

FAST RECOVERY RECTIFIER

VOLTAGE RANGE: 400 --- 600 V
CURRENT: 1.2 A

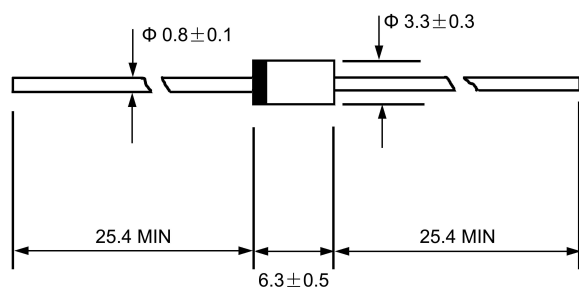
FEATURES

- ◇ 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-15, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.014 ounces, 0.39 grams
- ◇ Mounting position: Any

DO - 15



Dimensions in millimeters

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%.

		ERC25 - 04	ERC25 - 06	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	400	600	V
Maximum RMS voltage	V_{RMS}	280	420	V
Maximum DC blocking voltage	V_{DC}	400	600	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	1.2		A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	I_{FSM}	50.0		A
Maximum instantaneous forward voltage @ 1.2 A	V_F	1.1		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}	400		ns
Typical junction capacitance (Note2)	C_J	18		pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	45		$^\circ\text{C/W}$
Operating junction temperature range	T_J	-55----+150		$^\circ\text{C}$
Storage temperature range	T_{STG}	-55----+150		$^\circ\text{C}$

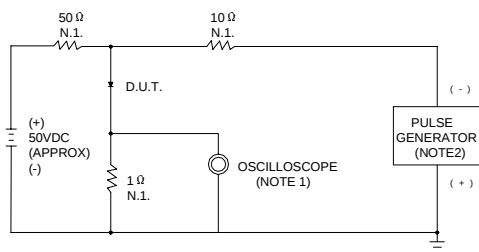
NOTE:1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

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

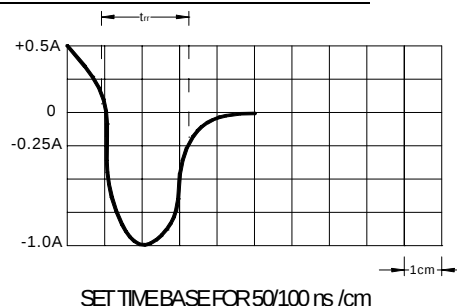
3. Thermal resistance from junction to ambient.

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



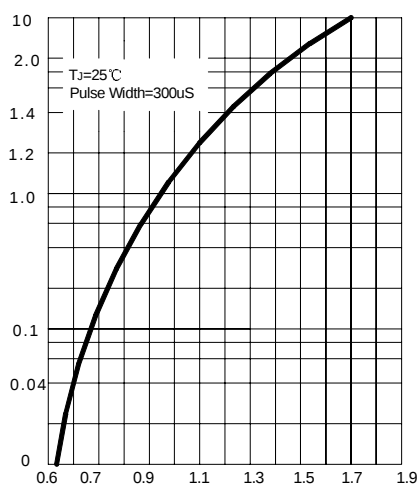
NOTES:1.RISE TIME=7ns MAX. INPUT IMPEDANCE=1MΩ,22pF
2.RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω



SET TIME BASE FOR 50/100 ns /cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

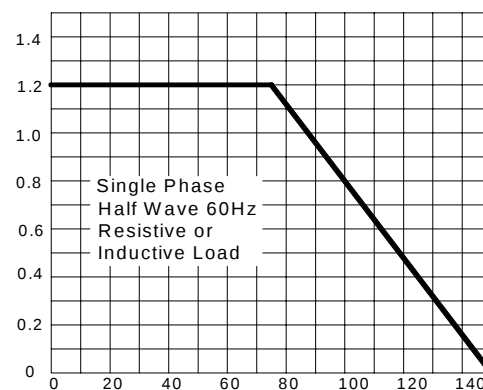
INSTANTANEOUS FORWARD CURRENT
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.3 – FORWARD DERATING CURVE

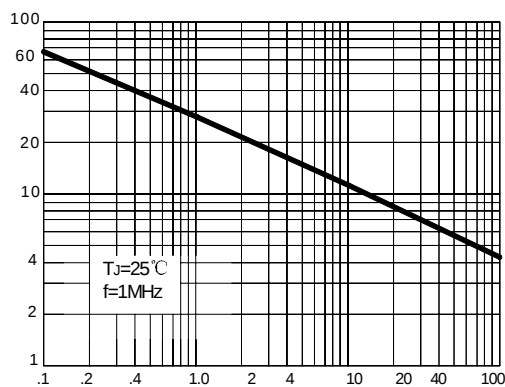
AVERAGE FORWARD RECTIFIED CURRENT
AMPERES



AMBIENT TEMPERATURE, °C

FIG.4-TYPICAL JUNCTION CAPACITANCE

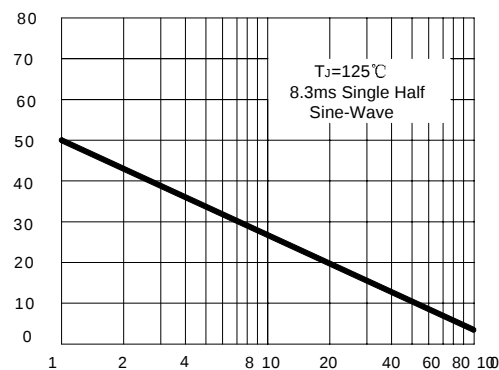
JUNCTION CAPACITANCE,pF



REVERSE VOLTAGE, VOLTS

FIG.5-PEAK FORWARD SURGE CURRENT

PEAK FORWARD SURGE CURRENT
AMPERES



NUMBER OF CYCLES AT 60 Hz