

**SUPER FAST RECTIFIERS**

**VOLTAGE RANGE: 50 --- 600 V**  
**CURRENT: 5.0 A**

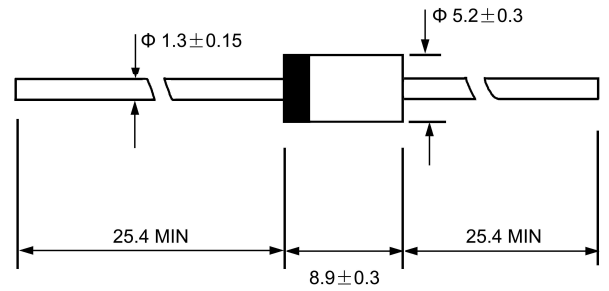
**FEATURES**

- ◇ 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**

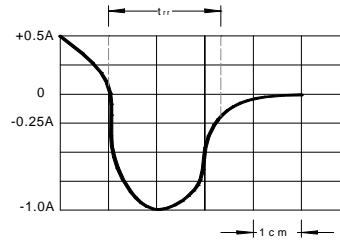
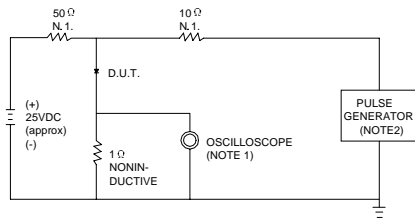
Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

	SYMBOLS	SF51	SF52	SF53	SF54	SF55	SF56	SF58	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	VOLTS
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	VOLTS
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	VOLTS
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ C$	$I_{(AV)}$	5.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150.0							Amps
Maximum instantaneous forward voltage at 5.0A	$V_F$	0.95			1.25			Volts	
Maximum DC reverse current $T_A=25^\circ C$ at rated DC blocking voltage $T_A=100^\circ C$	$I_R$	10.0			50.0			$\mu A$	
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	35							ns
Typical junction capacitance (NOTE 2)	$C_J$	100.0			50.0			pF	
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	30.0							$^\circ C/W$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +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.

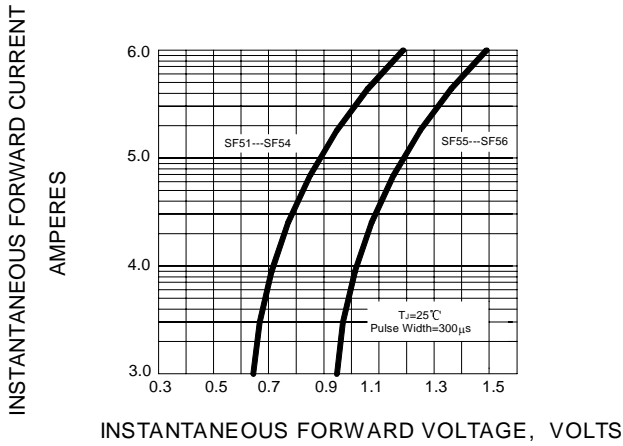
**FIG.1 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



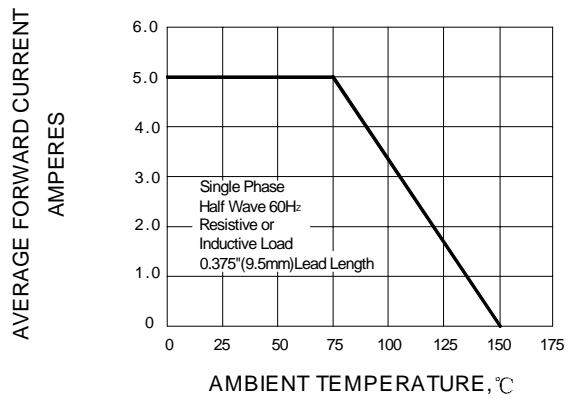
NOTES:1.RISE TIME = 7ns MAX.INPUT IMPEDANCE = 1MΩ .22pF.  
2.RISE TIME =10ns MAX.SOURCE IMPEDANCE=50 Ω .

SET TIME BASE FOR 10 ns/cm

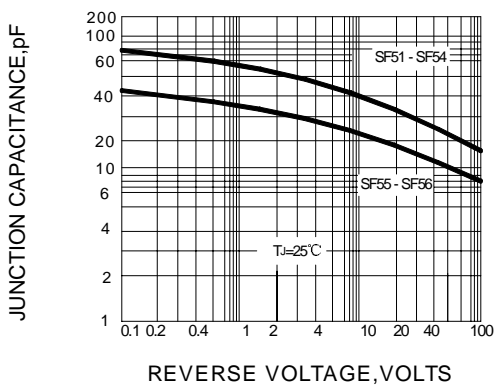
**FIG.2 -- TYPICAL FORWARD CHARACTERISTIC**



**FIG.3 -- FORWARD DERATING CURVE**



**FIG.4 -- TYPICAL JUNCTION CAPACITANCE**



**FIG.5 -- PEAK FORWARD SURGE CURRENT**

