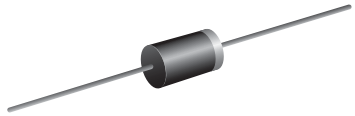
SF51 - SF58

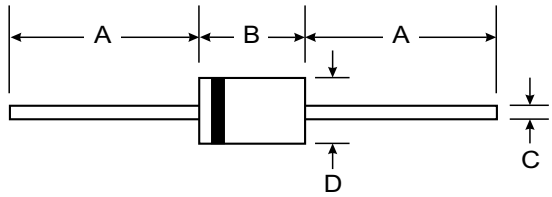
SUPER FAST RECOVERY RECTIFIER DIODES

VOLTAGE RANGE: 50 - 1000V
CURRENT: 5.0 A



Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability



DO-201AD		
Dim	**Min**	**Max**
A	25.40	—
B	7.20	9.50
C	1.20	1.30
D	4.80	5.30
All Dimensions in mm		

Mechanical Data

- Case: D O - 2 0 1 A D Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 1.2 grams (approx.)
- Mounting Position: Any
- Marking: Type Number

RoHS COMPLIANT

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

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

RATING	SYMBOL	SF51	SF52	SF53	SF54	SF55	SF56	SF57	SF58	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	800	Volts
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	560	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	800	Volts
Maximum Average Forward Current 0.375"(9.5mm) Lead Length Ta = 55 °C	$I_{F(AV)}$	5.0								Amps.
Peak Forward Surge Current, 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	I_{FSM}	135								Amps.
Maximum Peak Forward Voltage at I_F = 5.0 A.	V_F	0.95				1.4		1.7		Volts
Maximum DC Reverse Current Ta = 25 °C	I_R	5								µA
at Rated DC Blocking Voltage Ta = 100 °C	$I_{R(H)}$	50								µA
Maximum Reverse Recovery Time (Note 1)	Trr	35								ns
Typical Junction Capacitance (Note 2)	C_J	50								pf
Junction Temperature Range	T_J	- 65 to + 150								°C
Storage Temperature Range	T_{STG}	- 65 to + 150								°C

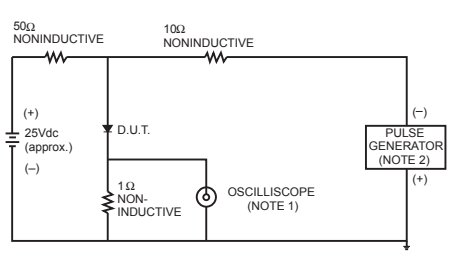
Notes :

(1) Reverse Recovery Test Conditions : I_F = 0.5 A, I_R = 1.0 A, Irr = 0.25 A.

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 V_{DC}

RATING AND CHARACTERISTIC CURVES (SF51 THRU SF58)

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



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

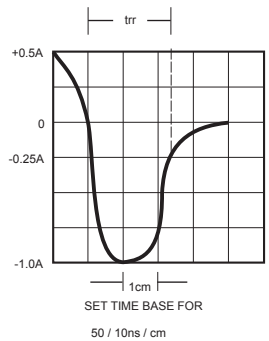


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

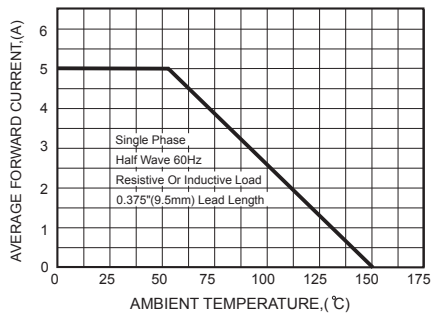


FIG.3-TYPICAL FORWARD CHARACTERISTICS

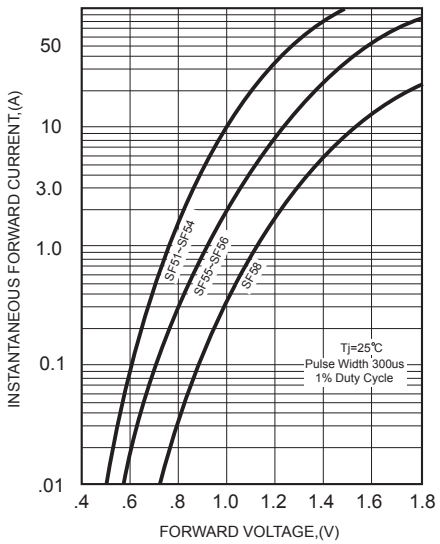


FIG.4-TYPICAL REVERSE CHARACTERISTICS

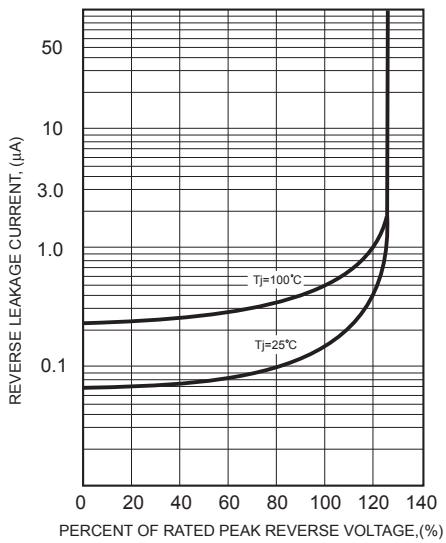


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

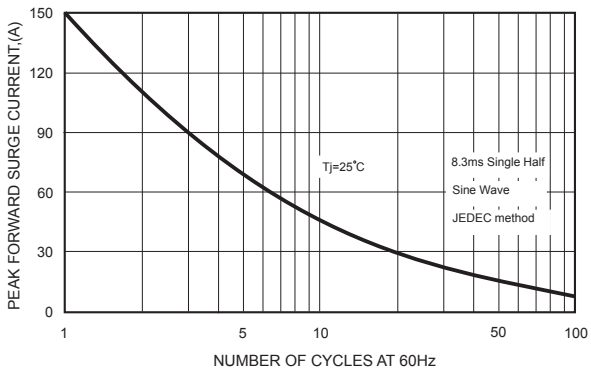


FIG.6-TYPICAL JUNCTION CAPACITANCE