



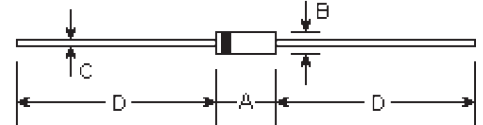
# BA157 THRU BA159

**FAST SWITCHING PLASTIC RECTIFIER**  
**Reverse Voltage - 400 to 1000 Volts**  
**Forward Current - 1.0 Ampere**

## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High surge current capability
- Void-free plastic package
- Fast switching for high efficiency
- High temperature soldering guaranteed:  
350°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3Kg) tension

## DO-41



## Mechanical Data

- **Case:** DO-41 molded plastic 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, 0.33 gram

DIM	DIMENSIONS				Note
	inches		mm		
	Min.	Max.	Min.	Max.	
A	0.165	0.205	4.2	5.2	
B	0.079	0.106	2.0	2.7	φ
C	0.028	0.034	0.71	0.86	φ
D	1.000	-	25.40	-	

## Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	BA157	BA158	BA159	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	400	600	1000	Volts
Maximum RMS voltage	$V_{RMS}$	280	420	700	Volts
Maximum DC blocking voltage	$V_{DC}$	400	600	1000	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=50^\circ\text{C}$	$I_{(AV)}$	1.0			Amp
Peak forward surge current 8.3mS single half sine-wave superimposed on rated load at $T_A=25^\circ\text{C}$	$I_{FSM}$	35.0			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		nS
Typical junction capacitance (Note 2)	$C_J$	15.0			$\rho\text{F}$
Typical thermal resistance (Note 3)	$R_{\theta(JL)}$	25			$^\circ\text{C/W}$
Maximum operating junction temperature	$T_J$	-65 to +125			$^\circ\text{C}$
Maximum storage temperature	$T_{STG}$	-65 to +125			$^\circ\text{C}$

### Notes:

- (1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{tr}=0.25\text{A}$
- (2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts
- (3) Thermal resistance from junction to lead at 0.375" (9.5mm) lead length P.C.B. mounted

# RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - FORWARD CURRENT DERATING CURVE

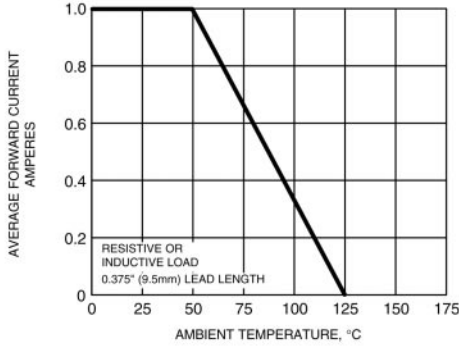


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

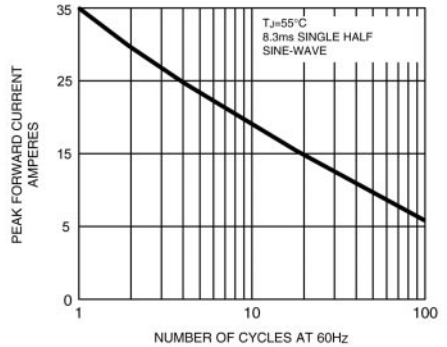


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

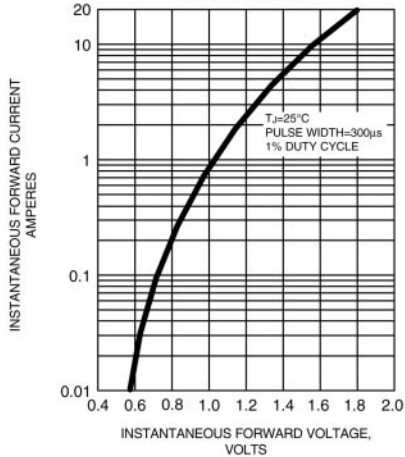


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

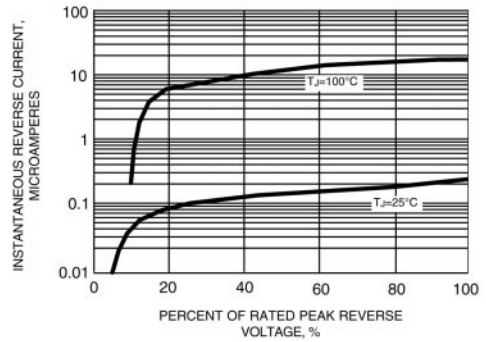


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

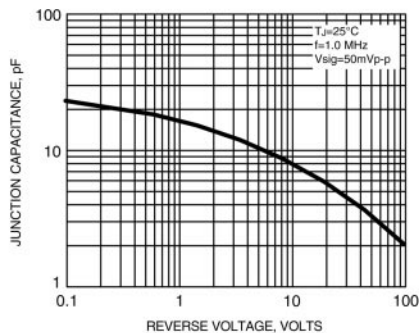


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

