

# Silicon Diode

## **G3M**

1000V / 3A

# DATASHEET

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OEM – General Semiconductor

Source: General Semiconductor Databook 1998

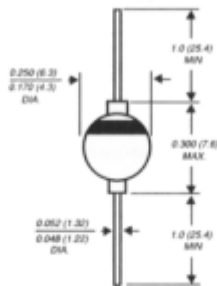
# G3A THRU G3M

## GLASS PASSIVATED JUNCTION RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Amperes

**PATENTED\***

Case Style G3



Dimensions in inches and (millimeters)

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

### FEATURES

- ◆ High temperature metallurgically bonded construction
- ◆ Glass passivated cavity-free junction
- ◆ Hermetically sealed package
- ◆ 3.0 Ampere operation at  $T_A=70^\circ\text{C}$  with no thermal runaway
- ◆ Typical  $I_R$  less than  $0.1\mu\text{A}$
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ High temperature soldering guaranteed:  $350^\circ\text{C}/10$  seconds,  $0.375"$  (9.5mm) lead length, 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** 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:** 0.04 ounce, 1.1 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	G3A	G3B	G3D	G3G	G3J	G3K	G3M	UNITS
Maximum repetitive 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 $T_A=70^\circ\text{C}$	$I_{(AV)}$	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	125.0							Amps
Maximum instantaneous forward voltage at 3.0A	$V_F$	1.2	1.1					Volts	
Maximum full load reverse current, full cycle average, 0.375" (9.5mm) lead length at $T_A=70^\circ\text{C}$	$I_{R(AV)}$	200.0							$\mu\text{A}$
Maximum DC reverse current at rated DC blocking voltage	$I_R$	5.0 100.0							$\mu\text{A}$
Typical reverse recovery time (NOTE 1)	$t_{rr}$	3.0							$\mu\text{s}$
Typical junction capacitance (NOTE 2)	$C_J$	40.0							pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$ $R_{\theta JL}$	20.0 10.0							$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +175							$^\circ\text{C}$

**NOTES:**

- (1) Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_V=0.25\text{A}$
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (3) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length, with both leads mounted between heatsinks

**RATINGS AND CHARACTERISTIC CURVES G3A AND G3M**

