

SUPER FAST RECTIFIERS

VOLTAGE RANGE: 50 --- 400 V
CURRENT: 5.0 A

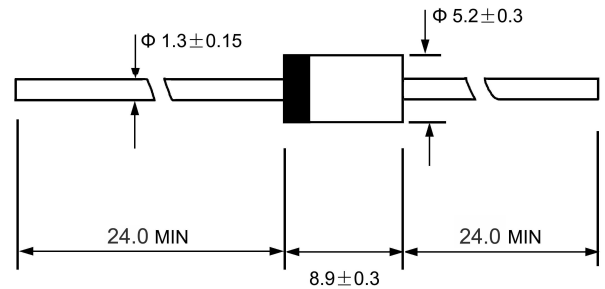
FEATURES

- ◇ 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: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any

DO - 27



Dimensions in millimeters

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%.

		SF51	SF52	SF53	SF54	SF55	SF56	UNITS
Maximum recurrent peak reverse voltage	V _{RRM}	50	100	150	200	300	400	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	V
Maximum average forward rectified current 9.5mm lead length, @T _A =75°C	I _{F(AV)}	5.0						A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @T _J =125°C	I _{FSM}	150.0						A
Maximum instantaneous forward voltage @ 5.0A	V _F	0.95				1.25		V
Maximum reverse current @T _A =25°C at rated DC blocking voltage @T _A =100°C	I _R	5.0 100.0						μ A
Maximum reverse recovery time (Note1)	t _{rr}	35						ns
Typical junction capacitance (Note2)	C _J	50				30		pF
Typical thermal resistance (Note3)	R _{θJA}	25						°C/W
Operating junction temperature range	T _J	- 55 ----- + 150						°C
Storage temperature range	T _{STG}	- 55 ----- + 150						°C

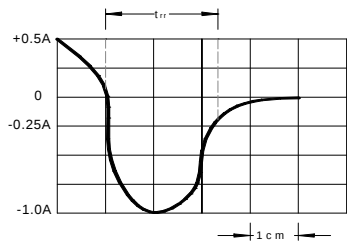
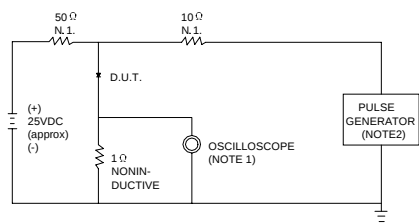
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

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 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC

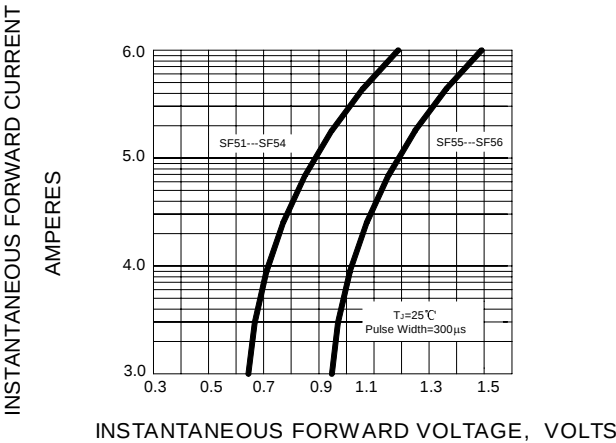


FIG.3 -- FORWARD DERATING CURVE

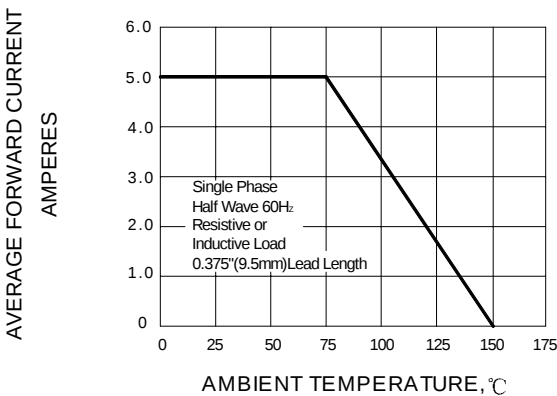


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

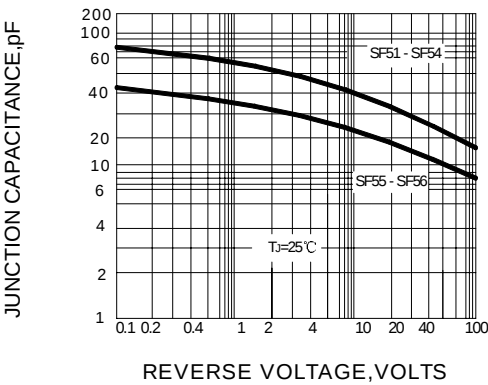


FIG.5 -- PEAK FORWARD SURGE CURRENT

