

### FAST RECOVERY RECTIFIER

VOLTAGE RANGE: 1000 V

CURRENT: 0.1 A

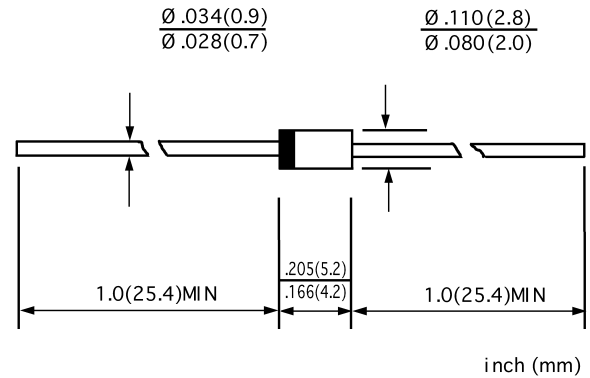
#### FEATURES

- ◇ 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-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.012 ounces, 0.34 grams
- ◇ Mounting position: Any

#### 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 by 20%.

		ERA34-10	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	1000	V
Maximum RMS voltage	$V_{RMS}$	700	V
Maximum DC blocking voltage	$V_{DC}$	1000	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	0.1	A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	$I_{FSM}$	10.0	A
Maximum instantaneous forward voltage @ 0.1 A	$V_F$	1.0	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)	$t_{rr}$	150	ns
Typical junction capacitance (Note2)	$C_J$	12	pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	55	$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-55----+150	$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55----+150	$^\circ\text{C}$

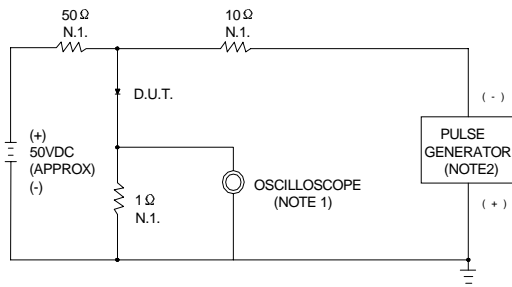
NOTE:1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $t_{rr}=0.25\text{A}$ .

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

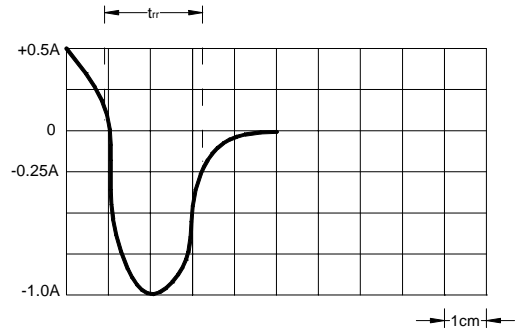
3. Thermal resistance from junction to ambient.

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**FIG.1 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



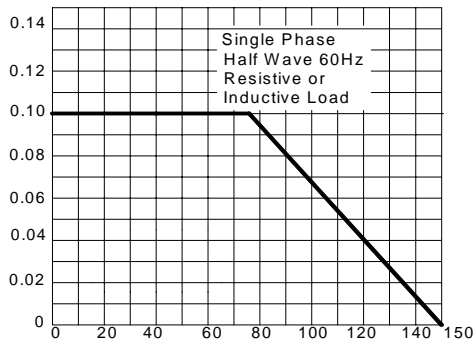
NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ, 22pF  
 2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50Ω



SET TIME BASE FOR 50/100 ns/cm

**FIG.2 – FORWARD DERATING CURVE**

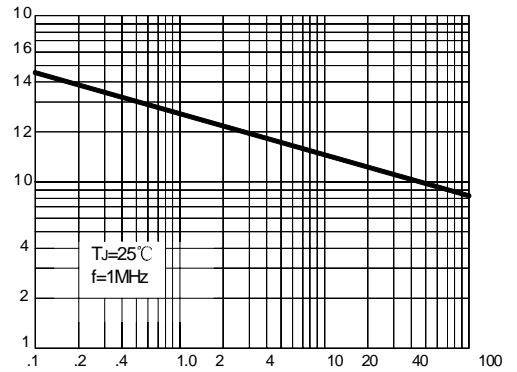
AVERAGE FORWARD CURRENT  
AMPERES



AMBIENT TEMPERATURE, °C

**FIG.3 – TYPICAL JUNCTION CAPACITANCE**

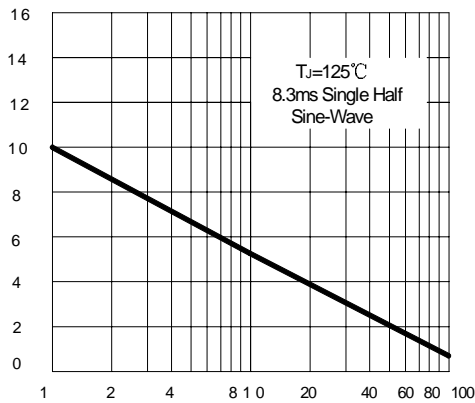
JUNCTION CAPACITANCE, pF



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

**FIG.4 – PEAK FORWARD SURGE CURRENT**

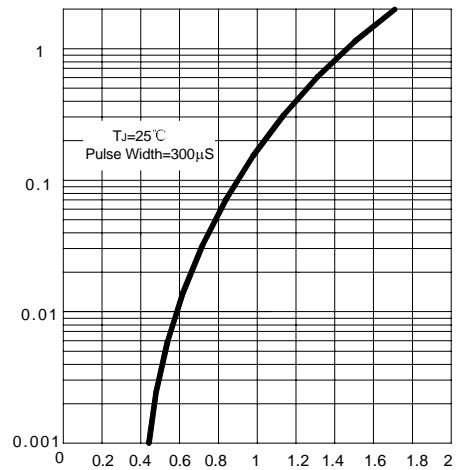
PEAK FORWARD SURGE CURRENT  
AMPERES



NUMBER OF CYCLES AT 60 Hz

**FIG.5 – TYPICAL FORWARD CHARACTERISTIC**

INSTANTANEOUS FORWARD CURRENT  
CURRENT AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS