

# BA157-BA159

Fast Recovery Rectifiers

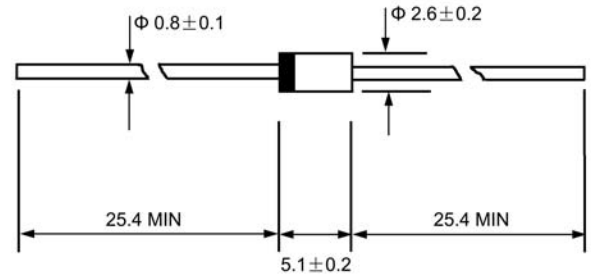
**VOLTAGE RANGE: 400 --- 1000 V**

**CURRENT: 1.0 A**

**DO - 41**

## Features

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon, Alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0



Dimensions in millimeters

## Mechanical Data

- ◇ Case: JEDEC DO-41, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.012 ounces, 0.34 grams
- ◇ Mounting position: Any

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		BA157	BA158	BA159D	BA159	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	400	600	800	1000	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	1.0				A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	$I_{FSM}$	30.0				A
Maximum instantaneous forward voltage @ 1.0 A	$V_F$	1.3				V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	5.0 100.0				$\mu\text{A}$
Maximum reverse recovery time (Note1)	$t_{rr}$	300				ns
Typical junction capacitance (Note2)	$C_J$	12				pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	55				$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	- 55---- +150				$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55---- + 150				$^\circ\text{C}$

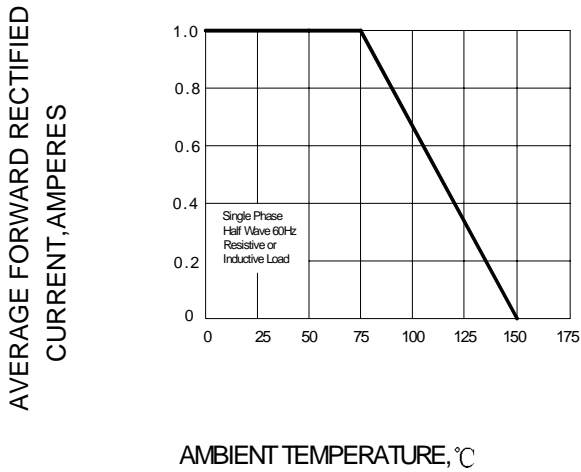
NOTE: 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

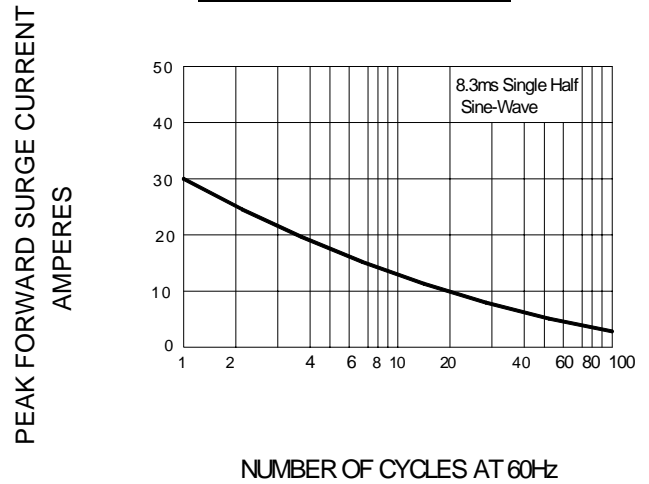
3. Thermal resistance from junction to ambient.

### Ratings AND Characteristic Curves

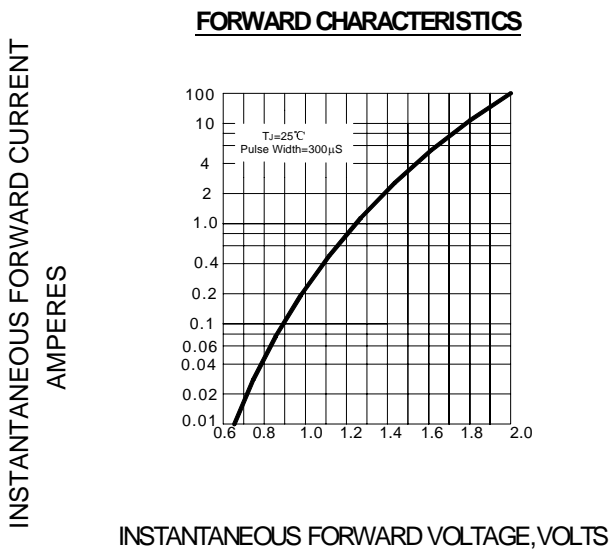
**FIG.1 – FORWARD CURRENT DERATING CURVE**



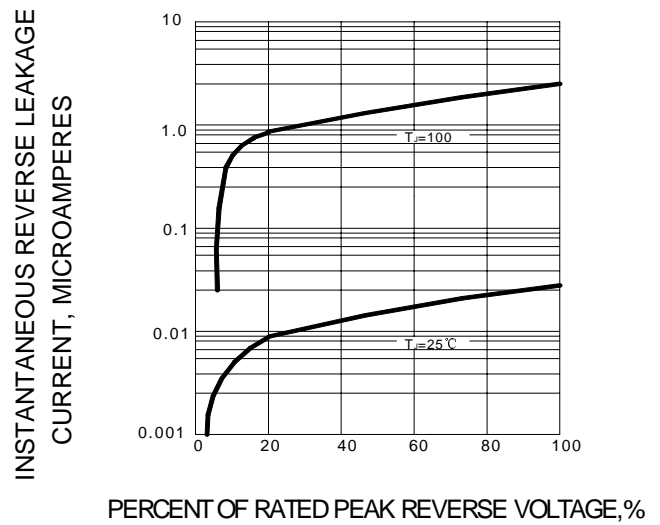
**FIG.2 –MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3 –TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG.4 –TYPICAL REVERSE CHARACTERISTICS**



**FIG.5 –TYPICAL JUNCTION CAPACITANCE**

