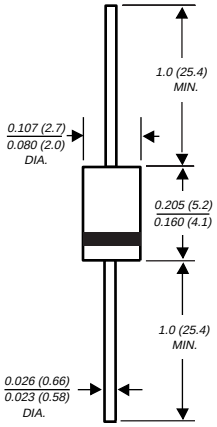
# RGP02-12E THRU RGP02-20E

## 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*

SUPERECTIFIER®

## 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°C with no thermal runaway
- Typical $I_R$ less than 0.2µA
- High temperature soldering guaranteed: 350°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 TA=55°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 TA=25°C / TA=125°C | $I_R$ | 5.0 / 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 | | | | | °C/W |
| Operating junction and storage temperature range | $T_J$, $T_{STG}$ | -65 to +175 | | | | | °C |

**NOTES:**
(1) Reverse recovery test conditions: $I_F$=0.5A, $I_R$=1.0A, $I_{rr}$=0.25A
(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



GENERAL SEMICONDUCTOR®

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

**FIG. 1 - FORWARD CURRENT DERATING CURVE**

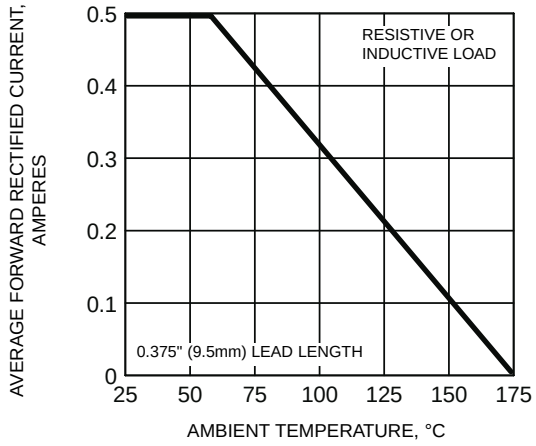



**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**

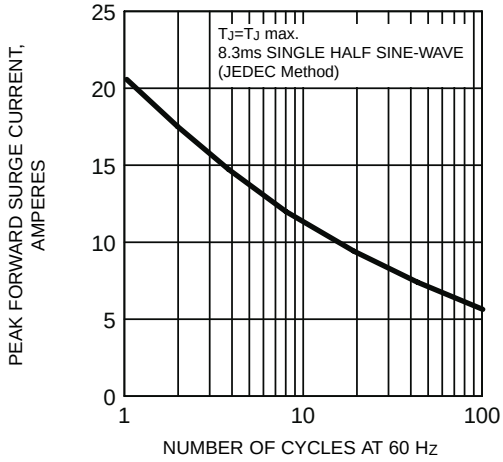



**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

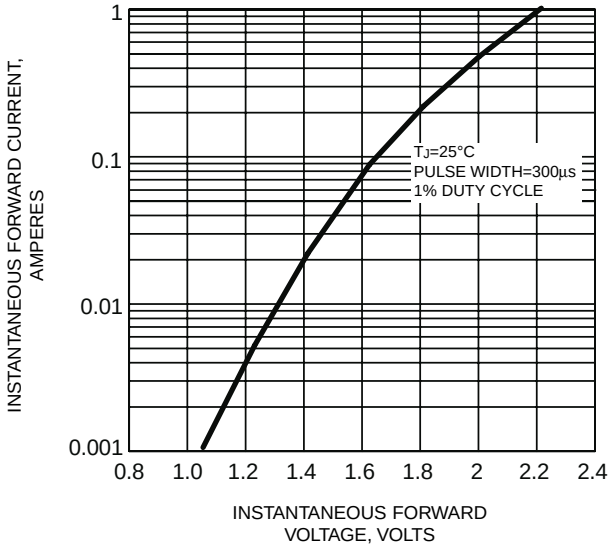



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**

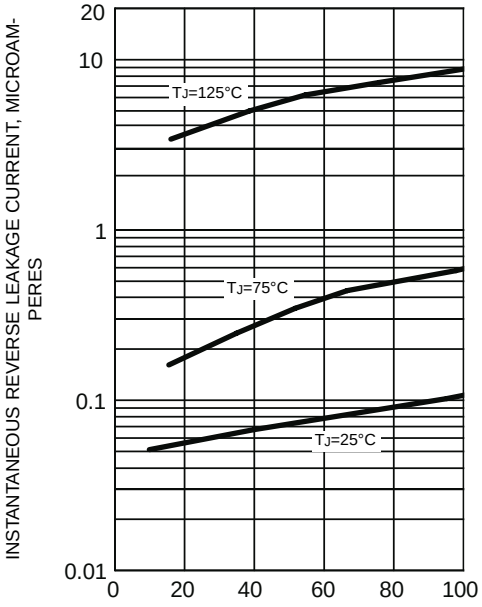
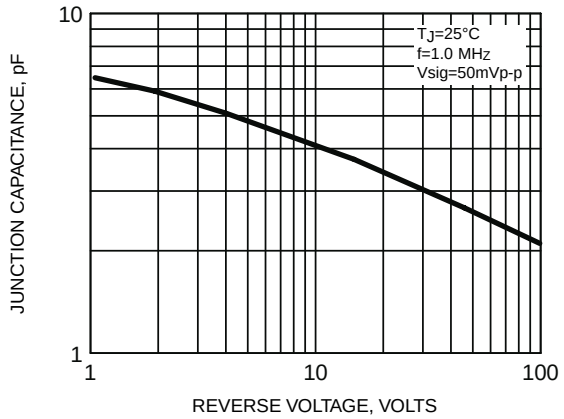



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**




GENERAL SEMICONDUCTOR®