

ULTRA FAST RECTIFIERS

VOLTAGE RANGE: 50 --- 600 V

CURRENT: 1.0 A

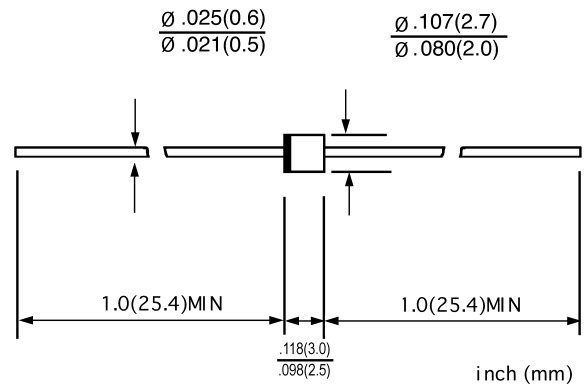
FEATURES

- ◇ Low cost
- ◇ Glass passivated junction
- ◇ Ultra fast switching for high efficiency
- ◇ Low reverse leakage current
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ The plastic material carries U/L recognition 94V-0

MECHANICAL DATA

- ◇ Case: JEDEC R-1, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.007 ounces, 0.20 grams
- ◇ Mounting position: Any

R - 1



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%.

		1E1G	1E2G	1E3G	1E4G	1E5G	1E6G	UNITS
Maximum recurrent peak reverse voltage	V _{RRM}	50	100	200	400	600	800	V
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	V
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	800	V
Maximum average forward rectified current 9.5mm lead length, @T _A =75°C	I _{F(AV)}	1.0						A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @T _J =125°C	I _{FSM}	30.0						A
Maximum instantaneous forward voltage @ 1.0A	V _F	0.95			1.25	1.7		V
Maximum reverse current @T _A =25°C at rated DC blocking voltage @T _A =150°C	I _R	5.0 150.0						μA
Maximum reverse recovery time (Note1)	t _{rr}	35						ns
Typical junction capacitance (Note2)	C _J	17						pF
Typical thermal resistance (Note3)	R _{θJA}	50						°C/W
Operating junction temperature range	T _J	- 55 ----- + 175						°C
Storage temperature range	T _{STG}	- 55 ----- + 175						°C

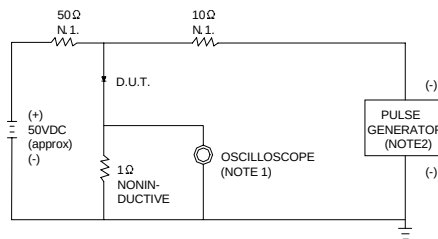
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

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

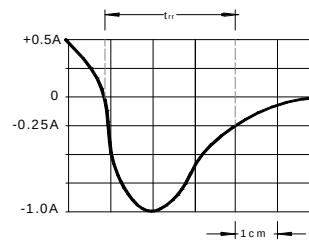
3. Thermal resistance junction to ambient

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



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



SET TIME BASE FOR 10 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC

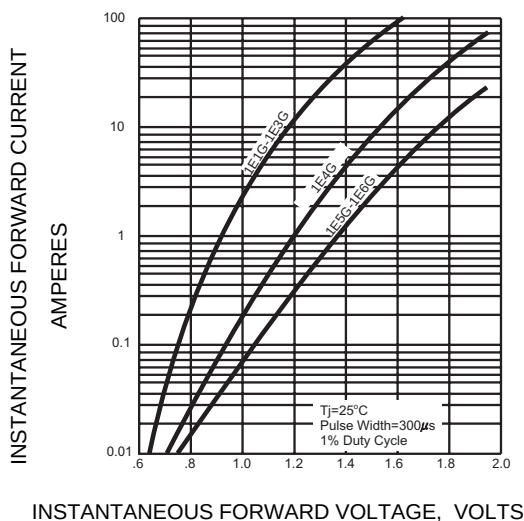


FIG.3 -- FORWARD DERATING CURVE

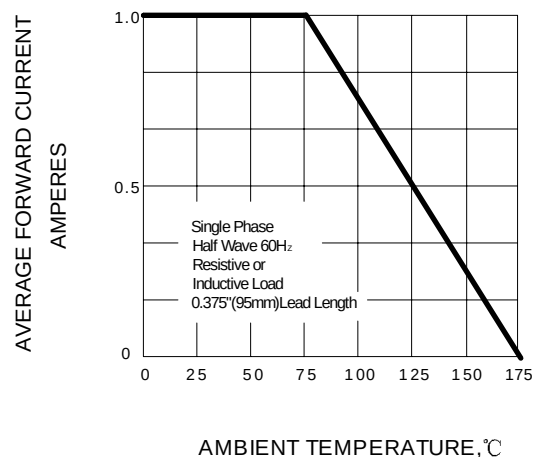


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

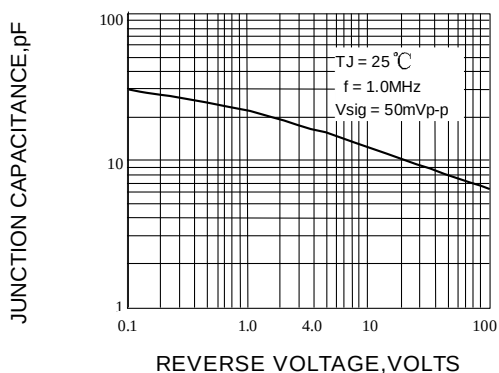


FIG.5 -- PEAK FORWARD SURGE CURRENT

