

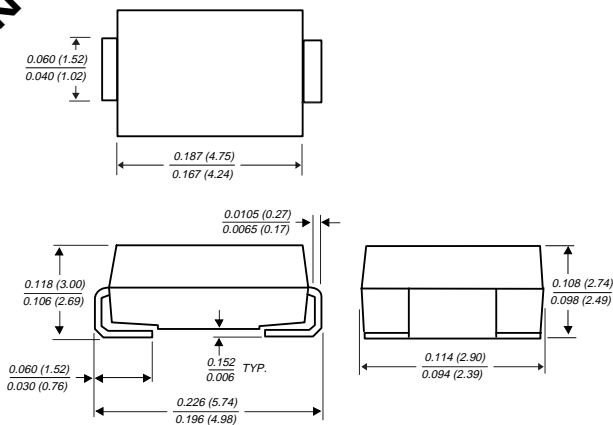
RGF1A THRU RGF1M

SURFACE MOUNT GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

PATENTED*

DO-214BA MODIFIED J-BEND



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



FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Ideal for surface mount automotive applications
- ◆ High temperature metallurgically bonded construction
- ◆ Glass passivated cavity-free junction
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ Built-in strain relief
- ◆ Easy pick and place
- ◆ Fast switching for high efficiency
- ◆ 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 ounce, 0.120 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	RGF1A	RGF1B	RGF1D	RGF1G	RGF1J	RGF1K	RGF1M	UNITS
Device Marking Code		RA	RB	RD	RG	RJ	RK	RM	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current at $T_L=120^\circ\text{C}$	$I_{(AV)}$	1.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30.0							Amps
Maximum instantaneous forward voltage at 1.0A	V_F	1.30							Volts
Maximum full load reverse current, full cycle average, $T_A=55^\circ\text{C}$	$I_{R(AV)}$	50.0							μA
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	I_R	5.0 100							μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	150			250		500		ns
Typical junction capacitance (NOTE 2)	C_J	8.5							pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$ $R_{\theta JL}$	85.0 28.0							$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175							$^\circ\text{C}$

NOTES:

- (1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $t_{rr}=0.25\text{A}$
- (2) Measured at 1.0 MHz and applied $V_r=4.0$ Volts
- (3) 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 RGF1A THRU RGF1M

FIG. 1 - FORWARD CURRENT DERATING CURVE

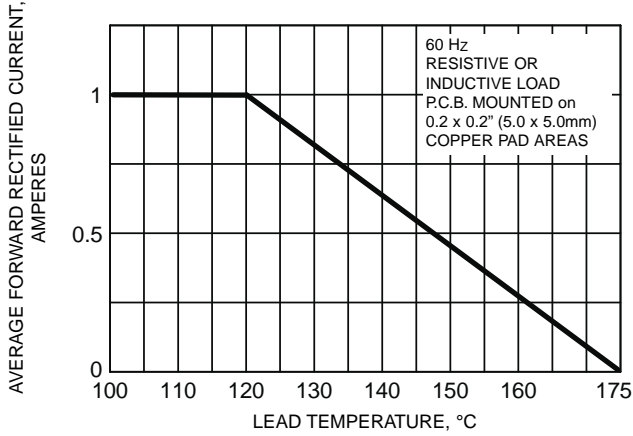


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

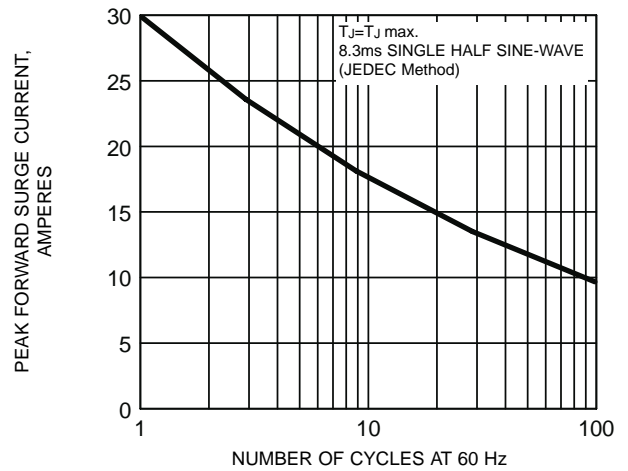


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

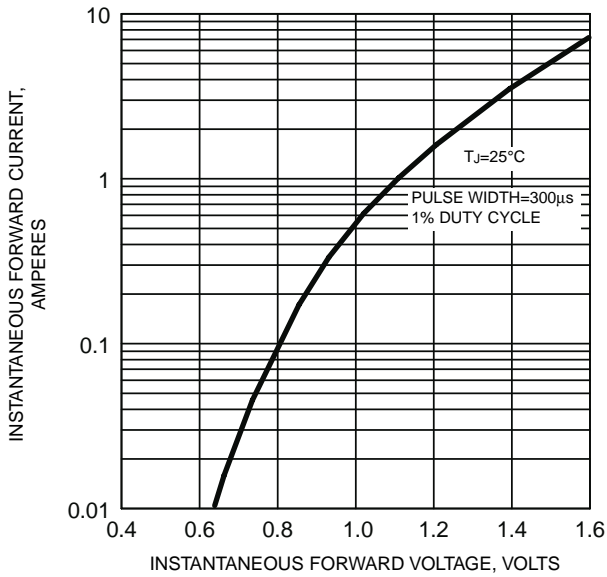


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

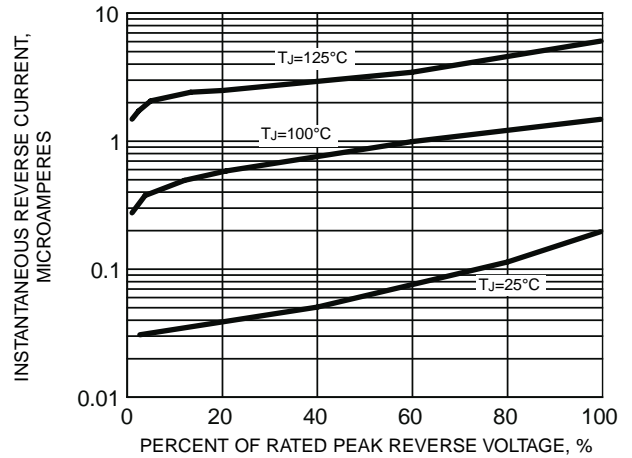


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

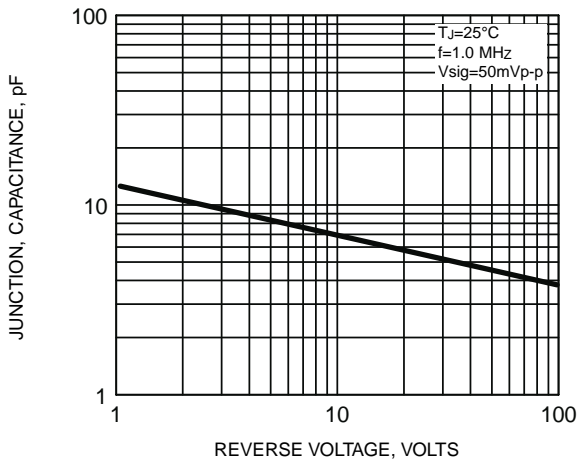


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

