

# Silicon Diode

## **BA159DGP**

800V / 1A

# DATASHEET

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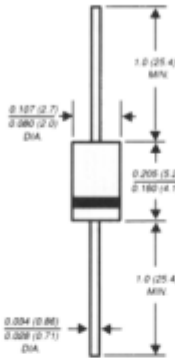
Source: General Semiconductor Databook 1998

# BA157GP THRU BA159GP

**GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER**  
 Reverse Voltage - 400 to 1000 Volts      Forward Current - 1.0 Ampere

PATENTED \*

DO-204AL



NOTE: Lead diameter = 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



## FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ High temperature metallurgically bonded construction
- ◆ For use in high frequency rectifier circuits
- ◆ Fast switching for high efficiency
- ◆ Glass passivated cavity-free junction
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ 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  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

	SYMBOLS	BA157GP	BA158GP	BA159DGP	BA159GP	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	400	600	800	1000	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	1.0				Amp
Peak forward surge current 10ms single half sine-wave superimposed on rated load at $T_A=25^\circ\text{C}$	$I_{FSM}$	20.0				Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.3				Volts
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$	$I_R$	5.0				$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	150	250	500	500	ns
Typical junction capacitance (NOTE 2)	$C_J$	15.0				pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	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) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $t_{rr}=0.25\mu\text{s}$
- (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 BA157GP THRU BA159GP**

