

# BA157GP THRU BA159GP

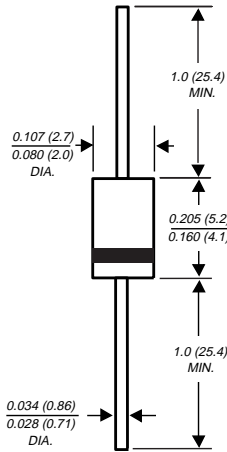
## GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

Reverse Voltage - 400 to 1000 Volts

Forward Current - 1.0 Ampere

PATENTED\*

### DO-204AL



NOTE: Lead diameter is 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

**SUPERECTIFIER**

### 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:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$
- (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 BA157GP THRU BA159GP

FIG. 1 - FORWARD CURRENT DERATING CURVE

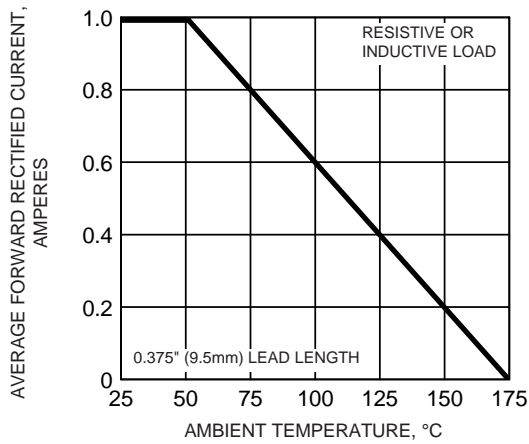


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

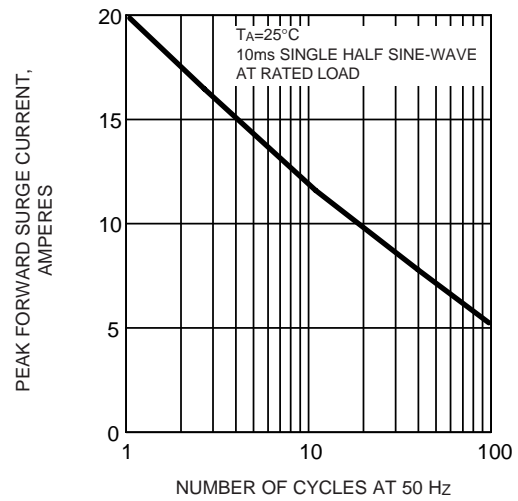


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

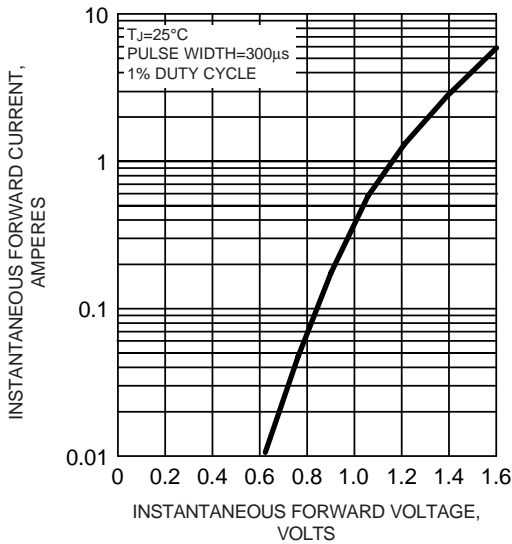


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

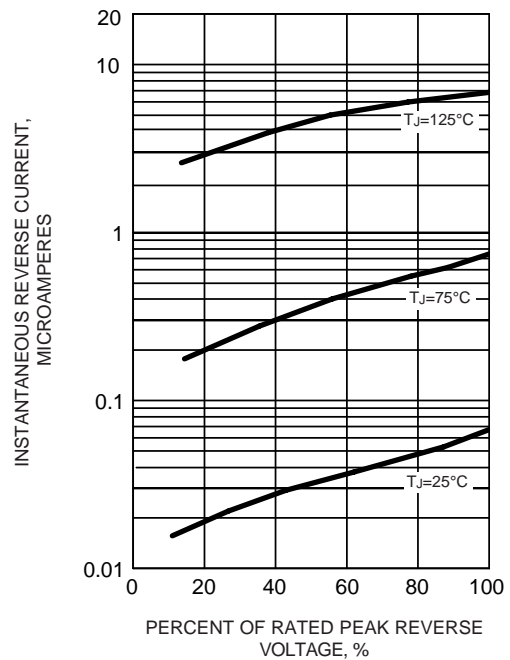


FIG. 5- TYPICAL JUNCTION CAPACITANCE

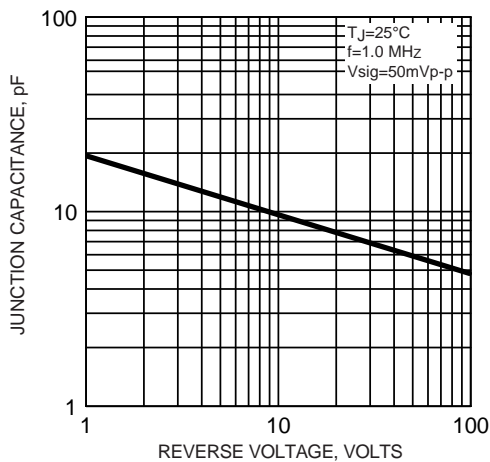


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

