

# RGP02-12E THRU RGP02-20E

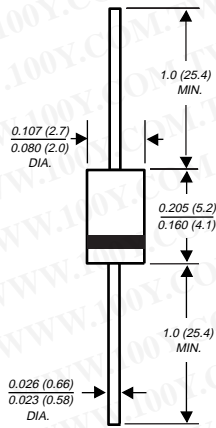
## GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

Reverse Voltage - 1200 to 2000 Volts

Forward Current - 0.5 Ampere

**PATENTED\***

### CASE STYLE GP10E



Dimensions in inches and (millimeters)

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

**SUPERRECTIFIER®**

### FEATURES

- ♦ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ♦ High temperature metallurgically bonded construction
- ♦ Capable of meeting environmental standards of MIL-S-19500
- ♦ For use in high frequency rectifier circuits
- ♦ Fast switching for high efficiency
- ♦ Glass passivated cavity-free junctions
- ♦ 0.5 Ampere operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- ♦ Typical  $I_R$  less than  $0.2\mu\text{A}$
- ♦ High temperature soldering guaranteed:  $350^\circ\text{C}/10$  seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** Molded plastic over glass body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.012 ounce, 0.3 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

	SYMBOLS	RGP02 -12E	RGP02 -14E	RGP02 -16E	RGP02 -18E	RGP02 -20E	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	1200	1400	1600	1800	2000	Volts
Maximum RMS voltage	$V_{RMS}$	840	980	1120	1260	1400	Volts
Maximum DC blocking voltage	$V_{DC}$	1200	1400	1600	1800	2000	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	0.5					Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	20.0					Amps
Maximum instantaneous forward voltage at 0.1A	$V_F$	1.8					Volts
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 50.0					$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	300.0					ns
Typical junction capacitance (NOTE 2)	$C_J$	5.0					pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$ $R_{\theta JL}$	65.0 30.0					$^\circ\text{C}/\text{W}$
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 reverse voltage of 4.0 Volts

(3) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted

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# RATINGS AND CHARACTERISTIC CURVES RGP02-12E THRU RGP02-20E

FIG. 1 - FORWARD CURRENT DERATING CURVE

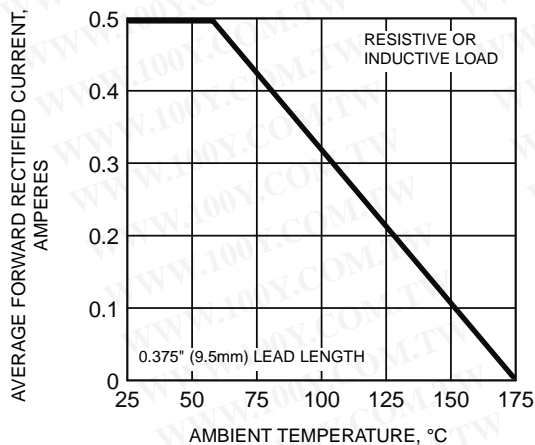


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

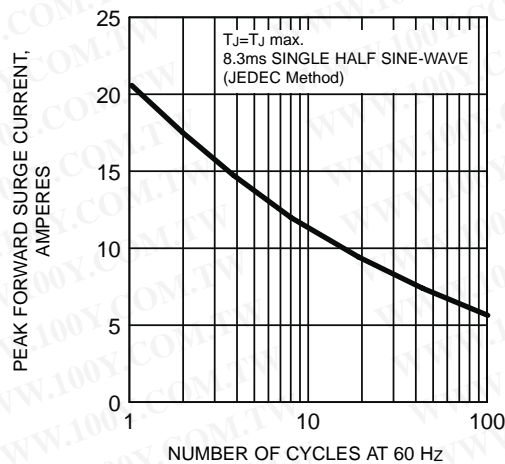


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

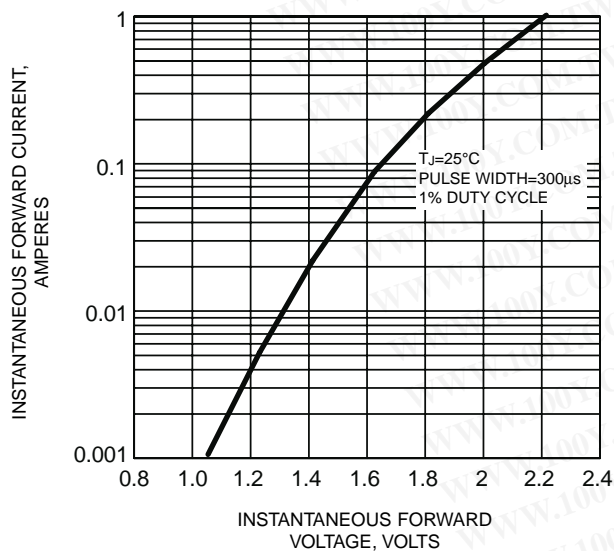


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

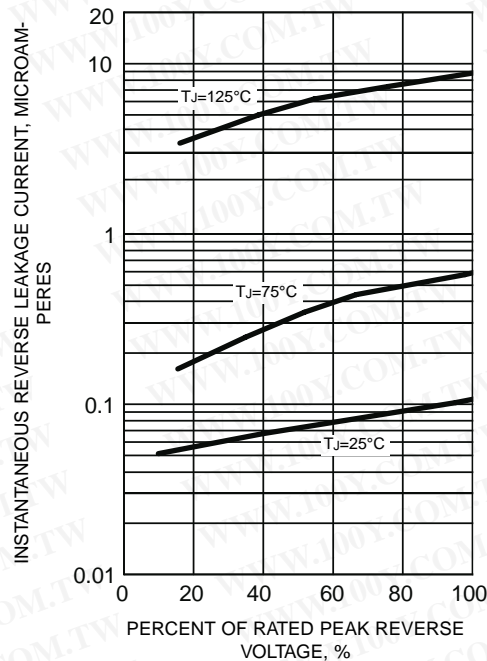
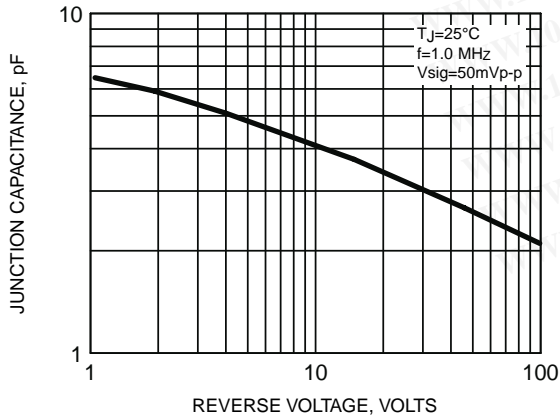


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



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