

# RGP30A THRU RGP30M

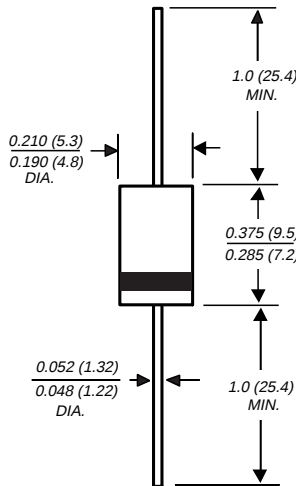
## GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

Reverse Voltage - 50 to 1000 Volts

Forward Current - 3.0 Amperes

**PATENTED\***

DO-201AD



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



### FEATURES

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

### MECHANICAL DATA

**Case:** JEDEC DO-201AD 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:** 0.04 ounce, 1.12 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

|                                                                                                             | SYMBOLS                          | RGP<br>30A   | RGP<br>30B | RGP<br>30D | RGP<br>30G | RGP<br>30J | RGP<br>30K | RGP<br>30M | UNITS |
|-------------------------------------------------------------------------------------------------------------|----------------------------------|--------------|------------|------------|------------|------------|------------|------------|-------|
| Maximum repetitive peak reverse voltage                                                                     | V <sub>RRM</sub>                 | 50           | 100        | 200        | 400        | 600        | 800        | 1000       | Volts |
| Maximum RMS voltage                                                                                         | V <sub>RMS</sub>                 | 35           | 70         | 140        | 280        | 420        | 560        | 700        | Volts |
| Maximum DC blocking voltage                                                                                 | V <sub>DC</sub>                  | 50           | 100        | 200        | 400        | 600        | 800        | 1000       | Volts |
| Maximum average forward rectified current<br>0.375" (9.5mm) lead length at T <sub>A</sub> =55°C             | I <sub>(AV)</sub>                | 3.0          |            |            |            |            |            |            | Amps  |
| Peak forward surge current 8.3ms single half sine-wave<br>superimposed on rated load (JEDEC Method)         | I <sub>FSM</sub>                 | 125.0        |            |            |            |            |            |            | Amps  |
| Maximum instantaneous forward voltage at 3.0A                                                               | V <sub>F</sub>                   | 1.3          |            |            |            |            |            |            | Volts |
| Maximum DC reverse current T <sub>A</sub> =25°C<br>at rated DC blocking voltage T <sub>A</sub> =125°C       | I <sub>R</sub>                   | 5.0<br>100.0 |            |            |            |            |            |            | µA    |
| Maximum full load reverse current, full cycle average<br>0.375" (9.5mm) lead length at T <sub>A</sub> =55°C | I <sub>R(AV)</sub>               | 100.0        |            |            |            |            |            |            | µA    |
| Maximum reverse recovery time (NOTE 1)                                                                      | t <sub>rr</sub>                  | 150          |            |            |            | 250        | 500        |            | ns    |
| Typical junction capacitance (NOTE 2)                                                                       | C <sub>J</sub>                   | 60.0         |            |            |            |            |            |            | pF    |
| Typical thermal resistance (NOTE 3)                                                                         | R <sub>θJA</sub>                 | 20.0         |            |            |            |            |            |            | °C/W  |
| Operating junction and storage temperature range                                                            | T <sub>J</sub> ,T <sub>STG</sub> | -65 to +175  |            |            |            |            |            |            | °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 at 0.375" (9.5mm) lead length, P.C.B. mounted

# RATINGS AND CHARACTERISTIC CURVES RGP30A THRU RGP30M

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1 - FORWARD CURRENT DERATING CURVE

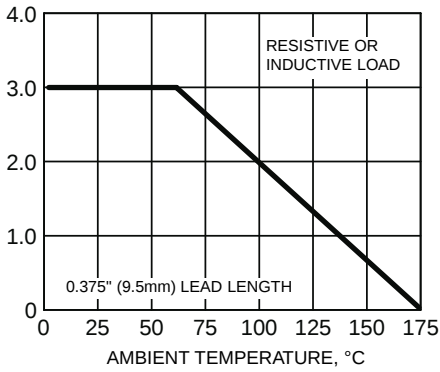


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK  
FORWARD SURGE CURRENT

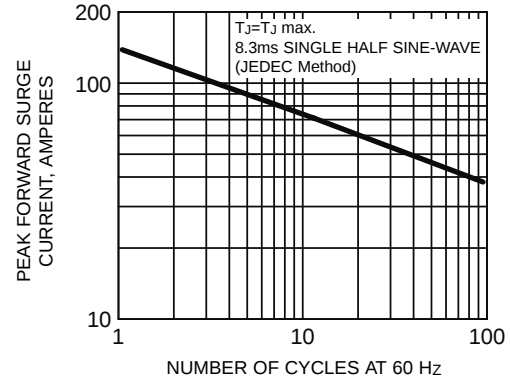


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD  
CHARACTERISTICS

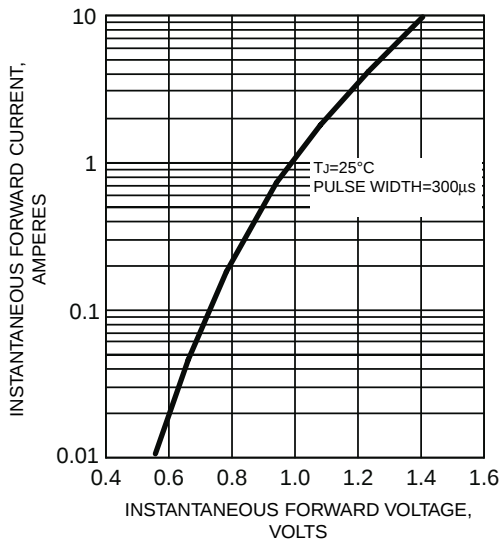


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

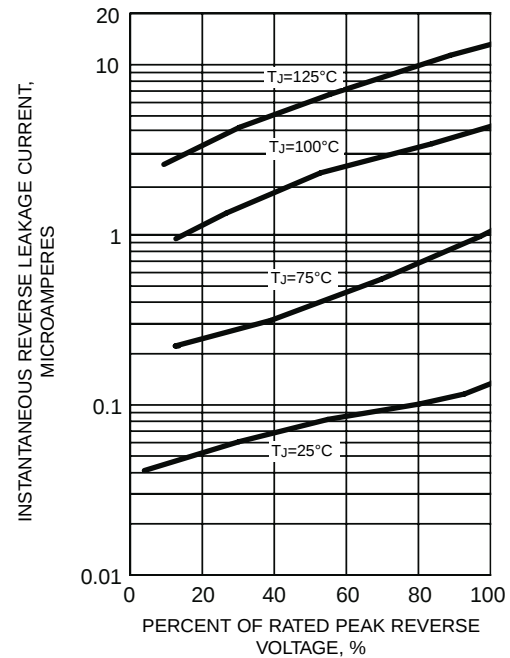


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

