

RGP02-12E THRU RGP02-20E

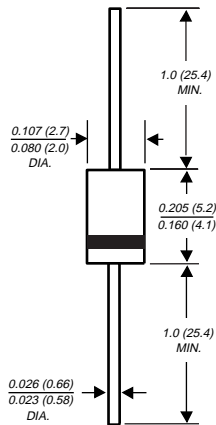
GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

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°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 at rated DC blocking voltage	I_R	$T_A=25^\circ\text{C}$: 5.0 $T_A=125^\circ\text{C}$: 50.0					μA
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: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$

(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

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

FIG. 1 - FORWARD CURRENT DERATING CURVE

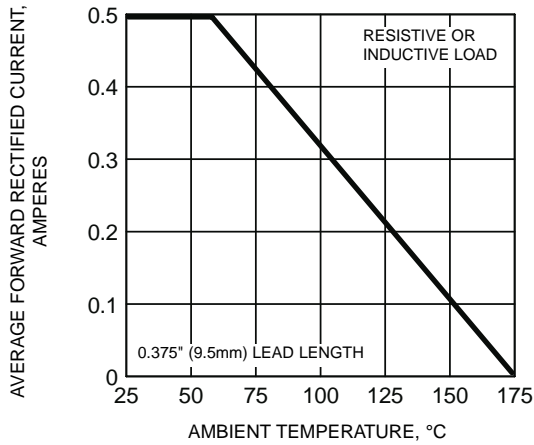


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

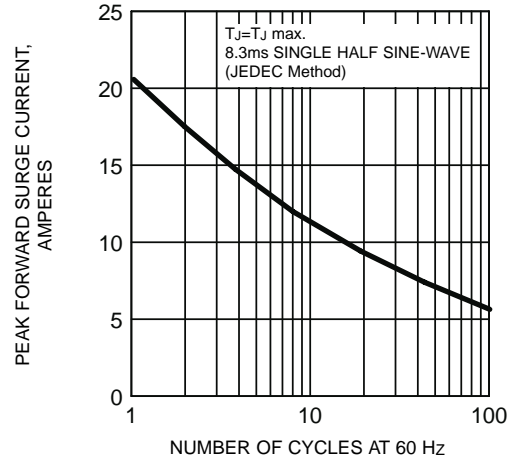


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

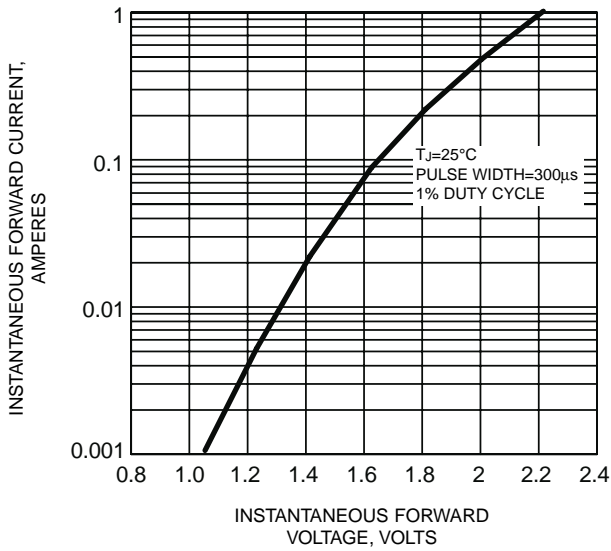


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

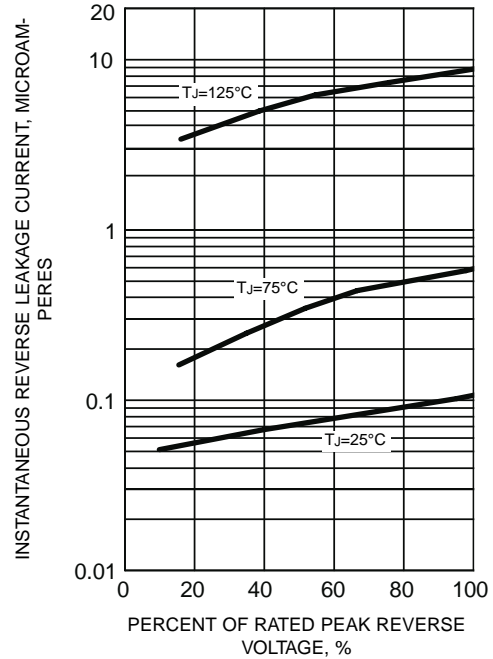


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

