

SUPER FAST RECTIFIERS

VOLTAGE RANGE: 50 --- 1000 V
CURRENT: 1.0 A

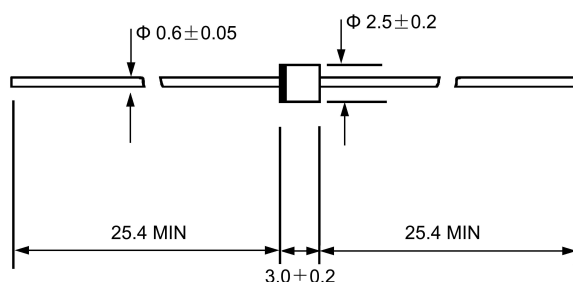
FEATURES

- ◇ 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 R--1, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL- STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.007 ounces, 0.20 grams
- ◇ Mounting position: Any

R - 1



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%.

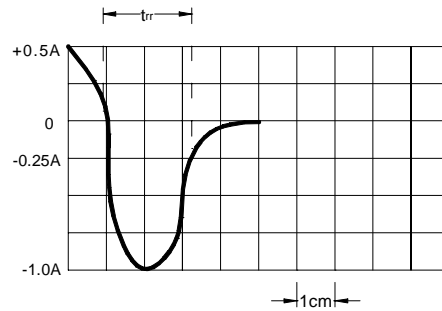
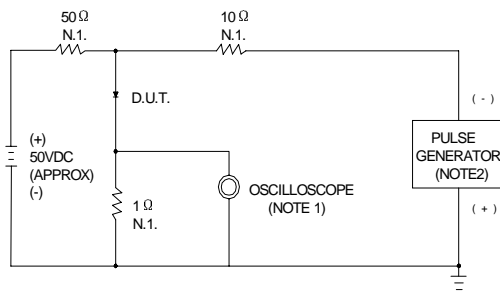
		1E1	1E2	1E3	1E4	1E5	1E6	1E7	1E8	1E9	UNITS	
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	800	1000	V	
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	560	700	V	
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	800	1000	V	
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ C$	$I_{F(AV)}$	1.0									A	
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	I_{FSM}	30									A	
Maximum instantaneous forward voltage @1.0 A	V_F	0.95			1.25			2.2			V	
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$	I_R	5.0					150					μA
Maximum reverse recovery time (Note1)	t_{rr}	35									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.

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 15 ns / cm

FIG.2 – TYPICAL FORWARD CURRENT DERATING CURVE

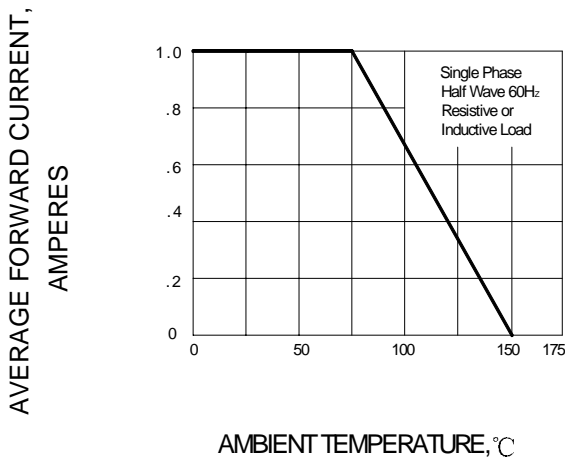


FIG.3 – TYPICAL FORWARD CHARACTERISTICS

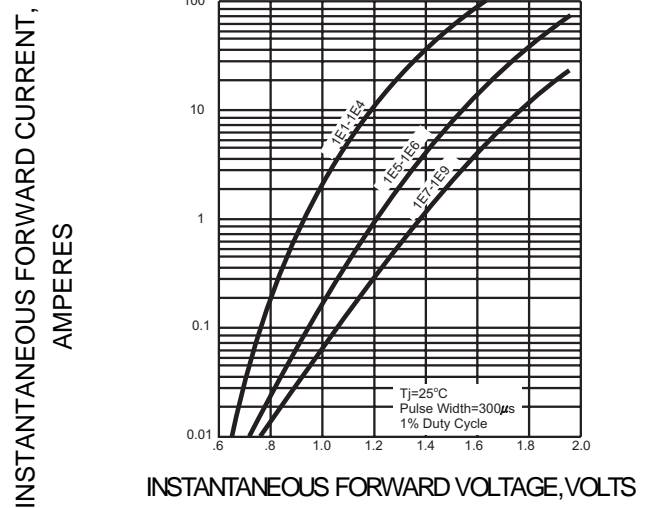


FIG.4 – PEAK FORWARD SURGE CURRENT

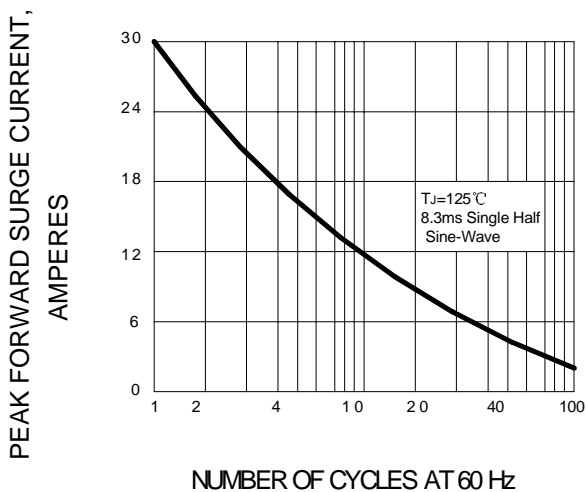


FIG.5 – TYPICAL JUNCTION CAPACITANCE

