

### FAST RECOVERY RECTIFIER

VOLTAGE RANGE: 200 --- 400 V

CURRENT: 0.5 A

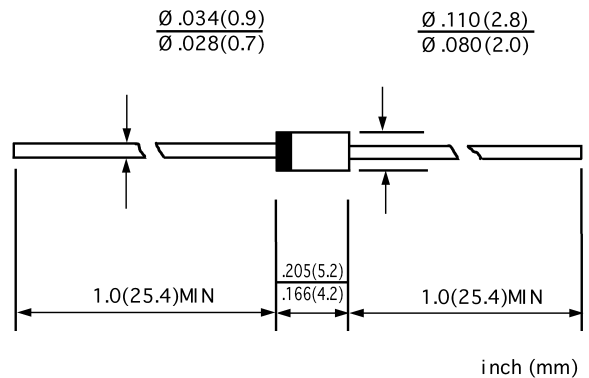
#### FEATURES

- ◇ 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%.

		ERB43-02	ERB43-04	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	200	400	V
Maximum RMS voltage	$V_{RMS}$	140	280	V
Maximum DC blocking voltage	$V_{DC}$	200	400	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ C$	$I_{F(AV)}$	0.5		A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	$I_{FSM}$	20.0		A
Maximum instantaneous forward voltage @ 0.5 A	$V_F$	1.2		V
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$	$I_R$	5.0	100.0	$\mu A$
Maximum reverse recovery time (Note1)	$t_{rr}$	400		ns
Typical junction capacitance (Note2)	$C_J$	12		pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	55		$^\circ C/W$
Operating junction temperature range	$T_J$	-55----+150		$^\circ C$
Storage temperature range	$T_{STG}$	-55----+150		$^\circ C$

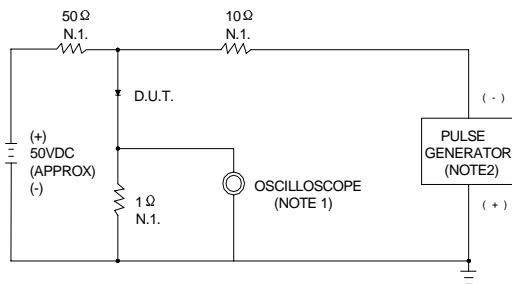
NOTE:1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

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

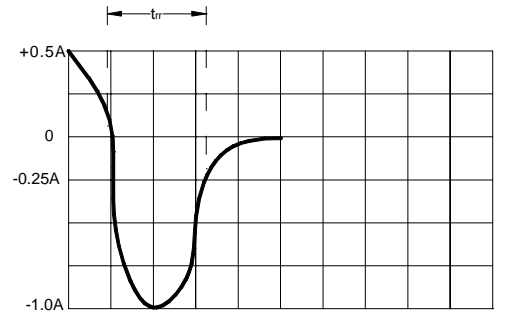
3. Thermal resistance from junction to ambient.

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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

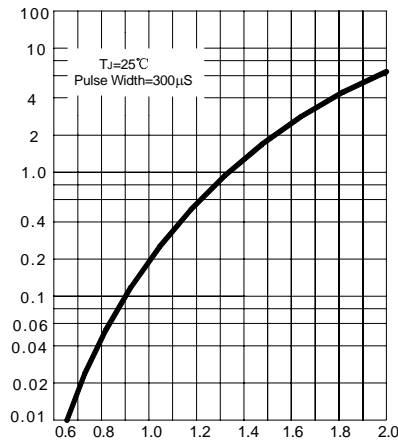


SET TIME BASE FOR 50/100 ns /cm

1cm

**FIG.2 – TYPICAL FORWARD CHARACTERISTIC**

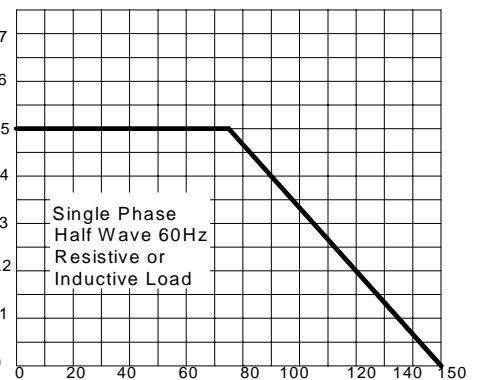
INSTANTANEOUS FORWARD CURRENT  
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

**FIG.3 – FORWARD DERATING CURVE**

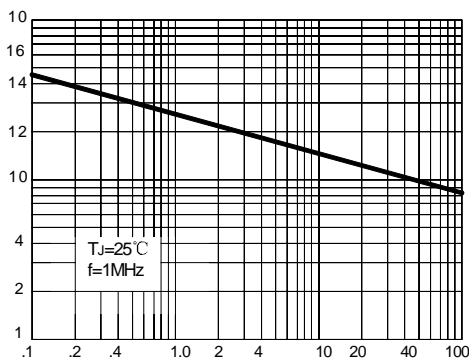
AVERAGE FORWARD RECTIFIED CURRENT  
AMPERES



AMBIENT TEMPERATURE, °C

**FIG.4 – TYPICAL JUNCTION CAPACITANCE**

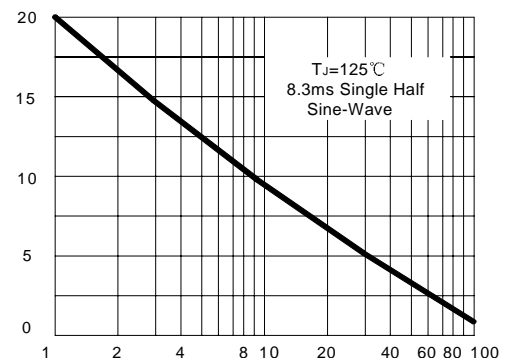
JUNCTION CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS

**FIG.5 – PEAK FORWARD SURGE CURRENT**

PEAK FORWARD SURGE CURRENT  
AMPERES



NUMBER OF CYCLES AT 60 Hz