



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

**SF31  
THRU  
SF38**

**TECHNICAL SPECIFICATIONS OF SUPER FAST RECTIFIER**

**VOLTAGE RANGE - 50 to 600 Volts**

**CURRENT - 3.0 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**

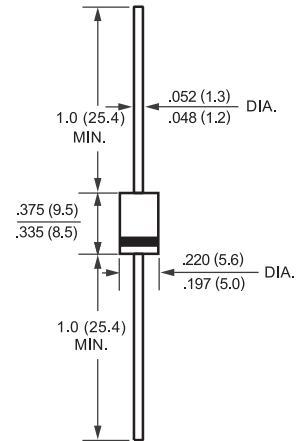
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Mounting position: Any
- \* Weight: 1.18 grams

**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%.



DO-27



Dimensions in inches and (millimeters)

	SYMBOL	SF31	SF32	SF33	SF34	SF35	SF36	SF38	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	600	Volts
Maximum RMS Volts	V <sub>RMS</sub>	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	400	600	Volts
Maximum Average Forward Current at T <sub>A</sub> = 55°C	I <sub>O</sub>	3.0							Amps
Peak Forward Surge Current I <sub>FM</sub> (surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	125							Amps
Maximum Forward Voltage at 3.0A DC	V <sub>F</sub>	0.95			1.25		1.7		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	@ T <sub>A</sub> = 25°C							uAmps
		@ T <sub>A</sub> = 150°C							
Maximum Reverse Recovery Time (Note 1)	t <sub>rr</sub>	35							nSec
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	50			30				pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to + 150							°C

NOTES : 1. Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A.  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

## RATING AND CHARACTERISTIC CURVES ( SF31 THRU SF38 )

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

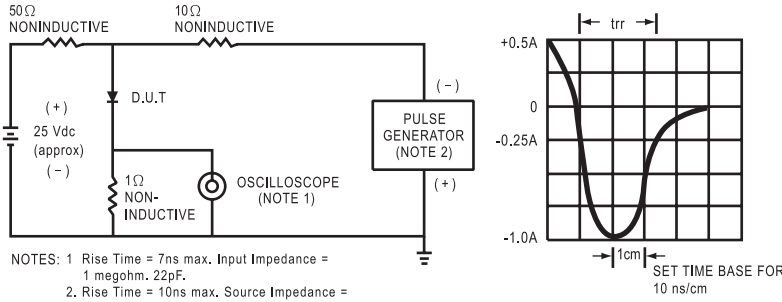


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

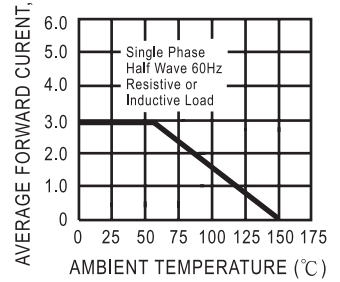


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

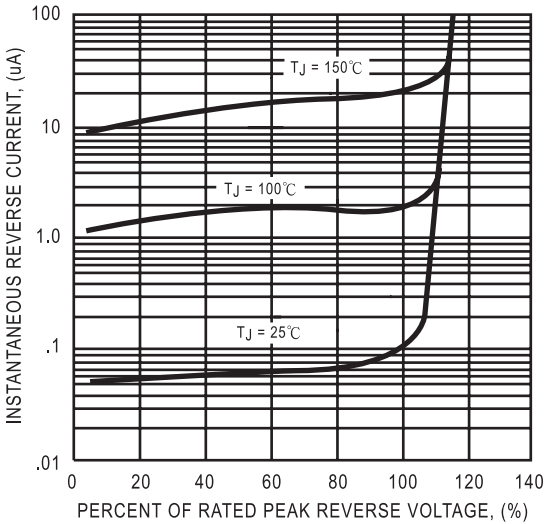


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

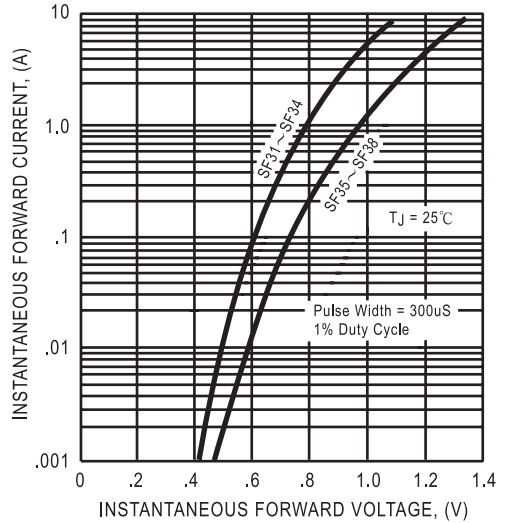


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

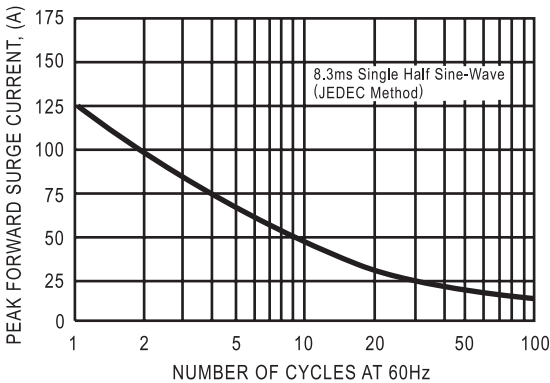
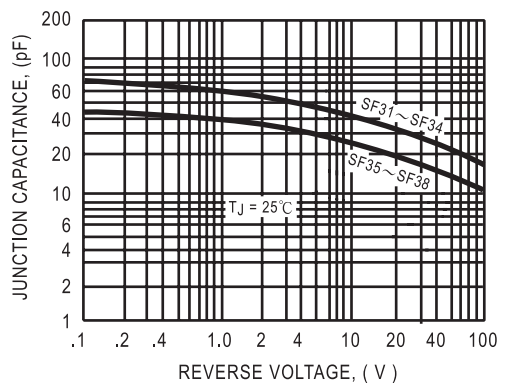


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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