

HIGH EFFICIENCY RECTIFIERS

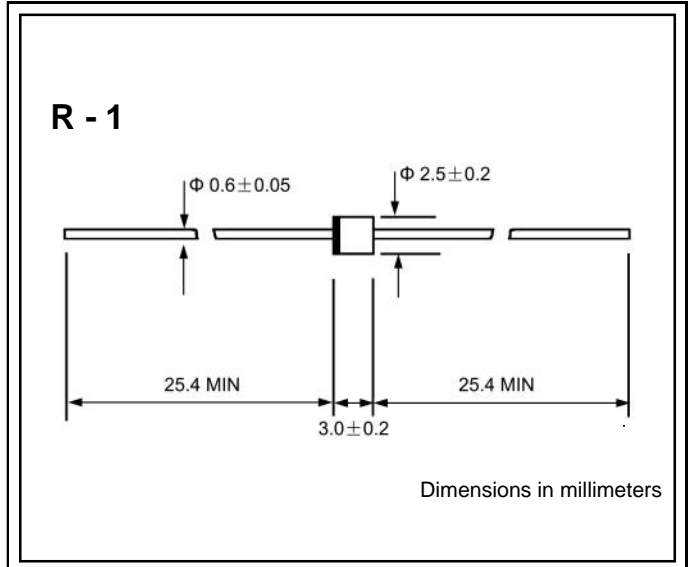
VOLTAGE RANGE: 50 --- 1000 V
CURRENT: 1.0 A

FEATURES

- ◇ Diffused junction
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ High reliability
- ◇ High surge current capability

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



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%.

		1H1	1H2	1H3	1H4	1H5	1H6	1H7	1H8	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	200	300	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	600	800	1000	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	1.0		1.3		1.7			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}	50					75			ns
Typical junction capacitance (Note2)	C_J	10					5			pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	60								$^\circ\text{C/W}$
Operating junction temperature range	T_J	- 55 ---- + 125								$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- + 150								$^\circ\text{C}$

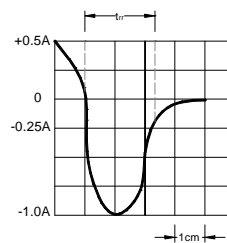
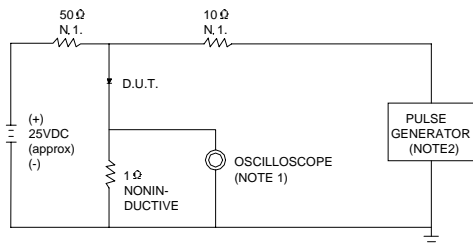
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.

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 -- 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 = 50 Ω.

SET TIME BASE FOR 20/30 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC

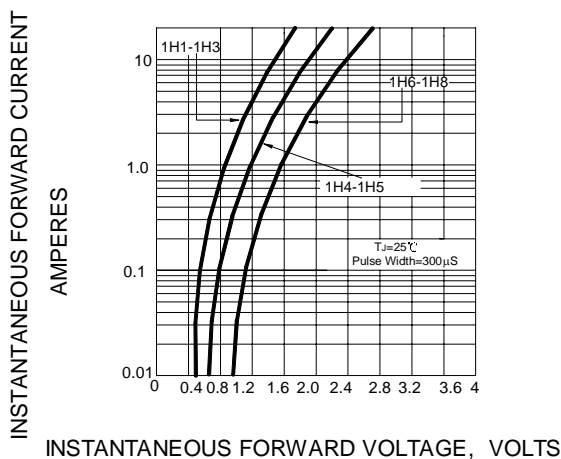


FIG.3 -- FORWARD DERATING CURVE

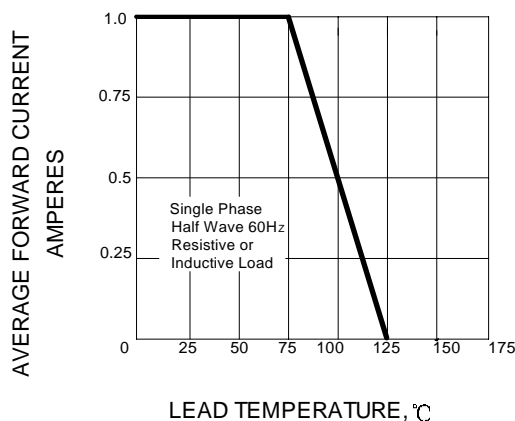


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

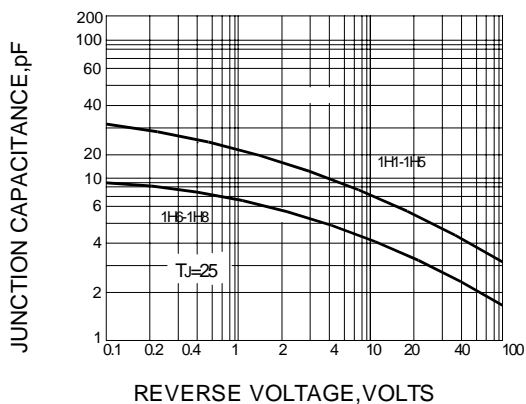


FIG.5 -- PEAK FORWARD SURGE CURRENT

