

# Silicon Diode

## **GI814**

400V / 1A

# DATASHEET

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OEM – General Semiconductor

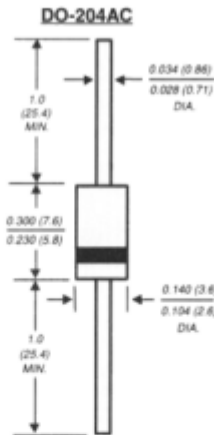
Source: General Semiconductor Databook 1998

# GI810 THRU GI818

## GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

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

**PATENTED \***



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
- ◆ High temperature metallurgically bonded construction
- ◆ Glass passivated cavity-free junction
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ Fast switching for high efficiency
- ◆ 1.0 Ampere operation at  $T_A=75^\circ\text{C}$  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-204AC 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:** 0.015 ounce, 0.4 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	GI 810	GI 811	GI 812	GI 814	GI 816	GI 817	GI 818	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 $T_A=75^\circ\text{C}$	$I_{(AV)}$	1.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_A=75^\circ\text{C}$	$I_{FSM}$	30.0							Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.2							Volts
Maximum DC reverse current at rated DC blocking voltage	$I_R$	$T_A=25^\circ\text{C}$ : 10.0 $T_A=100^\circ\text{C}$ : 100.0							$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	750.0							ns
Typical junction capacitance (NOTE 2)	$C_J$	25.0							pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	45.0							$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +175							$^\circ\text{C}$

**NOTES:**

- (1) Reverse recovery test conditions:  $I_F=1.0\text{A}$ ,  $V_R=30\text{V}$ ,  $dI/dt=50\text{A}/\mu\text{s}$
- (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 GI810 THRU GI818**

