



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

**SF81  
THRU  
SF86**

**TECHNICAL SPECIFICATIONS OF SUPER FAST RECTIFIER**

**VOLTAGE RANGE - 50 to 400 Volts**

**CURRENT - 8.0 Amperes**

**FEATURES**

- \* Low switching noise
- \* Low forward voltage drop
- \* Low thermal resistance
- \* High current capability
- \* Super fast switching speed
- \* High reliability
- \* Good for switching mode circuit

**MECHANICAL DATA**

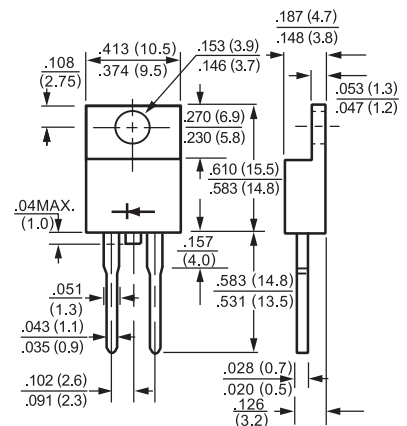
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Mounting position: Any
- \* Weight: 2.24 grams

**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%.



**TO-220A**



Dimensions in inches and (millimeters)

	SYMBOL	SF81	SF82	SF83	SF84	SF85	SF86	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	150	200	300	400	Volts
Maximum RMS Voltage	VRMS	35	70	105	140	210	280	Volts
Maximum DC Blocking Voltage	Vdc	50	100	150	200	300	400	Volts
Maximum Average Forward Rectified Current at Tc = 100°C	Io	8.0						Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	150						Amps
Maximum Instantaneous Forward Voltage at 8.0A DC	VF	1.0				1.35		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	IR	10						uAmps
		500						
Maximum Reverse Recovery Time (Note 1)	trr	35				50		nSec
Typical Thermal Resistance	RθJC	3						°C/W
Typical Junction Capacitance (Note 2)	CJ	50				30		pF
Operating and Storage Temperature Range	TJ, TSTG	-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.  
3. Suffix "R" for Reverse Polarity.

## RATING AND CHARACTERISTIC CURVES ( SF81 THRU SF86 )

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

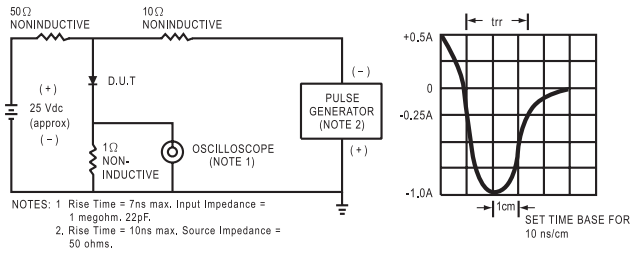


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

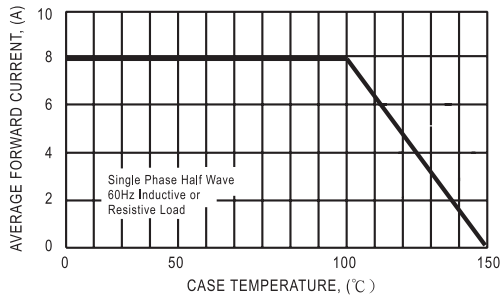


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

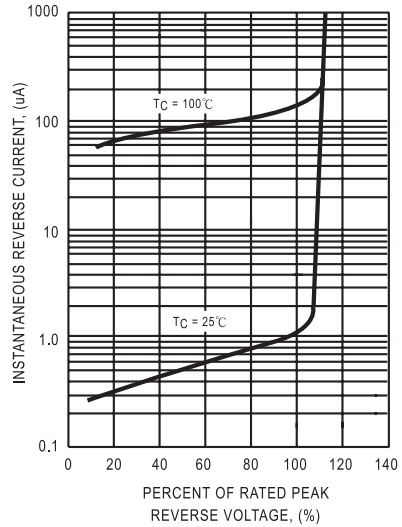


FIG. 4 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

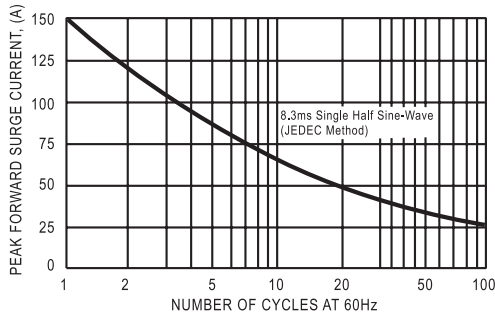


FIG. 5 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

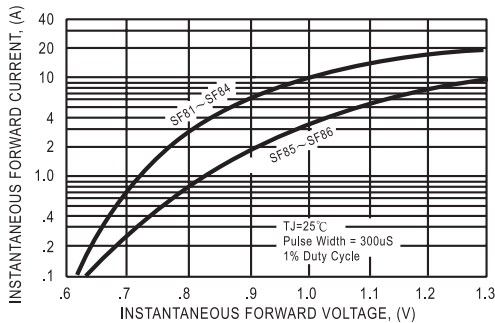
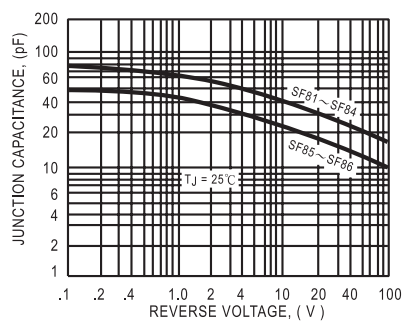


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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