



# RGP10A THRU RGP10M

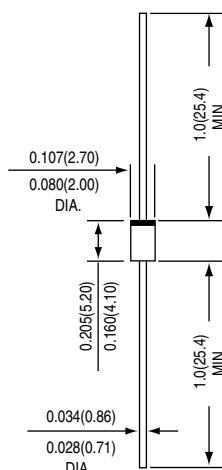
## SINTERED GLASS PASSIVATED JUNCTION FAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 1000 Volts

Forward Current - 1.0 Ampere

**PATENTED**

DO-204AL



\*Dimensions in inches and (millimeters)

**SUPEREX II**™



### FEATURES

- \* GPRC (Glass Passivated Rectifier Chip) inside
- \* Glass passivated cavity-free junction
- \* Capable of meeting environmental standards of MIL-S-19500
- \* For use in high frequency rectifier circuits
- \* Fast switching for high efficiency
- \* 1.0 Ampere operation at  $T_A=55^{\circ}\text{C}$  with no thermal runaway
- \* Typical IR less than 0.1uA
- \* High temperature soldering guaranteed:  $260^{\circ}\text{C}/10$  seconds, 0.375" (9.5mm) lead length, 5lbs. (2.3 kg) tension
- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0

### MECHANICAL DATA

**Case :** JEDEC DO-204AL molded plastic over glass body

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

**Polarity :** Color band denotes cathode end

**Weight :** 0.012 ounces , 0.3 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| Ratings at 25 °C ambient temperature<br>unless otherwise specified.                                 | SYMBOLS | RGP10         |     |     |     |     |     |     |     |      |      | UNITS  |
|-----------------------------------------------------------------------------------------------------|---------|---------------|-----|-----|-----|-----|-----|-----|-----|------|------|--------|
|                                                                                                     |         | A             | B   | D   | G   | J   | JA  | K   | KA  | M    | MA   |        |
| Maximum repetitive peak reverse voltage                                                             | VRRM    | 50            | 100 | 200 | 400 | 600 | 600 | 800 | 800 | 1000 | 1000 | Volts  |
| Maximum RMS voltage                                                                                 | VRMS    | 35            | 70  | 140 | 280 | 420 | 420 | 560 | 560 | 700  | 700  | Volts  |
| Maximum DC blocking voltage                                                                         | VDC     | 50            | 100 | 200 | 400 | 600 | 600 | 800 | 800 | 1000 | 1000 | Volts  |
| Maximum average forward rectified current<br>0.375" (9.5mm) lead length (SEE FIG.1)                 | I (AV)  | 1.0           |     |     |     |     |     |     |     |      |      | Amps   |
| Peak forward surge current 8.3ms single half sine-wave<br>superimposed on rated load (JEDEC Method) | IFSM    | 30            |     |     |     |     |     |     |     |      |      | Amps   |
| Maximum instantaneous forward voltage at 1.0 A                                                      | VF      | 1.3           |     |     |     |     |     |     |     |      |      | Volts  |
| Maximum DC reverse current<br>TA=25°C<br>TA=125°C<br>at rated DC blocking voltage<br>TA=150°C       | IR      | 5<br>30<br>50 |     |     |     |     |     |     |     |      |      | uA     |
| Maximum reverse recovery time (NOTE 1)                                                              | trr     | 150           |     |     |     | 250 | 150 | 500 | 300 | 500  | 300  | nS     |
| Typical junction capacitance (NOTE 2)                                                               | CJ      | 15            |     |     |     |     |     |     |     |      |      | pF     |
| Typical thermal resistance (NOTE 3)                                                                 | R θJA   | 55            |     |     |     |     |     |     |     |      |      | °C / W |
| Operating junction and storage temperature range                                                    | TJ,TSTG | -65 to +175   |     |     |     |     |     |     |     |      |      | °C     |

NOTES : (1) Reverse recovery test condition : IF 0.5A, IR=1.0A, Irr=0.25A

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

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

# RATINGS AND CHARACTERISTIC CURVES RGP10A THRU RGP10M

FIG.1 - FORWARD CURRENT DERATING CURVE

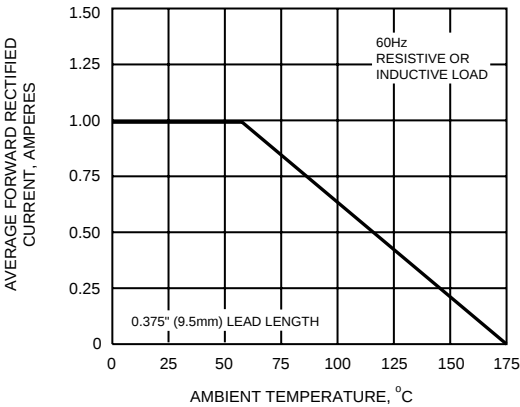


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

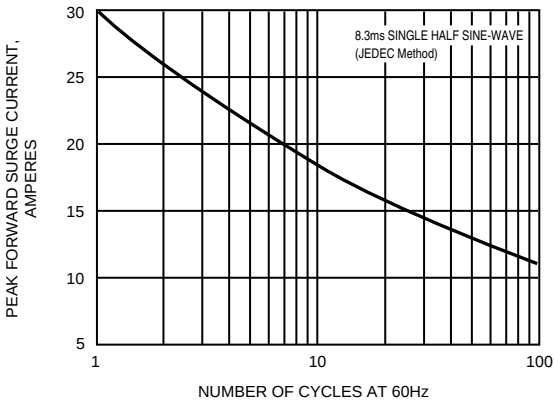


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

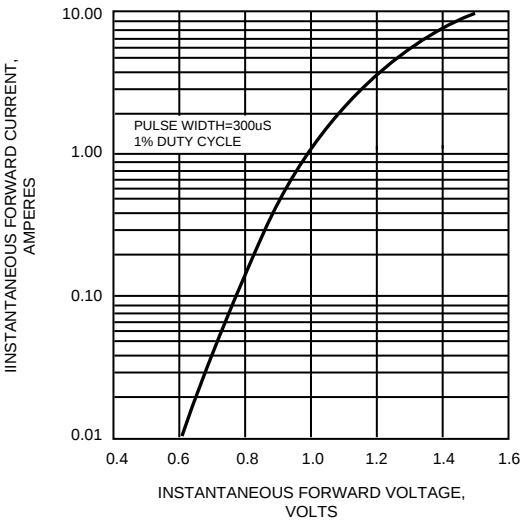


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

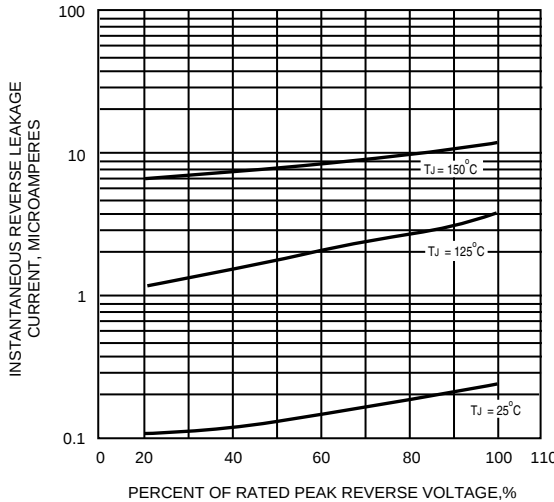


FIG.5 - TYPICAL JUNCTION CAPACITANCE

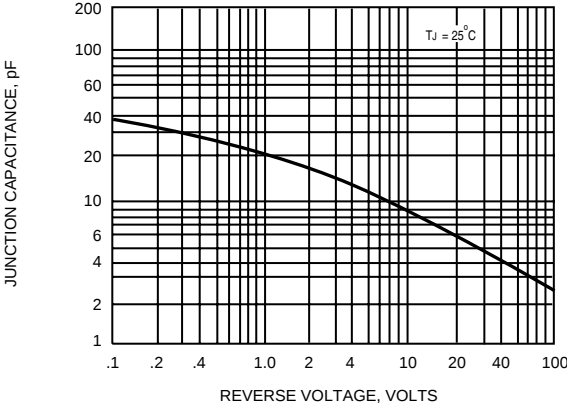


FIG.6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

