

# BA157 THRU BA159



## 1.0 AMP FAST RECOVERY RECTIFIERS



### FEATURES

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

### MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.28 grams
- \* Lead Free Finish/RoHS Compliant

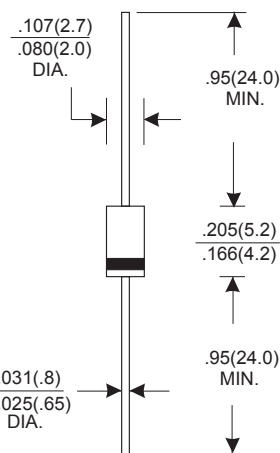
### VOLTAGE RANGE

400 to 1000 Volts

### CURRENT

1.0 Ampere

DO-41



## 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<br>.375"(9.5mm) Lead Length at Ta=75°C                      | 1.0        |       |       | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | 30         |       |       | A     |
| Maximum Instantaneous Forward Voltage at 1.0A                                                         | 1.3        |       |       | V     |
| Maximum DC Reverse Current Ta=25°C                                                                    | 5.0        |       |       | μA    |
| at Rated DC Blocking Voltage Ta=100°C                                                                 | 100        |       |       | μA    |
| 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:

1. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## RATING AND CHARACTERISTIC CURVES (BA157 THRU BA159)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

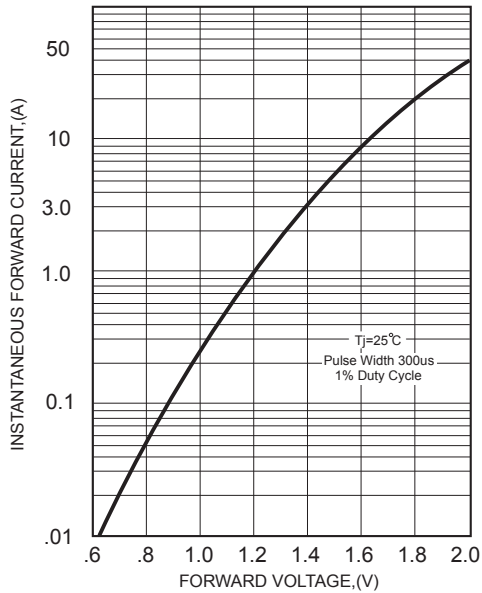


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

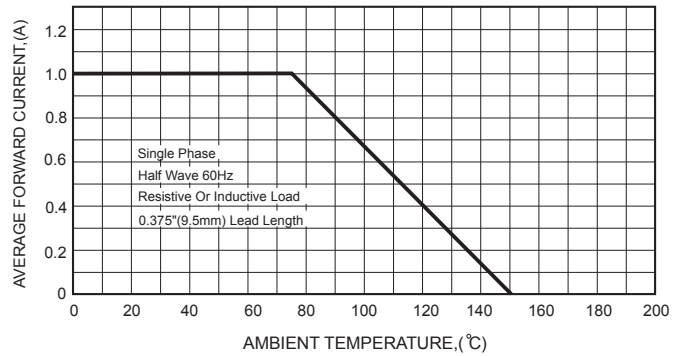
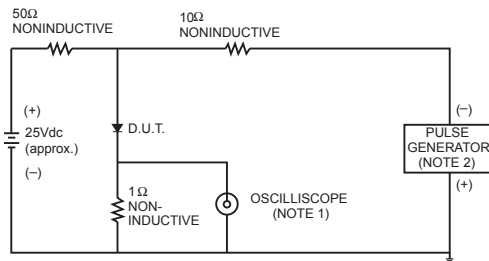


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

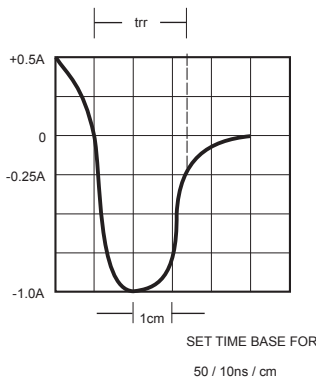


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

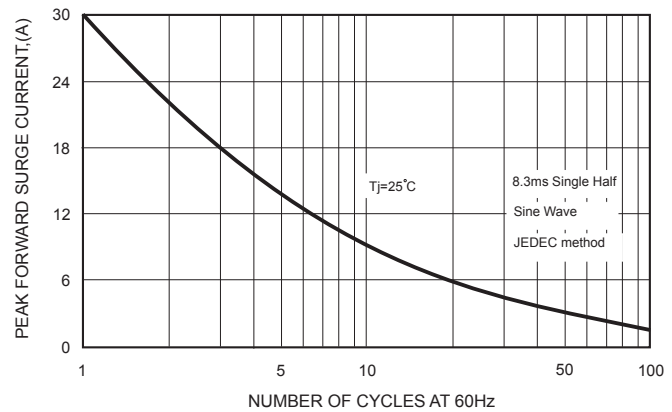


FIG.5-TYPICAL JUNCTION CAPACITANCE

