

FAST RECOVERY RECTIFIER

VOLTAGE RANGE: 400 --- 1000 V
CURRENT: 1.0 A

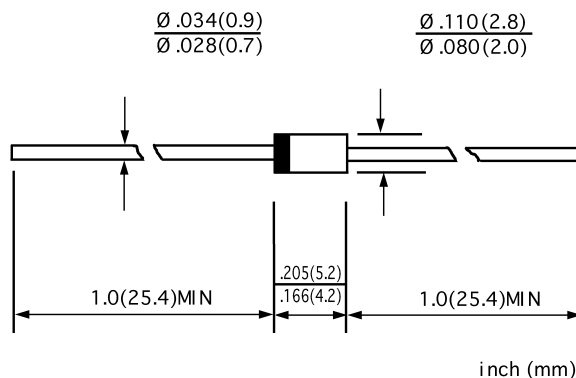
FEATURES

- ◇ 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

MECHANICAL DATA

- ◇ Case:JEDEC DO-41,molded plastic
- ◇ Terminals: Axial lead ,solderable per MIL- STD-750,Method 2026
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.012 ounces,0.34 grams
- ◇ Mounting position: Any

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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				μA
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 $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_r=0.25\text{A}$.

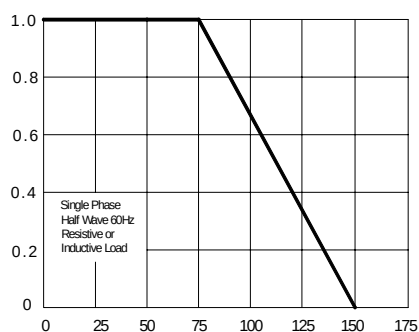
2.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3.Thermal resistance from junction to ambient.

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FIG.1 – FORWARD CURRENT DERATING CURVE

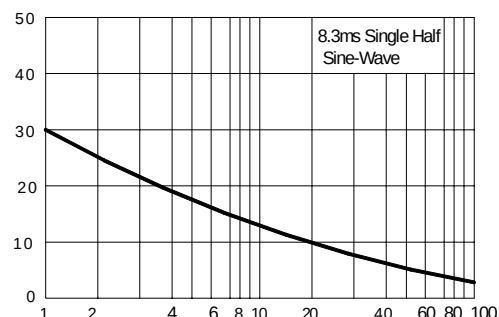
AVERAGE FORWARD RECTIFIED
CURRENT, AMPERES



AMBIENT TEMPERATURE, °C

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

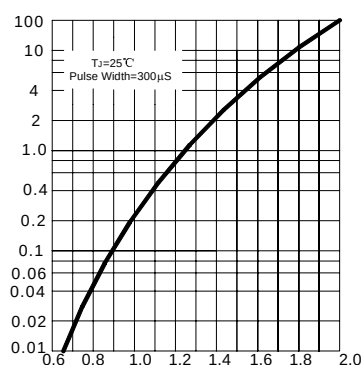
PEAK FORWARD SURGE CURRENT
AMPERES



NUMBER OF CYCLES AT 60Hz

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

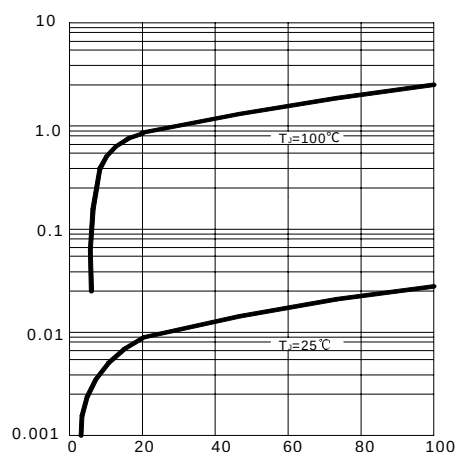
INSTANTANEOUS FORWARD CURRENT
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.4–TYPICAL REVERSE CHARACTERISTICS

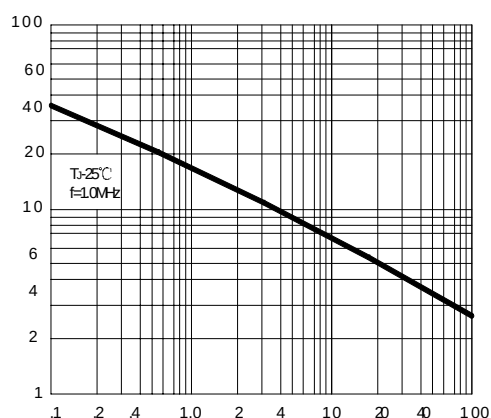
INSTANTANEOUS REVERSE LEAKAGE
CURRENT, MICROAMPERES



PERCENT OF RATED PEAK REVERSE VOLTAGE, %

FIG.5–TYPICAL JUNCTION CAPACITANCE

JUNCTION CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS