

FAST RECOVERY RECTIFIERS

VOLTAGE RANGE: 50 --- 600 V
CURRENT: 1.0 A

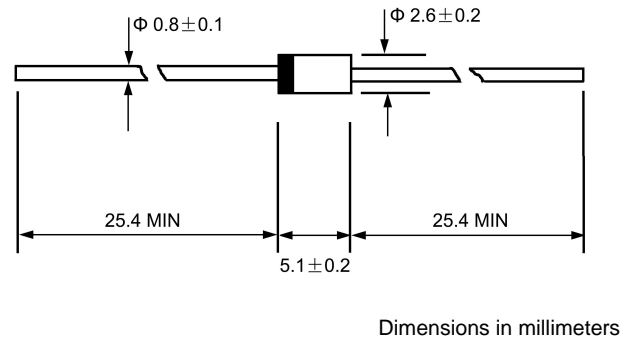
FEATURES

- ◇ 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-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 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%.

		1N 4933	1N 4934	1N 4935	1N 4936	1N 4937	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	200	400	600	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	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	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}	200					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 ---- +125					$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- + 150					$^\circ\text{C}$

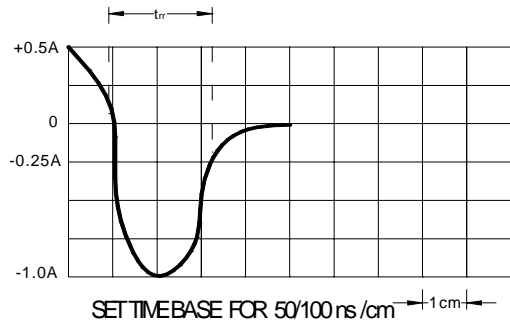
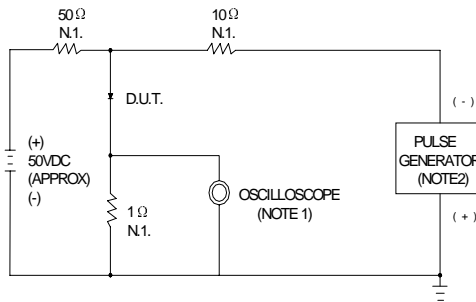
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

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

3. Thermal resistance from junction to ambient.

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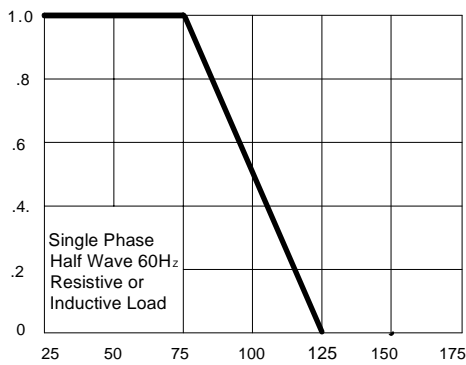
FIG.1 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

FIG.2 – FORWARD DERATING CURVE

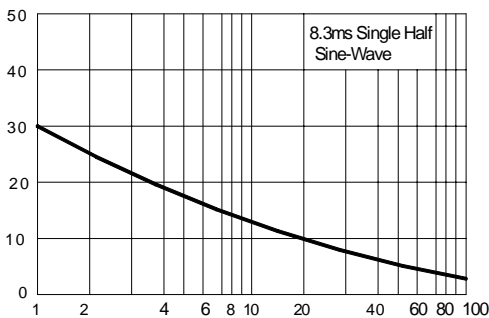
AVERAGE FORWARD CURRENT
AMPERES



AMBIENT TEMPERATURE, °C

FIG.4 – PEAK FORWARD SURGE CURRENT

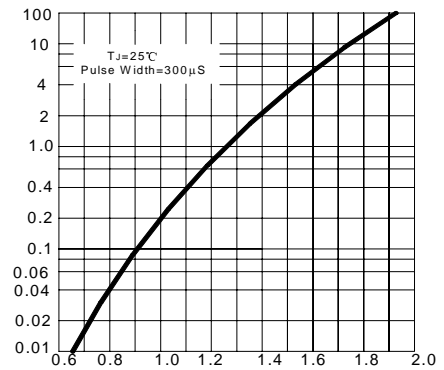
PEAK FORWARD SURGE CURRENT
AMPERES



NUMBER OF CYCLES AT 60 Hz

FIG.3 – TYPICAL FORWARD CHARACTERISTICS

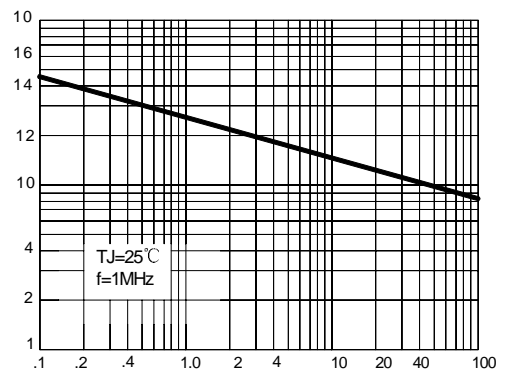
INSTANTANEOUS FORWARD CURRENT
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.5 – TYPICAL JUNCTION CAPACITANCE

JUNCTION CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS