

HIGH EFFICIENCY RECTIFIER

VOLTAGE RANGE: 200 V
CURRENT: 3.0 A

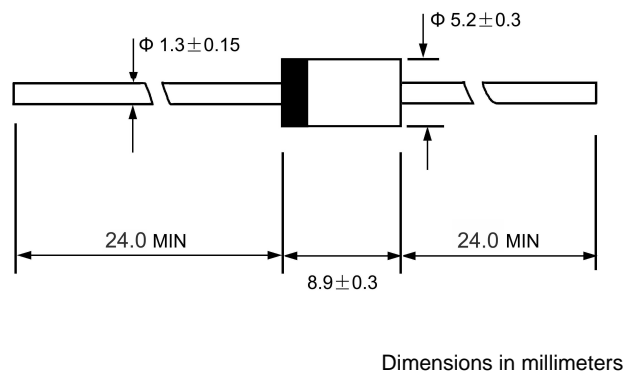
FEATURES

- ◇ Low cost
- ◇ 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-27, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.014 ounces, 1.15 grams
- ◇ Mounting position: Any

DO - 27



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%.

		RN3Z	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	200	V
Maximum RMS voltage	V_{RMS}	140	
Maximum DC blocking voltage	V_{DC}	200	
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ C$	$I_{F(AV)}$	3.0	A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	I_{FSM}	80.0	A
Maximum instantaneous forward voltage @ 3.0 A	V_F	0.92	V
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$	I_R	50.0 1000.0	μA
Maximum reverse recovery time (Note1)	t_{rr}	50	ns
Typical junction capacitance (Note2)	C_J	70	pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	30	$^\circ C/W$
Operating junction temperature range	T_J	- 55 ---- + 150	$^\circ C$
Storage temperature range	T_{STG}	- 55 ---- + 150	$^\circ C$

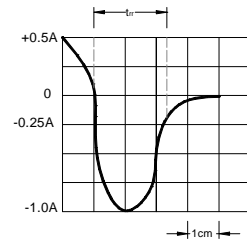
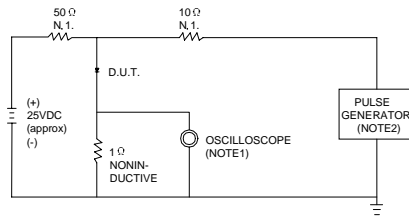
NOTE: 1. Measured with $I_F=0.5A$, $I_R=1A$, $I_{rr}=0.25A$.

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

3. Thermal resistance from junction to ambient.

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

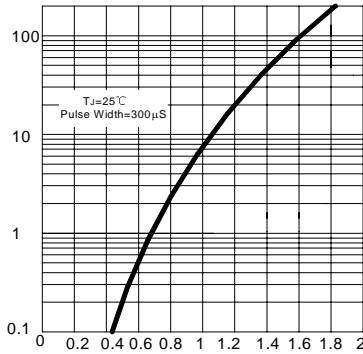


NOTES:1. RISE TIME = 7ns MAX.INPUT IMPEDANCE = 1MΩ . 22pF.
2. RISE TIME = 10ns MAX.SOURCE IMPEDANCE=50 Ω .

SET TIME BASE FOR 10/20 ns/cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

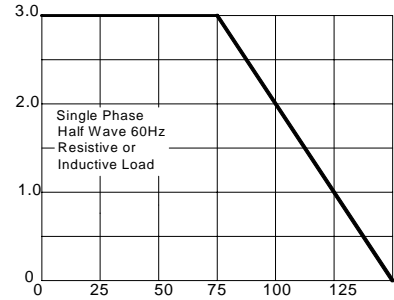
INSTANTANEOUS FORWARD CURRENT
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.3 – FORWARD DERATING CURVE

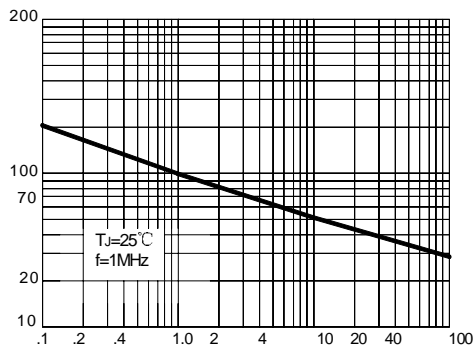
AVERAGE FORWARD RECTIFIED CURRENT
AMPERES



AMBIENT TEMPERATURE, °C

FIG.4 – TYPICAL JUNCTION CAPACITANCE

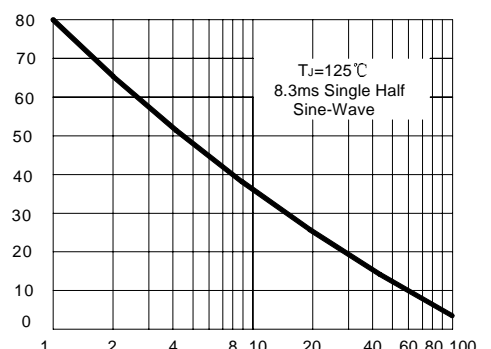
JUNCTION CAPACITANCE,pF



REVERSE VOLTAGE, VOLTS

FIG.5 – PEAK FORWARD SURGE CURRENT

PEAK FORWARD SURGE CURRENT
AMPERES



NUMBER OF CYCLES AT 60Hz