

### FAST RECOVERY RECTIFIERS

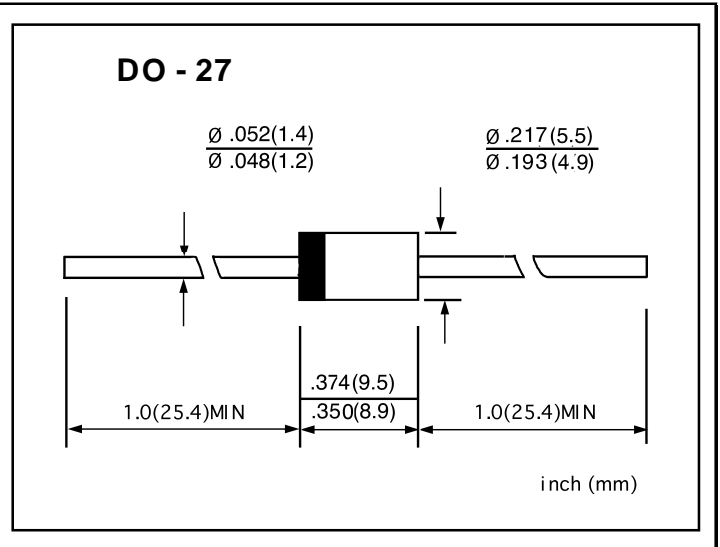
VOLTAGE RANGE: 100 --- 200 V  
CURRENT: 3.0 A

#### FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon Alcohol, Isopropanol and similar solvents

#### MECHANICAL DATA

- ◇ Case: JEDEC DO--27, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 50Hz, resistive or inductive load. For capacitive load, derate by 20%.

		30 DF1	30 DF2	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	100	200	V
Maximum RMS voltage	$V_{RMS}$	70	140	V
Maximum DC blocking voltage	$V_{DC}$	100	200	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ C$	$I_{F(AV)}$	3.0		A
Peak forward surge current 10ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	$I_{FSM}$	200.0		A
Maximum instantaneous forward voltage @ 3.0A	$V_F$	1.0		V
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$	$I_R$	10.0 200.0		$\mu A$
Maximum reverse recovery time (Note1)	$t_{rr}$	200		ns
Typical junction capacitance (Note2)	$C_J$	32		pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	22		$^\circ C/W$
Operating junction temperature range	$T_J$	-55 ---- + 150		$^\circ C$
Storage temperature range	$T_{STG}$	-55 ---- + 150		$^\circ C$

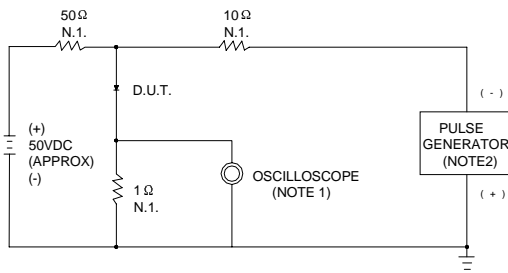
NOTE: 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

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

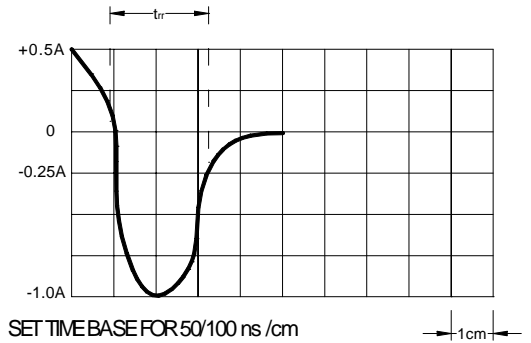
3. Thermal resistance from junction to ambient.

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



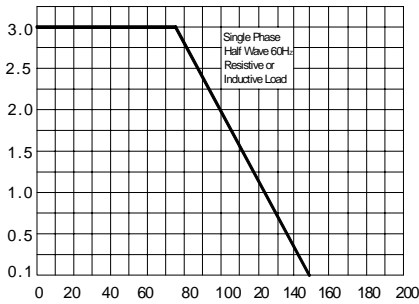
NOTES: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1MΩ. 22pF  
2. RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω



SET TIME BASE FOR 50/100 ns /cm

**FIG.2 –FORWARD DERATING CURVE**

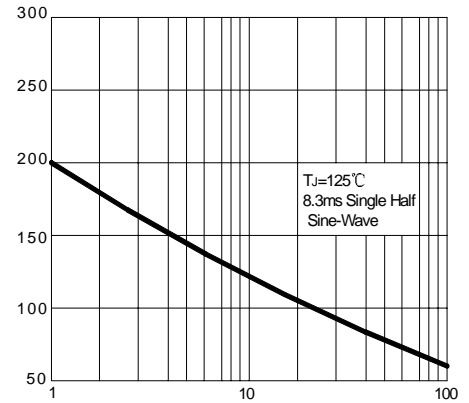
AVERAGE FORWARD CURRENT  
AMPERES



AMBIENT TEMPERATURE, °C

**FIG.3 –PEAK FORWARD SURGE CURRENT**

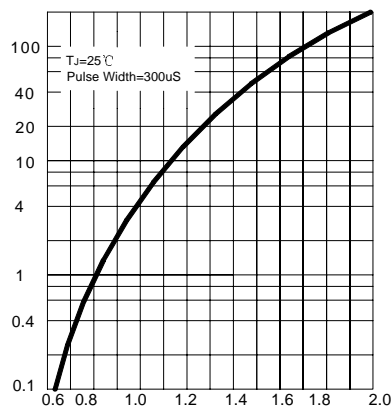
PEAK FORWARD SURGE CURRENT  
AMPERES



NUMBER OF CYCLES AT 60 Hz

**FIG.4–TYPICAL FORWARD CHARACTERISTIC**

INSTANTANEOUS FORWARD CURRENT  
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS