

# BA157 THRU BA159



## 1.0 AMP FAST RECOVERY RECTIFIERS



### FEATURES

- \* Low forward voltage drop
- \* Low leakage current
- \* High reliability
- \* High current capability

### MECHANICAL DATA

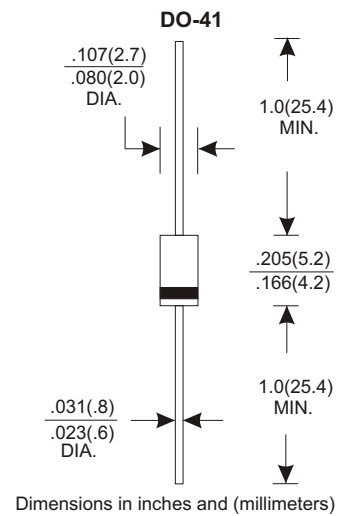
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant method 208 guaranteed
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.31grams
- \* Both normal and Pb free product are available:
- \* Normal: 80~95%Sn, 5~20%Pb
- \* Pb free: 99 Sn above can meet Rohs environment substance directive request

### VOLTAGE RANGE

400 to 1000 Volts

### CURRENT

1.0 Ampere



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.  
Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

TYPE NUMBER	BA157	BA158	BA159	UNITS
Maximum Recurrent Peak Reverse Voltage	400	600	1000	V
Maximum RMS Voltage	280	420	700	V
Maximum DC Blocking Voltage	400	600	1000	V
Maximum Average Forward Rectified Current				
.375"(9.5mm) Lead Length at Ta=75°C	1.0			A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	36			A
Maximum Instantaneous Forward Voltage at 1.0A	1.3			V
Maximum DC Reverse Current Ta=25°C	5.0			uA
at Rated DC Blocking Voltage Ta=100°C	50			uA
Maximum Reverse Recovery Time (Note 1)	150		250	nS
Typical Junction Capacitance (Note 2)	15			pF
Operating and Storage Temperature Range Tj, TSTG	-65 — +150			°C

#### NOTES:

- Reverse Recovery Time test condition: IF=1.0A, VR=30V.
- Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## RATING AND CHARACTERISTIC CURVES (BA157 THRU BA159)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

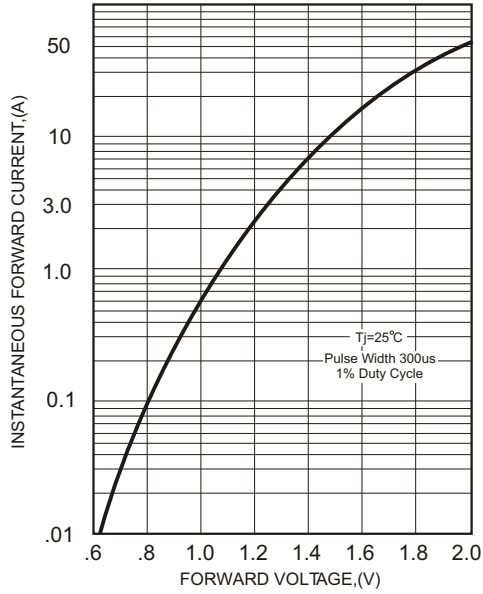


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

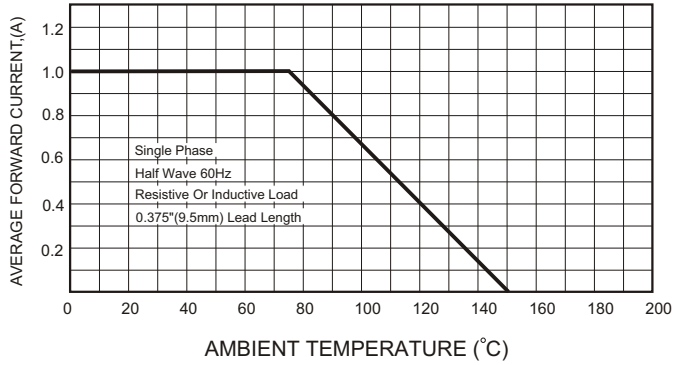
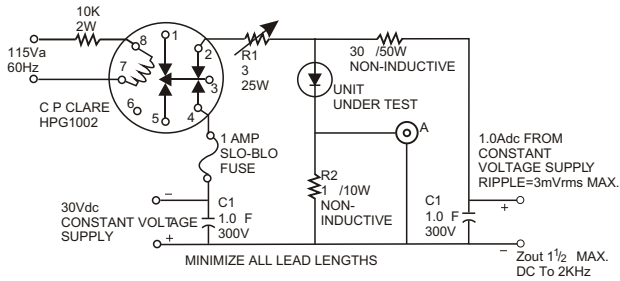


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



A-TEKTRONIX 545A, K PLUG IN PRE AMP P6000 PROBE OR EQUIVALENT  
 R1- ADJUSTED FOR 14 BETWEEN POINT 2 OF RELAY AND RECTIFIER INDUCTIVE=3.8 H  
 R2- TEN 1W 10 1% CARBON CORE IN PARALLEL  
 $T_A = 25 \begin{matrix} +10 \\ -0 \end{matrix}^\circ\text{C}$  FOR RECTIFIER

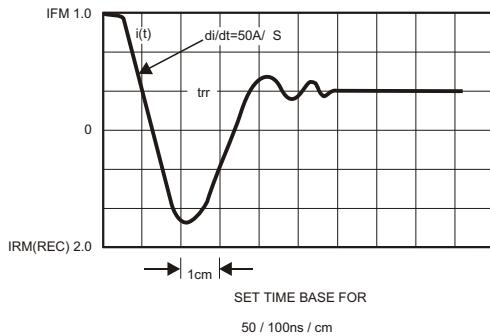


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

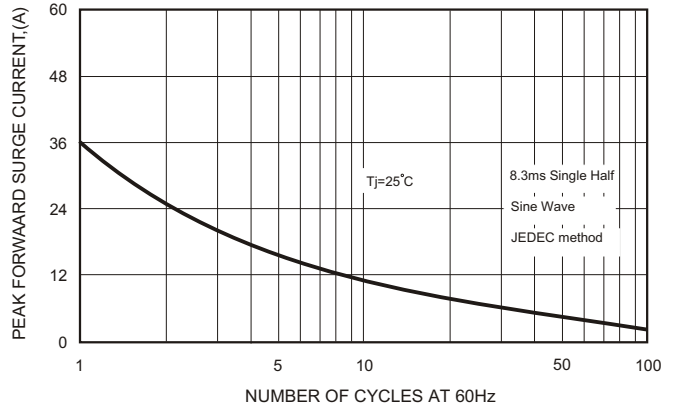


FIG.5-TYPICAL JUNCTION CAPACITANCE

