



BA157 THRU BA159

FAST RECOVERY RECTIFIERS

Reverse Voltage - 400 to 1000 Volts Forward Current - 1.0 Ampere

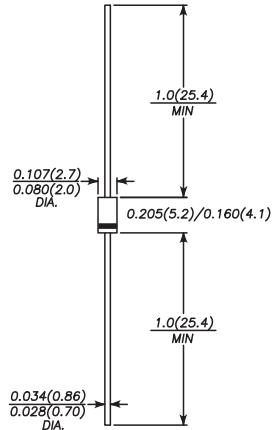
FEATURES

The plastic package carries Underwriters Laboratory
 Flammability Classification 94V-0
 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,
 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: JEDEC 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 grams

DO-41



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 current derate by 20%.

	SYMBOLS	BA157	BA158	BA159	UNITS
Maximum repetitive 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 0.375" (9.5mm) lead length at $T_A=75^\circ\text{C}$	$I_{(AV)}$	1.0			A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0			A
Maximum instantaneous forward voltage at 1.0A	V_F	1.3			V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	5.0 100.0			μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	150	250	300	ns
Typical junction capacitance (NOTE 2)	C_J	15.0			pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	50.0			$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150			$^\circ\text{C}$

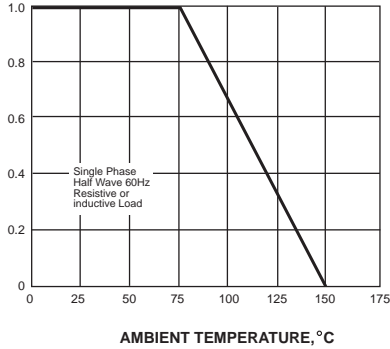
Note: 1. Reverse recovery condition $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



RATINGS AND CHARACTERISTIC CURVES BA157 THRU BA159

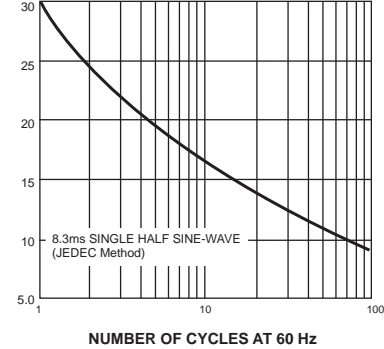
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



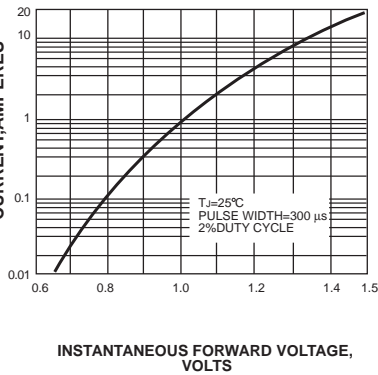
PEAK FORWARD SURGE CURRENT, AMPERES

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



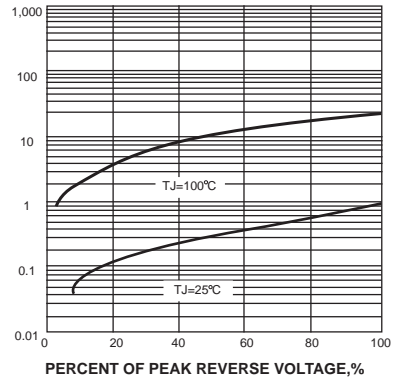
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



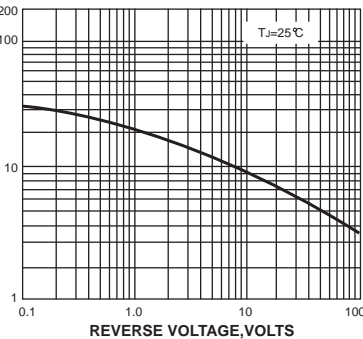
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

