

HIGH EFFICIENCY RECTIFIERS

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

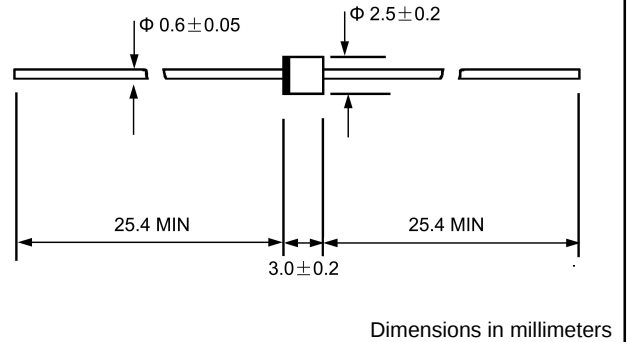
FEATURES

- ◇ 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

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%.

		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 forw ard rectified current 9.5mm lead length, @T _A =75℃	I _{F(AV)}	1.0								A
Peak forw ard surge current 8.3ms single half-sine-w ave superimposed on rated load @T _J =125℃	I _{FSM}	30.0								A
Maximum instantaneous forw ard voltage @ 1.0 A	V _F	1.0			1.3		1.7			V
Maximum reverse current @T _A =25℃ at rated DC blocking voltage @T _A =100℃	I _R	5.0 100.0								μ A
Maximum reverse recovery time (Note1)	t _{rr}	50					75			ns
Typical junction capacitance (Note2)	C _J	20					15			pF
Typical thermal resistance (Note3)	R _{θJA}	60								℃/W
Operating junction temperature range	T _J	- 55 ---- + 125								℃
Storage temperature range	T _{STG}	- 55 ---- + 150								℃

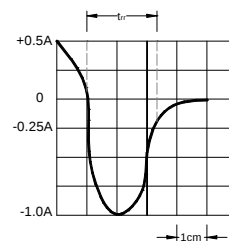
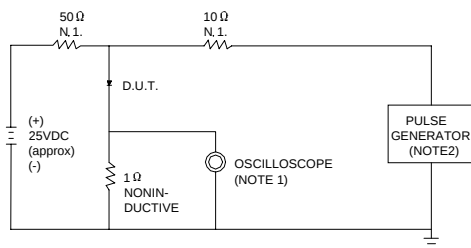
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

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 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

SET TIME BASE FOR 20/30 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC

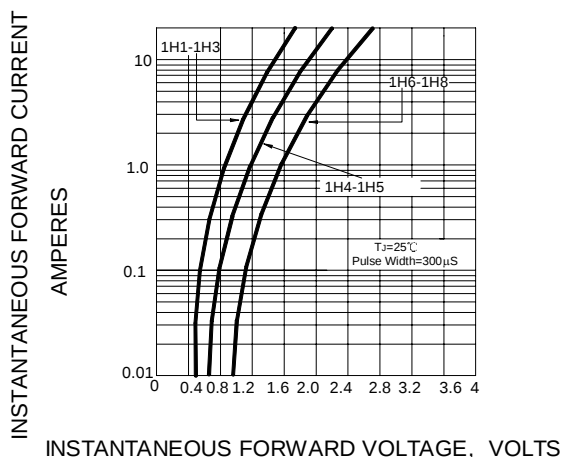


FIG.3 -- FORWARD DERATING CURVE

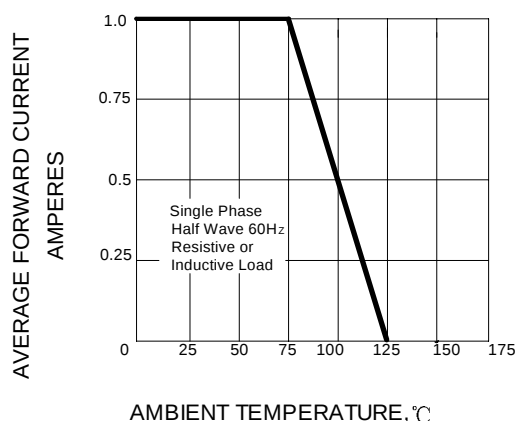


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

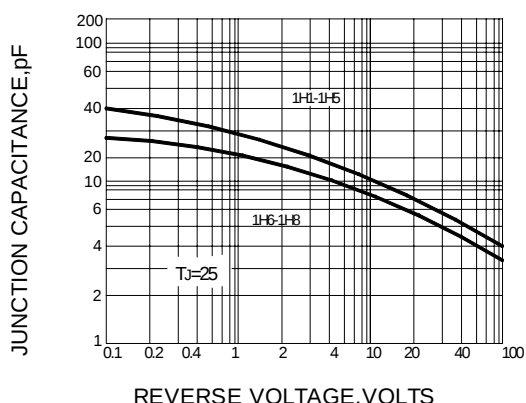


FIG.5 -- PEAK FORWARD SURGE CURRENT

