

SUPER FAST RECTIFIERS

VOLTAGE RANGE: 300 --- 400 V
CURRENT: 1.5 A

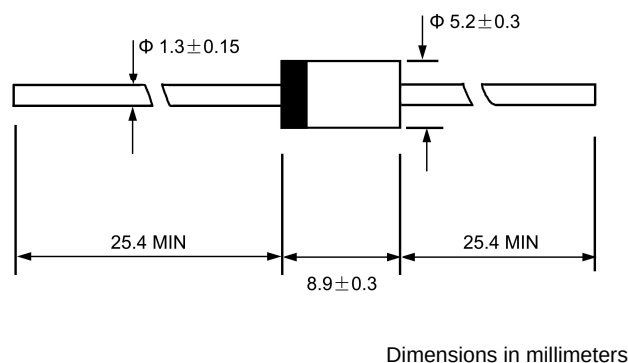
FEATURES

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

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

DO - 27



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%.

		31DF3	31DF4	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	300	400	V
Maximum RMS voltage	V_{RMS}	210	280	V
Maximum DC blocking voltage	V_{DC}	300	400	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A = 75^\circ\text{C}$	$I_{F(AV)}$	1.5		A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J = 125^\circ\text{C}$	I_{FSM}	125.0		A
Maximum instantaneous forward voltage @ $I_F = 3A$	V_F	1.25		V
Maximum reverse current @ $T_A = 25^\circ\text{C}$ at rated DC blocking voltage @ $T_A = 100^\circ\text{C}$	I_R	5.0 50.0		μA
Maximum reverse recovery time (Note1)	t_{rr}	30		ns
Typical junction capacitance (Note2)	C_J	90		pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	34		$^\circ\text{C/W}$
Operating junction temperature range	T_J	- 55 ----- + 150		$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ----- + 150		$^\circ\text{C}$

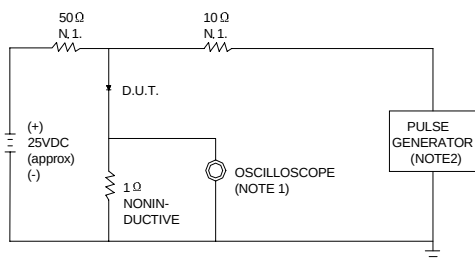
NOTE: 1. Measured with $I_F = 0.5A$, $I_R = 1A$, $I_{rr} = 0.25A$.

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.

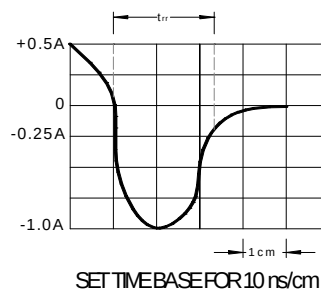


FIG.2 – TYPICAL FORWARD CHARACTERISTIC

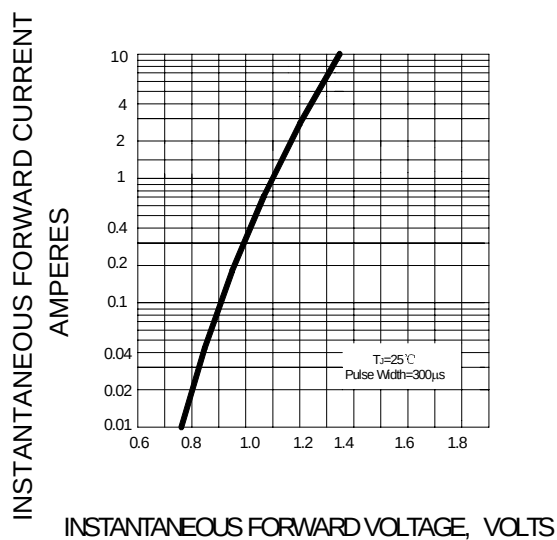


FIG.3 – FORWARD DERATING CURVE

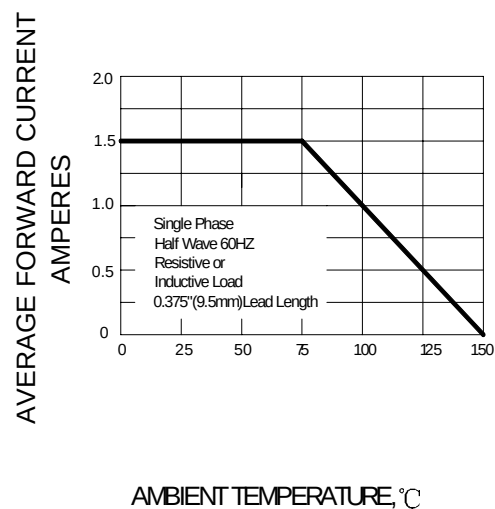


FIG.4- TYPICAL JUNCTION CAPACITANCE

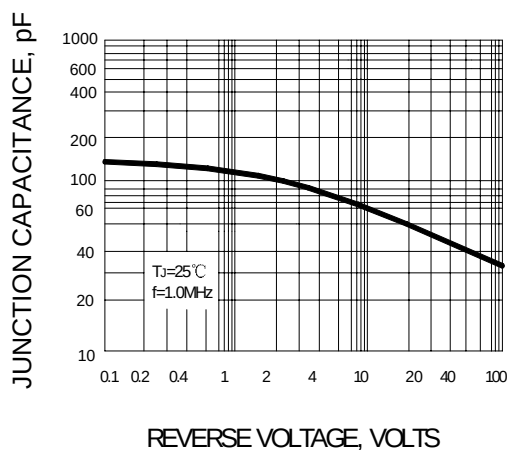


FIG.5- PEAK FORWARD SURGE CURRENT

