1 AMP FAST RECOVERY SILICON RECTIFIERS

BA157 THRU BA159

TECHNICAL SPECIFICATION

FEATURES

- *Fast recovery times for high efficiency*
- *Low cost construction utilizing void - free moulded plastic technique*
- *Plastic package has Underwriters Laboratories Flammability Classification 94V-0*
- *High surge current capability*
  Low leakage
- *High temperature soldering capability 250°C/10 seconds/9.5mm (.375in.) lead length at 2.3kg (5lb) tension*
- *Easily cleaned with Freon, Alcohol, Chlorothene and other similar solvents*

VOLTAGE
400 to 1000 Volts

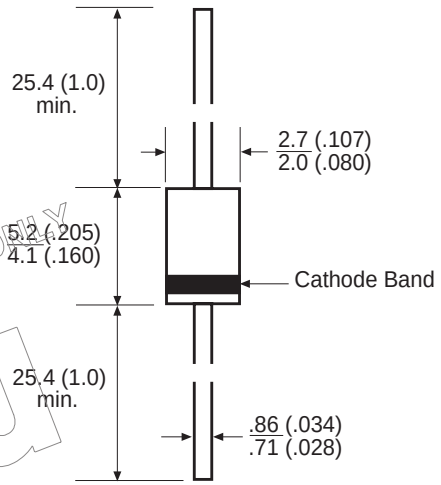
CURRENT
1.0 Amp

MECHANICAL DATA

Case : JEDEC DO-41, moulded plastic.
Terminals : Plated axial leads, solderable per MIL-STD-202, Method 208.
Polarity : Colour band denotes cathode end.
Mounting Position : Any
Weight : 0.3 grams (0.012 ounce)

DIMENSIONS - millimeters (inches)

DO-41



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 current by 20%.

		Symbols	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 9.5mm (.375in.) Lead Length at T_A = 75°C		$I_{F(AV)}$	1.0			A
Peak Forward Surge Current, 8.3 ms single half sine - wave superimposed on rated load		I_{FSM}	30			A
Maximum Instantaneous Forward Voltage at 1.0A		V_F	1.2			V
Maximum Reverse Current at Rated DC Blocking Voltage	T_A = 25°C	I_R	5.0			µA
	T_A = 100°C		100			µA
Maximum Reverse Recovery Time (see Note 3)		t_{rr}	150	250	500	nS
Typical Junction Capacitance (see Note 1)		C_J	15			pF
Typical Thermal Resistance (see Note 2)		R_{THja}	50			°C/W
Operating Temperature Range		T_J	- 50 to + 175			°C
Storage Temperature Range		T_{STG}	- 50 to + 175			°C

Notes :
1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
2. Thermal Resistance from Junction to Ambient
3. Test Conditions : I_F = 0.5A, I_R = 1.0A recovery to 0.25A

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RATING AND CHARACTERISTIC CURVES

FIG. 1 - FORWARD CURRENT DERATING CURVE

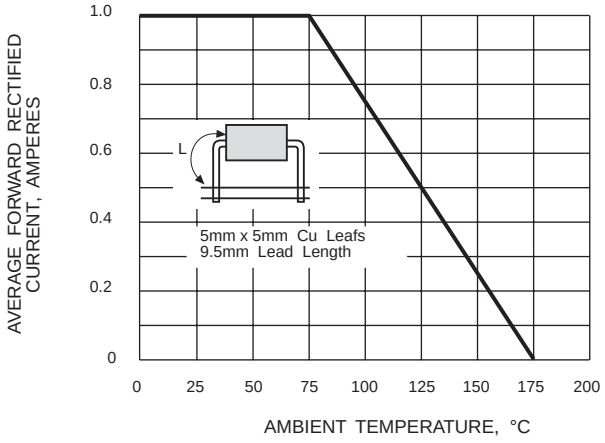


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

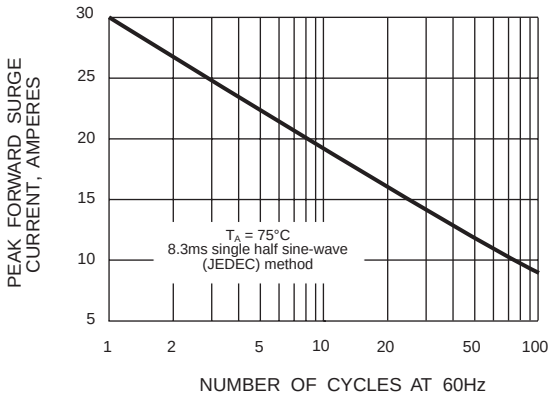


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

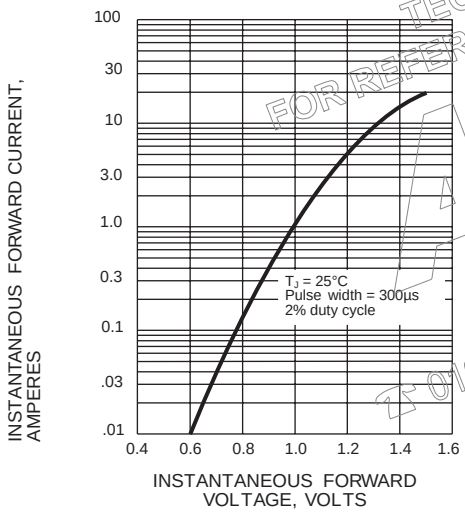


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

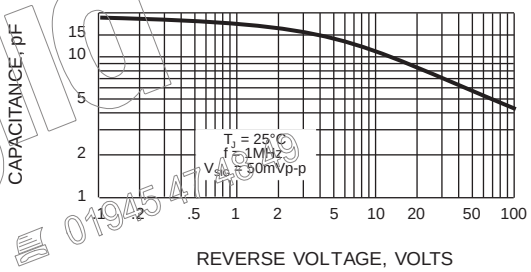
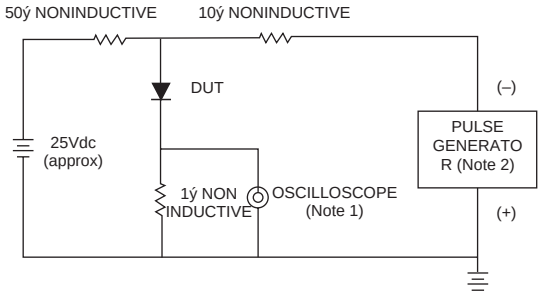
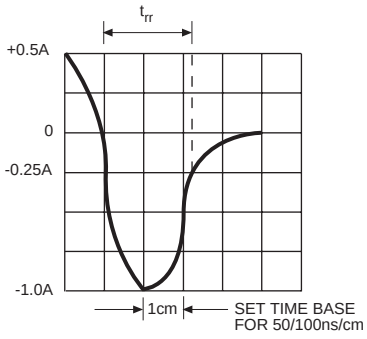


FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS





NOTES 1 Rise Time = 7ns max, Input Impedance = 1 megaohm 22pF
2 Rise Time = 10ns max, Source Impedance = 50 ohms