

HIGH EFFICIENCY RECTIFIERS

VOLTAGE RANGE: 400 --- 600 V
CURRENT: 1.5 A

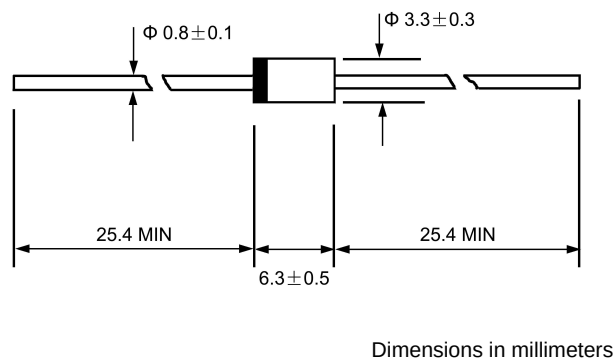
FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

MECHANICAL DATA

- ◇ Case: JEDEC DO--15, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL- STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.014 ounces, 0.39 grams
- ◇ Mounting position: Any

DO - 15



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%.

		ERD38 - 04	ERD38 - 05	ERD38 - 06	UNITS
Maximum recurrent peak reverse voltage	V _{RRM}	400	500	600	V
Maximum RMS voltage	V _{RMS}	280	350	420	V
Maximum DC blocking voltage	V _{DC}	400	500	600	V
Maximum average forward rectified current 9.5mm lead length, @T _A =75℃	I _{F(AV)}	1.5			A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @T _J =125℃	I _{FSM}	80.0			A
Maximum instantaneous forward voltage @ 1.5A	V _F	2.5			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			ns
Typical junction capacitance (Note2)	C _J	50	30		pF
Typical thermal resistance (Note3)	R _{θJA}	50			℃/W
Operating junction temperature range	T _J	- 55 ---- + 150			℃
Storage temperature range	T _{STG}	- 55 ---- + 150			℃

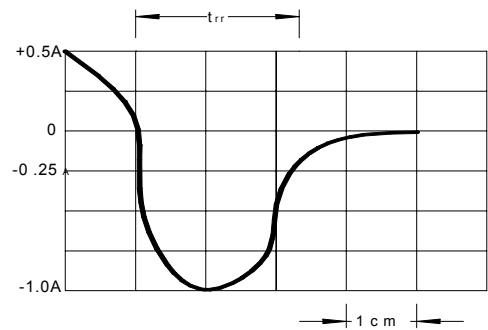
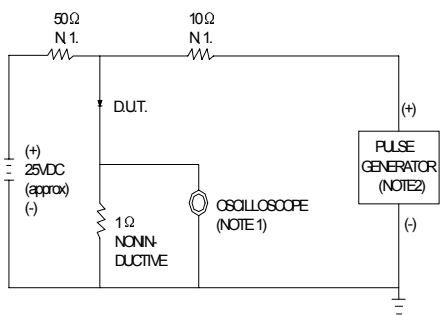
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

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

SET TIME BASE FOR 20 ns/cm

FIG.3 –FORWARD DERATING CURVE

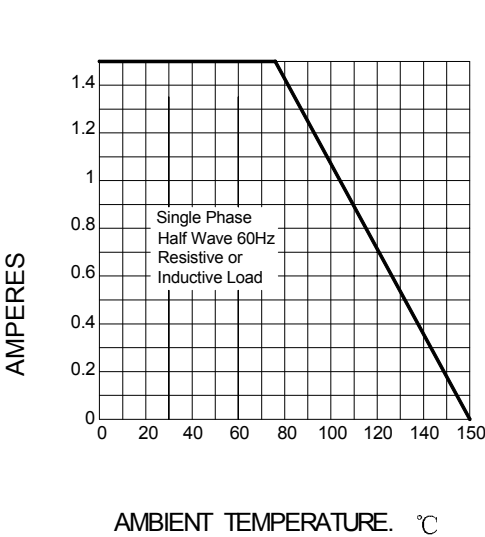


FIG.4- PEAK FORWARD SURGE CURRENT

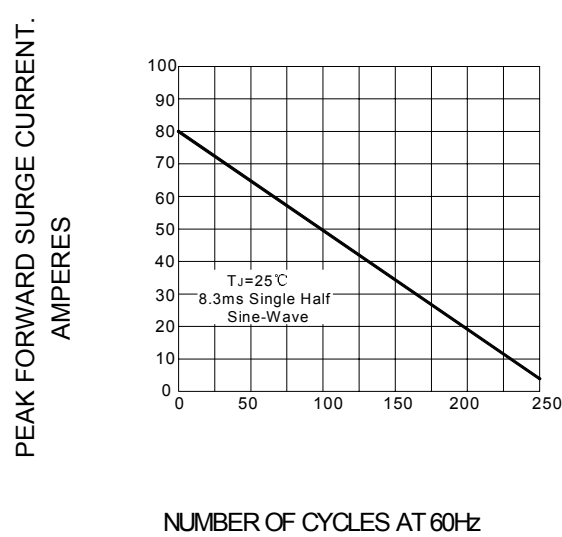


FIG.5-JUNCTION CAPACITANCE CHARACTERISTICS

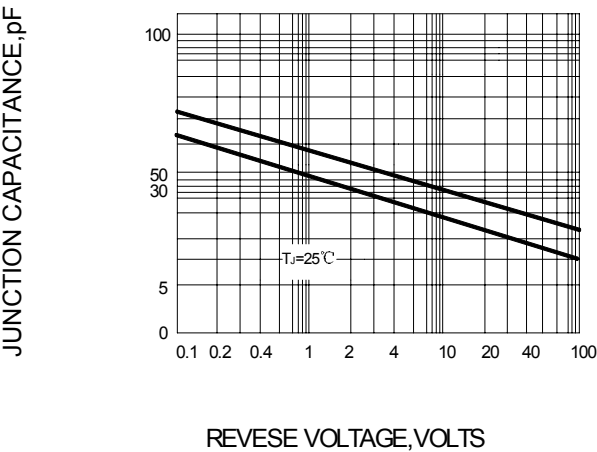


FIG.1 – TYPICAL FORWARD CHARACTERISTIC

