DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

SF51
THRU
SF56

TECHNICAL SPECIFICATIONS OF SUPER FAST RECTIFIER

VOLTAGE RANGE - 50 to 400 Volts *CURRENT- 5.0 Amperes*

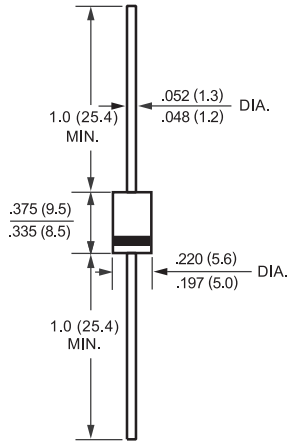
FEATURES

* High reliability
* Low leakage
* Low forward voltage
* High current capability
* Super fast switching speed
* High surge capability
* Good for switching mode circuit

MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Lead: MIL-STD-202E, Method 208 guaranteed
* Mounting position: Any
* Weight: 1.18 grams

DO-27



Dimensions in inches and (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 current by 20%.

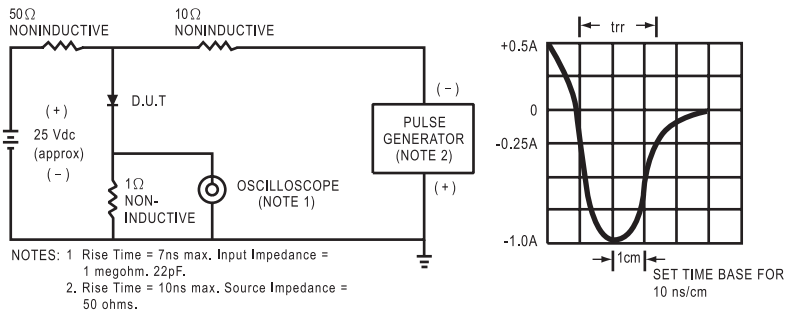
		SYMBOL	SF51	SF52	SF53	SF54	SF55	SF56	UNITS
Maximum Recurrent Peak Reverse Voltage		V_{RRM}	50	100	150	200	300	400	Volts
Maximum RMS Volts		V_{RMS}	35	70	105	140	210	280	Volts
Maximum DC Blocking Voltage		V_{DC}	50	100	150	200	300	400	Volts
Maximum Average Forward Current at T_A = 55°C		I_O	5.0						Amps
Peak Forward Surge Current I_{FM} (surge):8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}	150						Amps
Maximum DC Reverse Current	@T_A = 25°C	I_R	5.0						uAmps
at Rated DC Blocking Voltage	@T_A =125°C		150						
Maximum Forward Voltage at 5.0A DC		V_F	0.95				1.25		Volts
Maximum Reverse Recovery Time (Note 1)		trr	35						nSec
Typical Junction Capacitance (Note 2)		C_J	50				30		pF
Operating and Storage Temperature Range		T_J, T_{STG}	-65 to + 150						°C

NOTES : 1. Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

NEXT BACK EXIT

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

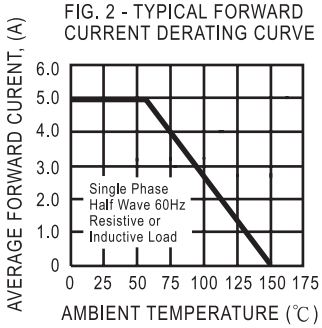


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

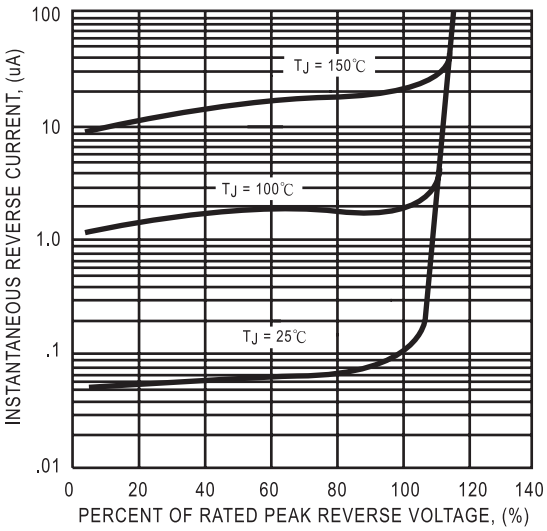


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

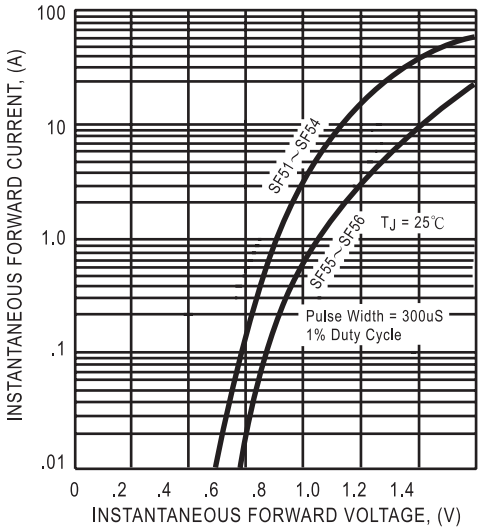


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

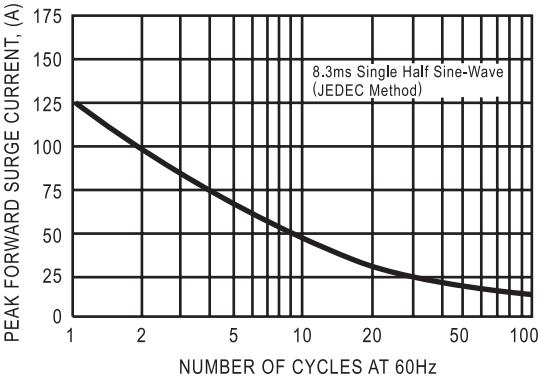


FIG. 6 - TYPICAL JUNCTION CAPACITANCE