

FAST RECOVERY RECTIFIERS

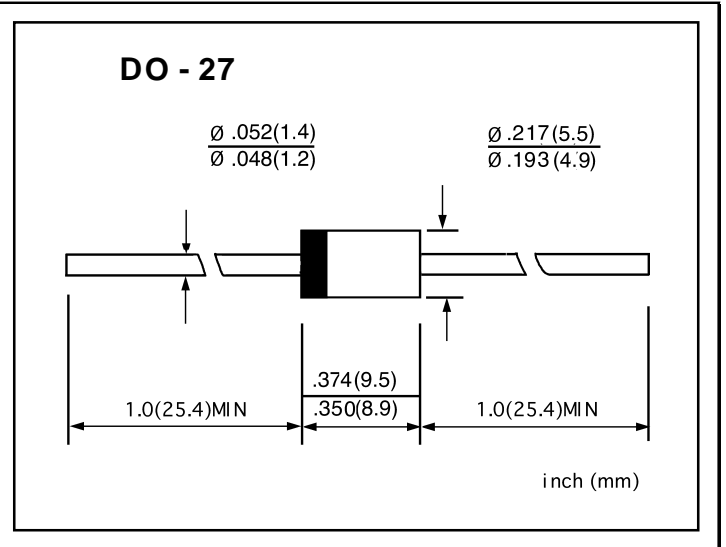
VOLTAGE RANGE: 400 --- 600 V
CURRENT: 3.0 A

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%.

		30DF4	30DF6	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	400	600	V
Maximum RMS voltage	V_{RMS}	280	420	V
Maximum DC blocking voltage	V_{DC}	400	600	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	1.2		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		μA
Maximum reverse recovery time (Note1)	t_{rr}	400		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		$^\circ C$

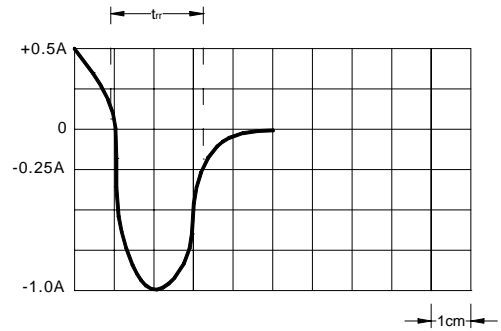
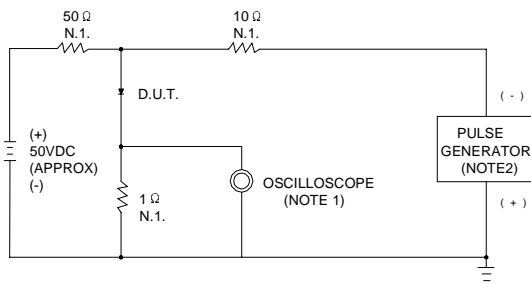
NOTE: 1. Measured with $I_F=0.5A$, $I_R=1A$, $I_{rr}=0.25A$.

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 AND CHARACTERISTIC TEST CIRCUIT DIAGRAM



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

SET TIME BASE FOR 50/100 ns /cm

FIG.2 –FORWARD DERATING CURVE

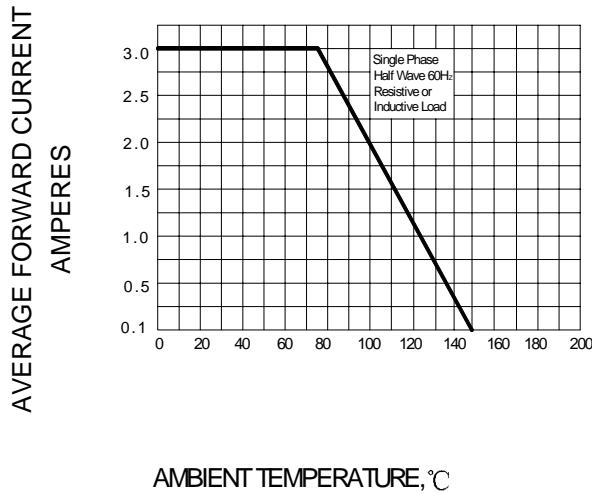


FIG.3 –PEAK FORWARD SURGE CURRENT

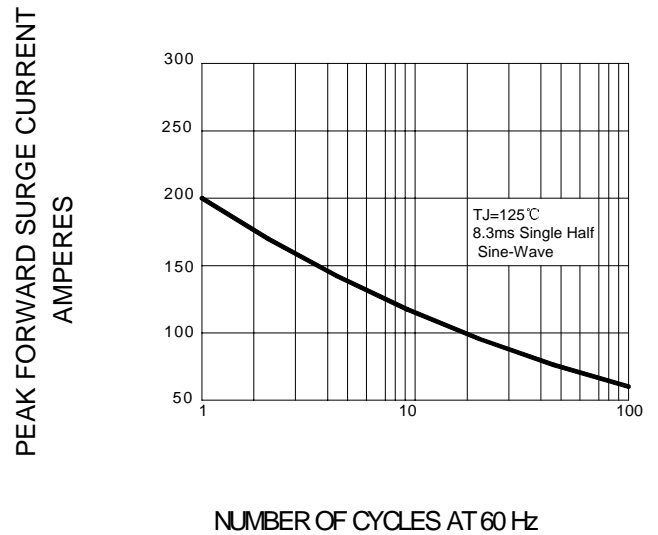


FIG.4–TYPICAL FORWARD CHARACTERISTIC

