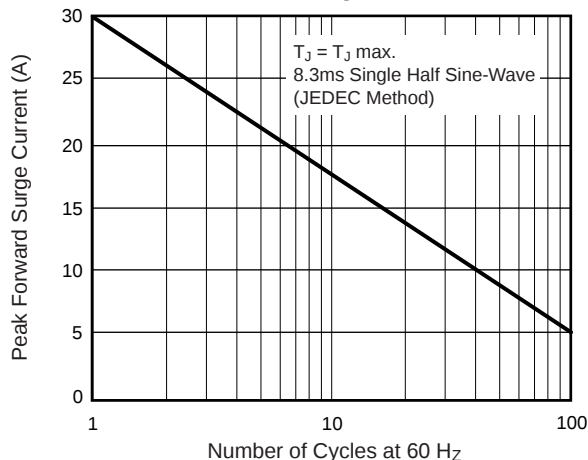


Fig. 3 – Typical Instantaneous Forward Characteristics

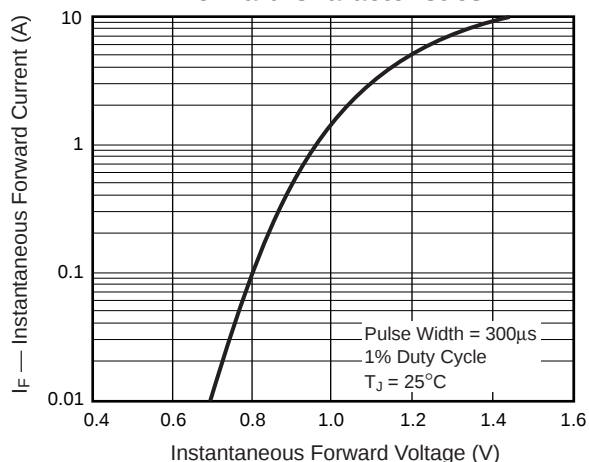


Fig. 4 – Typical Reverse Characteristics

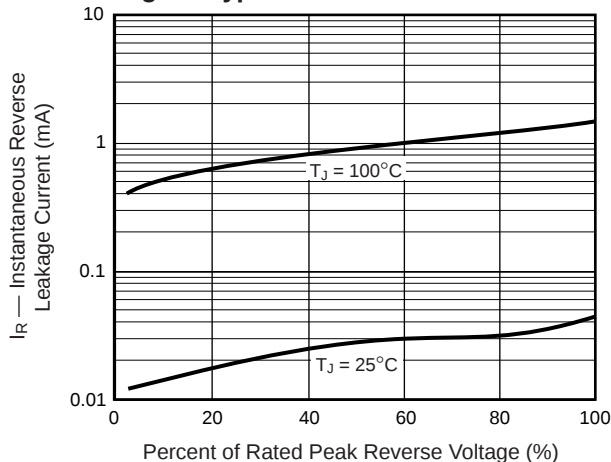


Fig. 5 – Typical Junction Capacitance

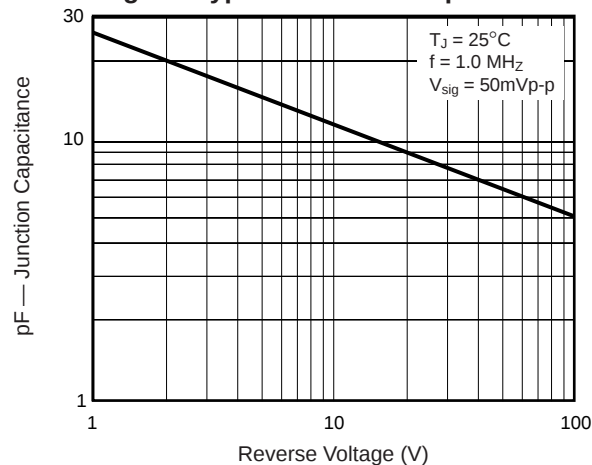


Fig. 6 – Typical Transient Thermal Impedance

