



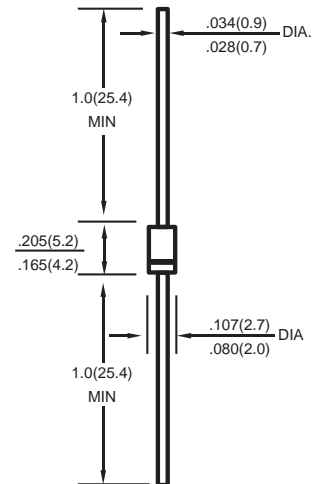
### DO-41

## Features

- ✧ Low cost construction
- ✧ Fast switching for high efficiency.
- ✧ Low reverse leakage
- ✧ High forward surge current capability
- ✧ High temperature soldering guaranteed:  
260°C/10 seconds/0.375" (9.5mm) lead length  
at 5 lbs (2,3kg) tension

## Mechanical Data

- ✧ **Case:** Transfer molded plastic
- ✧ **Epoxy:** UL94V-0 rate flame retardant
- ✧ **Polarity:** Color band denotes cathode end
- ✧ **Mounting position:** Any
- ✧ **Weight:** 0.012 ounce, 0.33 gram



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

For capacitive load derate current by 20%.

	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 $T_A=75^\circ\text{C}$	$I_{(AV)}$	1.0			Amp
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30			Amps
Maximum Instantaneous Forward Voltage at 1.0A	$V_F$	1.3			Volts
Maximum DC Reverse Current at rated DC blocking voltage	$T_A=25^\circ\text{C}$	5.0			$\mu\text{Amps}$
	$T_A=100^\circ\text{C}$	100			
Maximum Reverse Recovery Time(NOTE3) $T_j=25^\circ\text{C}$	$t_{rr}$	150	250	500	nS
Typical Junction Capacitance(NOTE1)	$C_J$	15			pF
Typical Thermal Resistance(NOTE2)	$R_{\theta JA}$	50			$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150			$^\circ\text{C}$

### NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance from Junction to Ambient at .375" (9.5mm) lead length, P.C. board mounted.
3. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

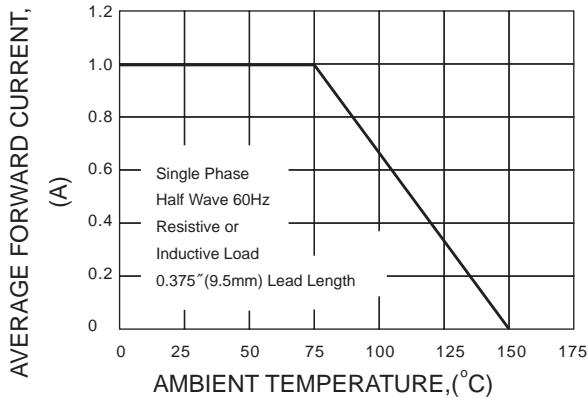


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

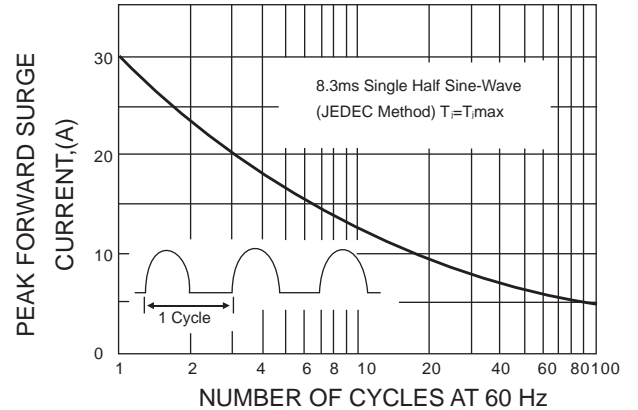


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

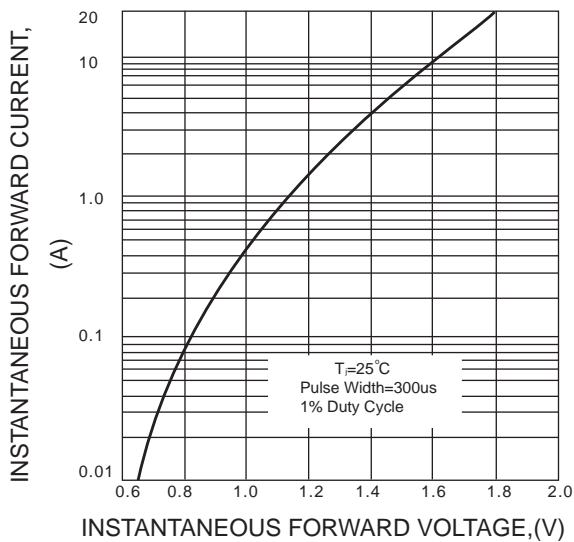


FIG.4-TYPICAL REVERSE CHARACTERISTICS

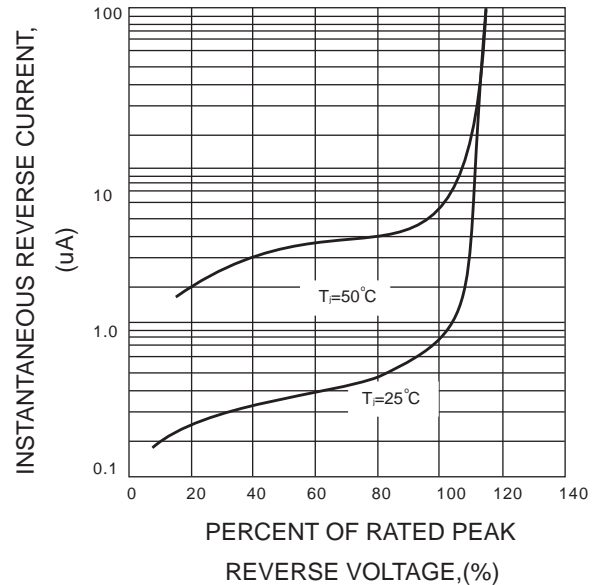


FIG.5-TYPICAL JUNCTION CAPACITANCE

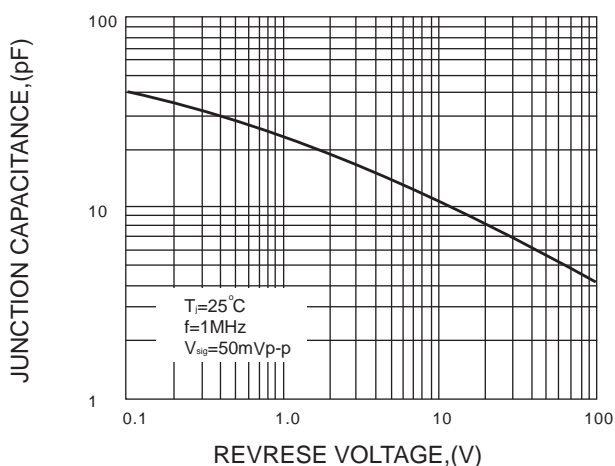


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

