

# RG1A THRU RG1M

## GLASS PASSIVATED FAST SWITCHING RECTIFIER

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

### FEATURES

- ♦ High temperature metallurgically bonded construction
- ♦ Hermetically sealed package
- ♦ Glass passivated cavity-free junction
- ♦ 1.0 Ampere operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- ♦ Typical  $I_R$  less than  $0.1\mu\text{A}$
- ♦ Capable of meeting environmental standards of MIL-S-19500
- ♦ 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 DO204AP solid glass body

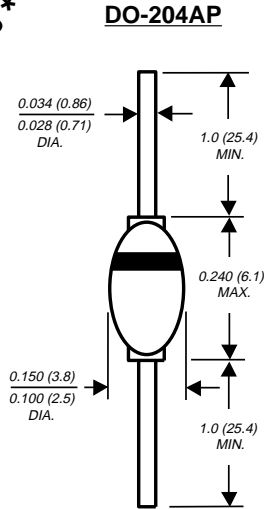
**Terminals:** Solder plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.02 ounce, 0.56 gram

**PATENTED \***



Dimensions in inches and (millimeters)

\* Brazed-lead assembly is covered by Patent No. 3,930,306

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	RG1A	RG1B	RG1D	RG1G	RG1J	RG1K	RG1M	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 0.375" (9.5mm) lead length at T <sub>A</sub> =55°C	I <sub>(AV)</sub>	1.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30.0							Amps
Maximum instantaneous forward voltage at 1.0A	V <sub>F</sub>	1.3							Volts
Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length at T <sub>A</sub> =25°C T <sub>A</sub> =100°C	I <sub>R(AV)</sub>	1.0 100.0							μA
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	2.0							μA
Maximum reverse recovery time (NOTE 1)	t <sub>rr</sub>	150				200	250	500	ns
Typical junction capacitance (NOTE 2)	C <sub>J</sub>	15.0							pF
Typical thermal resistance (NOTE 3)	R <sub>θJA</sub>	55.0							°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 RG1A AND RG1M

FIG. 1 - FORWARD CURRENT DERATING CURVE

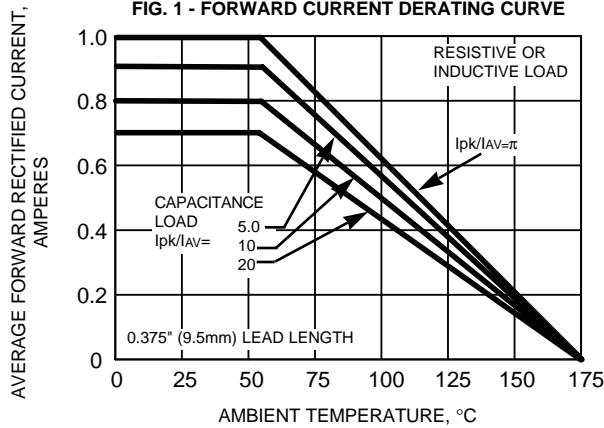


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

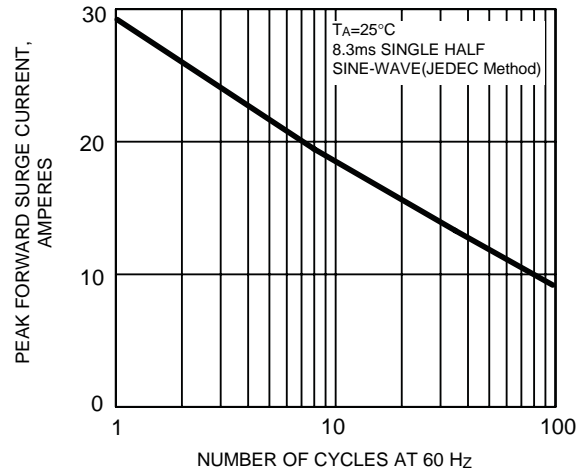


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

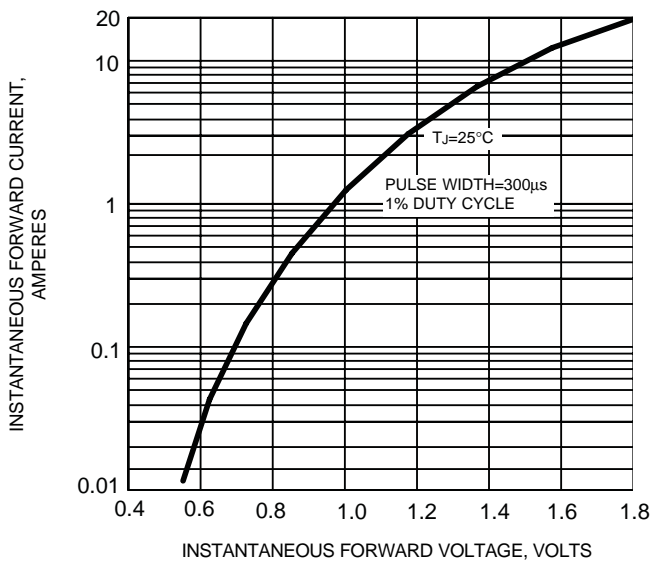


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

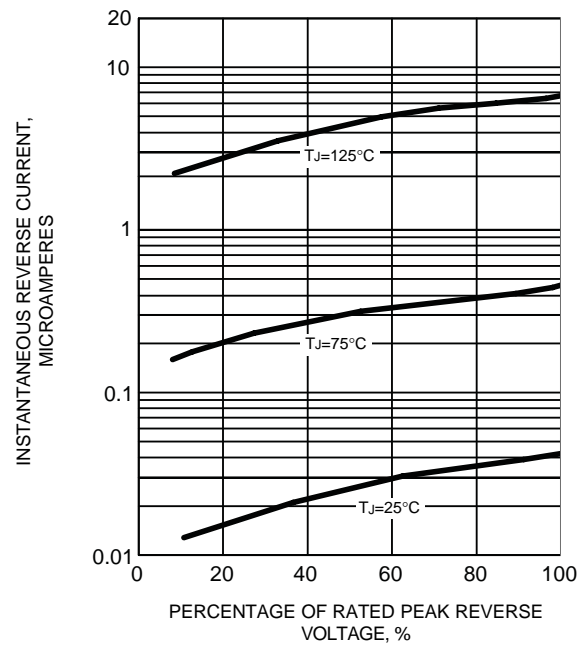
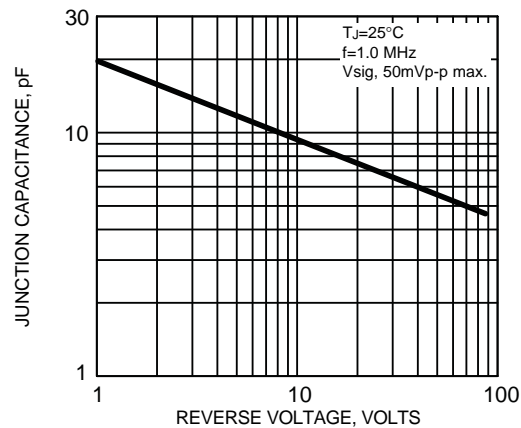


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



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