

## HIGH EFFICIENCY RECTIFIER

VOLTAGE RANGE: 200 V  
CURRENT: 3.0 A

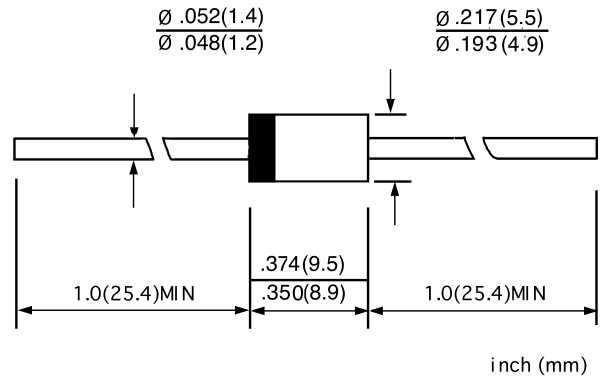
### FEATURES

- ◇ 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	$\mu A$
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	$^\circ C$

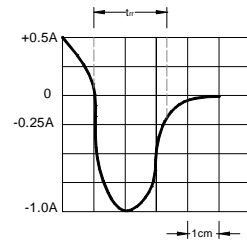
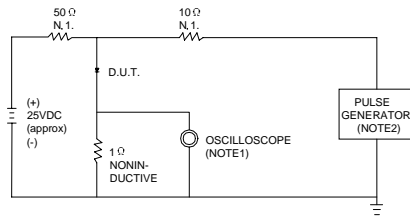
NOTE: 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

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**

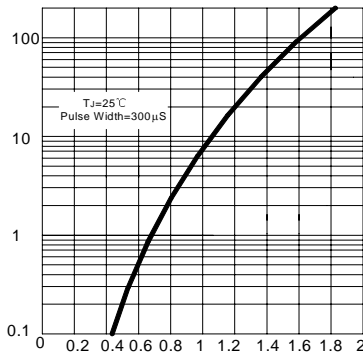


SET TIME BASE FOR 10/20 ns/cm

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

**FIG.2 – TYPICAL FORWARD CHARACTERISTIC**

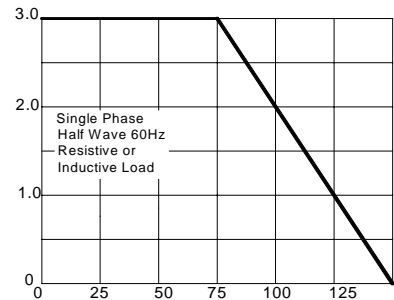
INSTANTANEOUS FORWARD CURRENT  
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

**FIG.3 –FORWARD DERATING CURVE**

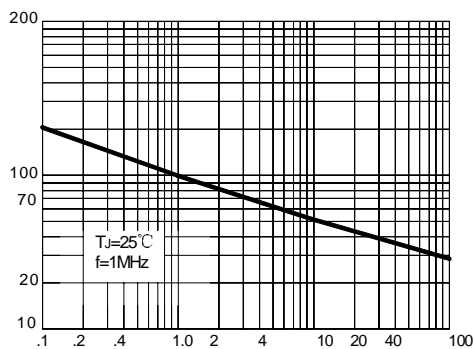
AVERAGE FORWARD RECTIFIED CURRENT  
AMPERES



AMBIENT TEMPERATURE, °C

**FIG.4 –TYPICAL JUNCTION CAPACITANCE**

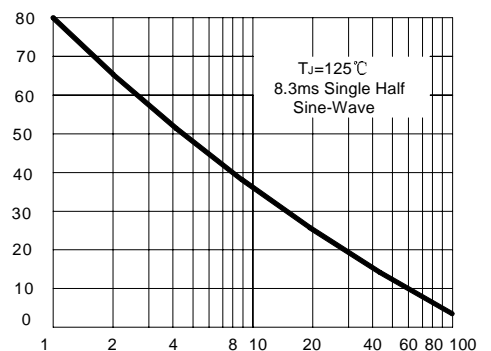
JUNCTION CAPACITANCE,pF



REVERSE VOLTAGE,VOLTS

**FIG.5–PEAK FORWARD SURGE CURRENT**

PEAK FORWARD SURGE CURRENT  
AMPERES



NUMBER OF CYCLES AT 60Hz