

# Silicon Diode

## **G1A**

50V / 1A

# DATASHEET

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OEM – General Semiconductor

Source: General Semiconductor Databook 1998

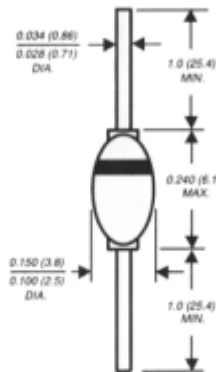
# G1A THRU G1M

## GLASS PASSIVATED JUNCTION RECTIFIER

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

**PATENTED \***

DO-204AP



Dimensions in inches and (millimeters)

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

### FEATURES

- ◆ High temperature metallurgically bonded constructed rectifiers
- ◆ Glass passivated cavity-free junction in DO-204AP package
- ◆ Hermetically sealed package
- ◆ 1.0 ampere operation at  $T_A=100^\circ\text{C}$  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:** JEDEC DO-204AP 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

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	G1A	G1B	G1D	G1G	G1J	G1K	G1M	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	70	200	400	600	800	1000	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=100^\circ\text{C}$	$I_{(AV)}$	1.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	50.0							Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.2		1.1				Volts	
Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length at $T_A=100^\circ\text{C}$	$I_{R(AV)}$	200.0							$\mu\text{A}$
Maximum DC reverse current at rated DC blocking voltage	$I_R$	$T_A=25^\circ\text{C}$		2.0				$\mu\text{A}$	
		$T_A=150^\circ\text{C}$		100.0				$\mu\text{A}$	
Typical reverse recovery time (NOTE 1)	$t_{rr}$	1.5							$\mu\text{s}$
Typical junction capacitance (NOTE 2)	$C_J$	15.0							pF
Typical thermal resistance (NOTE 3)	$R_{\theta JL}$	55.0							$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	65 to +175							$^\circ\text{C}$

**NOTES:**

- (1) Measured with  $I_F=0.5\text{A}$ ,  $I_n=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$
- (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 G1A AND G1M**

