



# BA157 THRU BA159

## 1.0 AMP. Fast Recovery Rectifiers



Voltage Range  
400 to 1000 Volts  
Current  
1.0 Ampere

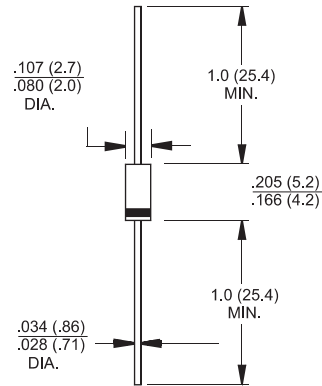
### Features

- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ High reliability
- ◇ High surge current capability

### Mechanical Data

- ◇ Cases: DO-41 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
- ◇ High temperature soldering guaranteed: 260°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ◇ Weight: 0.34 gram

### DO-41



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	BA157	BA158	BA159	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	400	600	1000	V
Maximum RMS Voltage	$V_{RMS}$	280	420	700	V
Maximum DC Blocking Voltage	$V_{DC}$	400	600	1000	V
Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length @ $T_A = 45^\circ\text{C}$	$I_{(AV)}$	1.0			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	30			A
Maximum Instantaneous Forward Voltage @ 1.0A	$V_F$	1.2			V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$	$I_R$	5.0 100			$\mu\text{A}$ $\mu\text{A}$
Maximum Reverse Recovery Time ( Note 1 )	$T_{rr}$	150		250	nS
Typical Junction Capacitance ( Note 2 )	$C_j$	10			pF
Typical Thermal Resistance ( Note 3 )	$R_{\theta JA}$	65			$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	-65 to +150			$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +150			$^\circ\text{C}$

- 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 MHz and Applied Reverse Voltage of 4.0 Volts D.C.  
 3. Mount on Cu-Pad Size 5mm x 5mm on P.C.B.

## RATINGS AND CHARACTERISTIC CURVES (BA157 THRU BA159)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

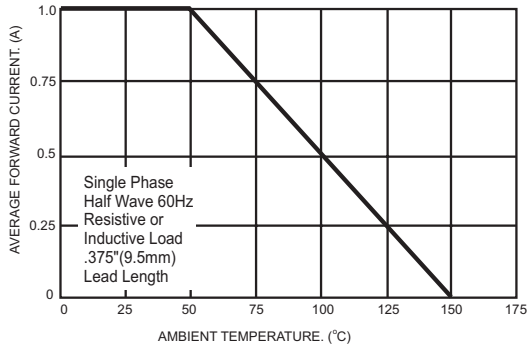


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

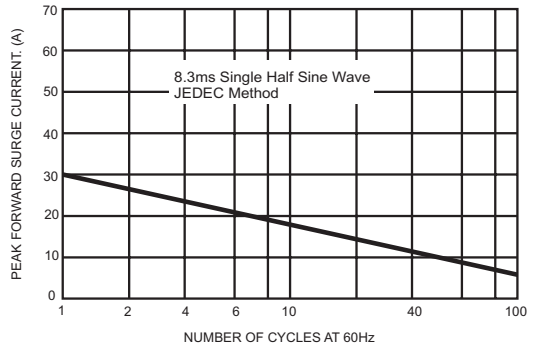


FIG.3- TYPICAL FORWARD CHARACTERISTICS

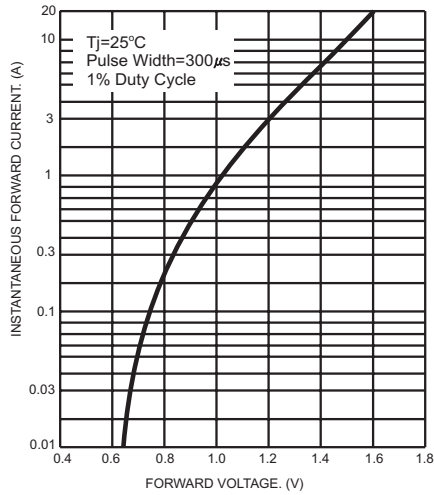


FIG.4- TYPICAL JUNCTION CAPACITANCE

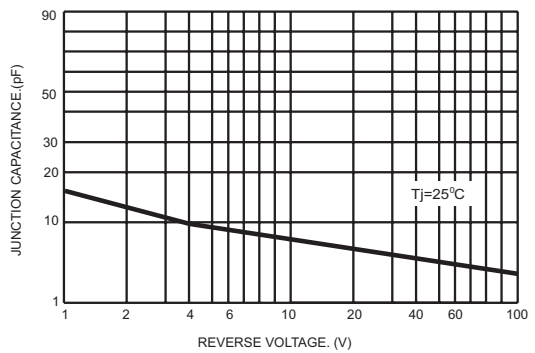
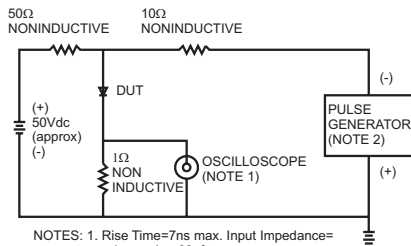


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

