



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

SF301

THRU

SF304

**TECHNICAL SPECIFICATIONS OF SUPER FAST RECTIFIER**

**VOLTAGE RANGE - 50 to 200 Volts**

**CURRENT - 30 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**

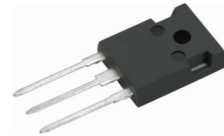
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Mounting position: Any
- \* Weight: 5.60 grams

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

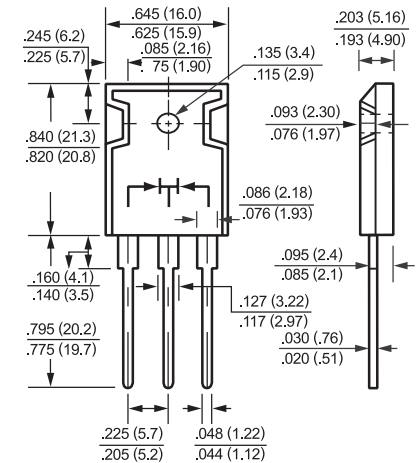
Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.



TO-3P



Dimensions in inches and (millimeters)

	SYMBOL	SF301	SF302	SF303	SF304	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	Volts
Maximum Average Forward Rectified Current at T <sub>c</sub> = 100°C	I <sub>O</sub>	30				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	300				Amps
Maximum Instantaneous Forward Voltage at 15.0A DC	V <sub>F</sub>	1.0				Volts
Maximum DC Reverse Current	I <sub>R</sub>	@ T <sub>c</sub> = 25°C				uAmps
at Rated DC Blocking Voltage		@ T <sub>c</sub> = 100°C				uAmps
Maximum Reverse Recovery Time (Note 1)	t <sub>rr</sub>	35				nSec
Typical Thermal Resistance	R <sub>θJC</sub>	1				°C/W
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	120				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.  
3. Suffix "A" =Common Anode.

## RATING AND CHARACTERISTIC CURVES ( SF301 THRU SF304)

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

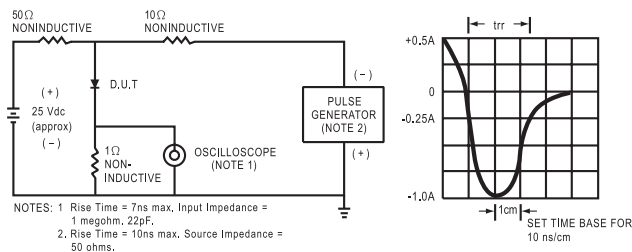


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

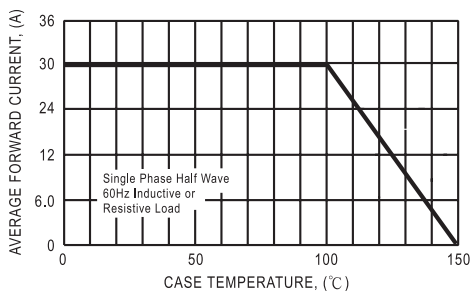


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

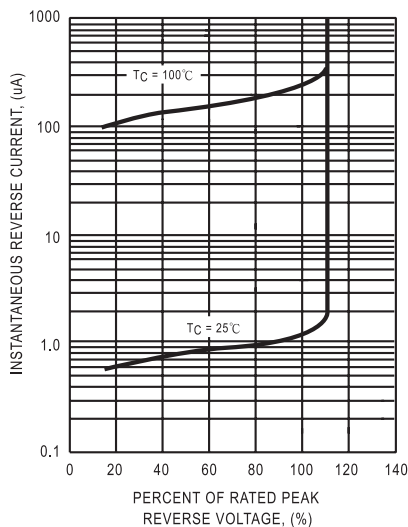


FIG. 4 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

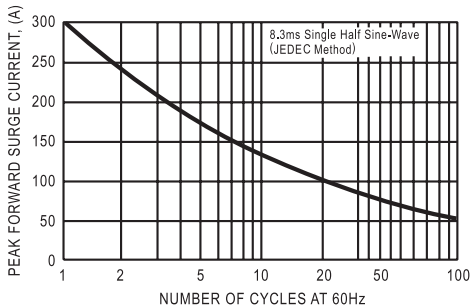


FIG. 5 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

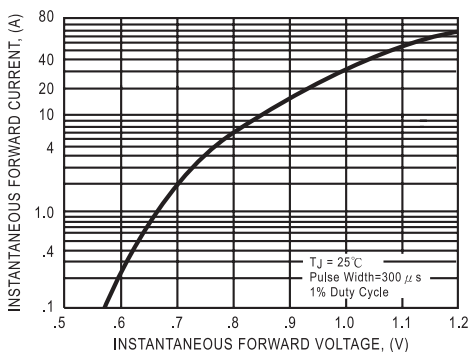
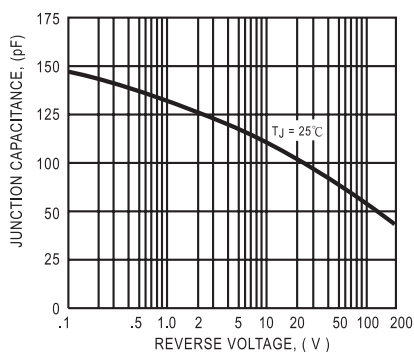


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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