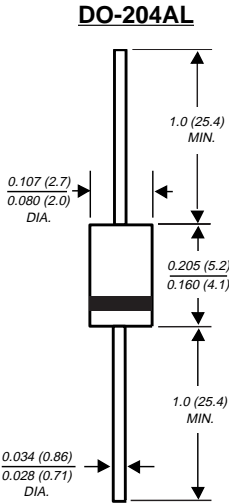


RGP10A THRU RGP10M

GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

PATENTED *



NOTE: Lead diameter is 0.026 (0.66) for suffix "E" part numbers
0.023 (0.58)

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
- ♦ 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 I_R less than $0.1\mu\text{A}$
- ♦ High temperature soldering guaranteed: $350^{\circ}\text{C}/10$ seconds $0.375"$ (9.5mm) lead length, 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: JEDEC DO-204AL 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 | RGP 10A | RGP 10B | RGP 10D | RGP 10G | RGP 10J | RGP 10K | RGP 10M | UNITS |
|--|-----------------------------------|--------------|------------|------------|------------|------------|------------|------------|-------|
| Maximum recurrent peak reverse voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC blocking voltage | V _{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum average forward rectified current 0.375" (9.5mm) lead length at T _A =55°C | I _(AV) | 1.0 | | | | | | | Amp |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 30.0 | | | | | | | Amps |
| Maximum instantaneous forward voltage at 1.0A | V _F | 1.3 | | | | | | | Volts |
| Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length T _A =55°C | I _R | 100.0 | | | | | | | μA |
| Maximum DC reverse current at rated DC blocking voltage | I _R | 5.0 200.0 | | | | | | | μA |
| Maximum reverse recovery time (NOTE 1) | t _{rr} | 150 | | | | 250 | 500 | | ns |
| Typical junction capacitance (NOTE 2) | C _J | 15.0 | | | | | | | pF |
| Typical thermal resistance (NOTE 3) | R _{θJA} | 55.0 | | | | | | | °C/W |
| Operating junction and storage temperature range | T _J , T _{STG} | -65 to +175 | | | | | | | °C |

NOTES:

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

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

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

RATINGS AND CHARACTERISTIC CURVES RGP10A THRU RGP10M

FIG. 1 - FORWARD CURRENT DERATING CURVE

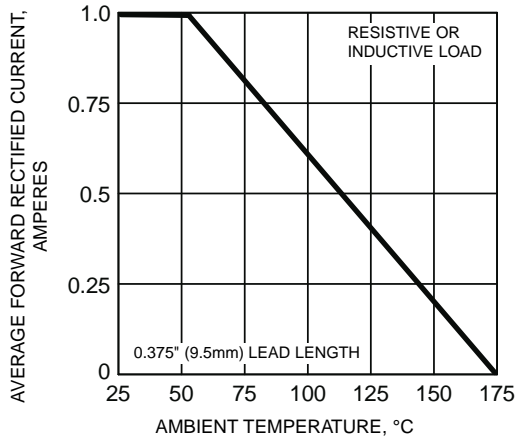


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

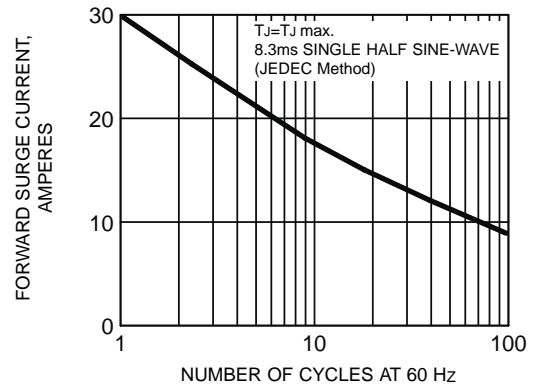


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

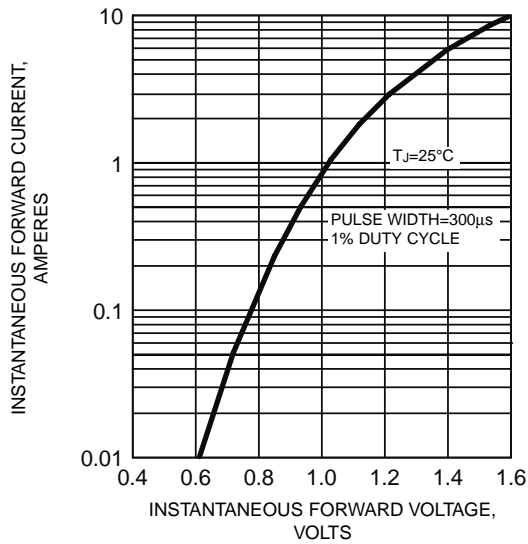


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

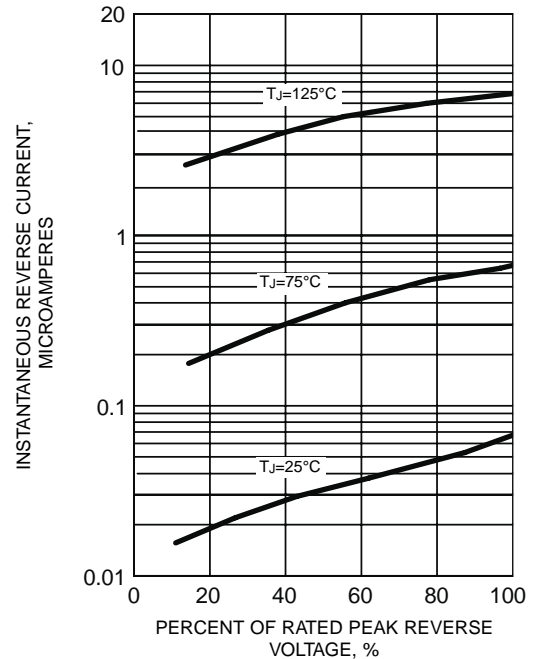


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

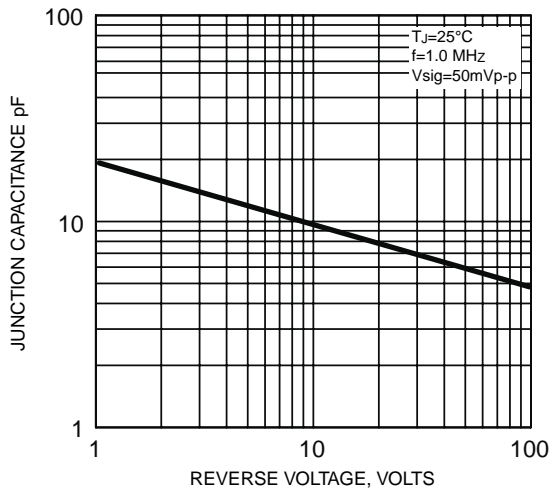


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

