

**GLASS PASSIVATED SUPER FAST RECTIFIER**

**VOLTAGE RANGE 50 to 400 Volts CURRENT 30 Amperes**

**FEATURES**

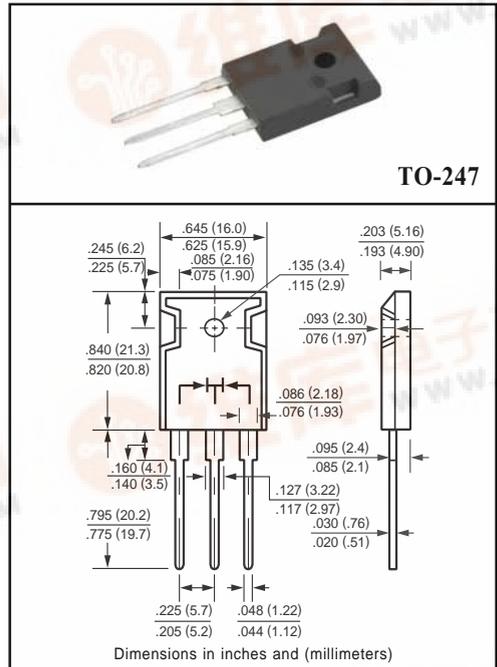
- \* Low switching noise
- \* Low forward voltage drop
- \* Low thermal resistance
- \* High current capability
- \* Super fast switching speed
- \* High reliability
- \* Good for switching mode circuit

**MECHANICAL DATA**

- \* Case: TO-247 molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C 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%.



**MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)**

RATINGS	SYMBOL	SF301C	SF302C	SF303C	SF304C	SF305C	SF306C	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	30.0						Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	300						Amps
Typical Thermal Resistance	RθJC	3						°C/W
Typical Junction Capacitance (Note 2)	CJ	120				100		pF
Operating and Storage Temperature Range	TJ, TSTG	-65 to + 150						°C

**ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)**

CHARACTERISTICS	SYMBOL	SF301C	SF302C	SF303C	SF304C	SF305C	SF306C	UNITS
Maximum Instantaneous Forward Voltage at 15.0A 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

NOTES: 1. Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

## RATING AND CHARACTERISTIC CURVES ( SF301C THRU SF306C )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

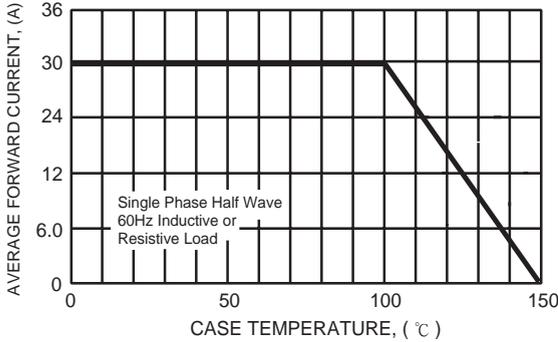


FIG. 2 - TYPICAL REVERSE CHARACTERISTICS

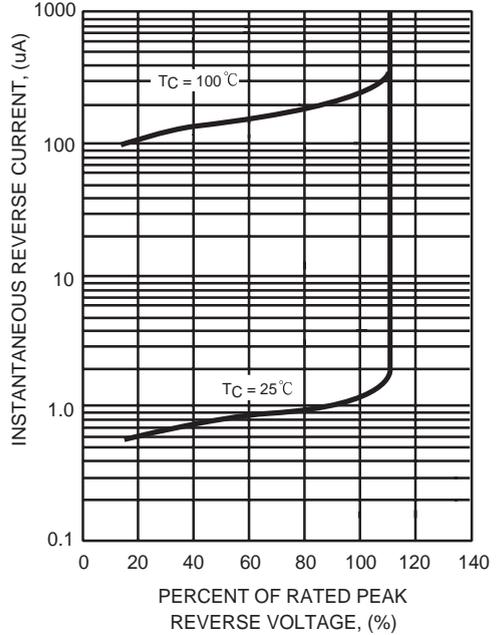


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

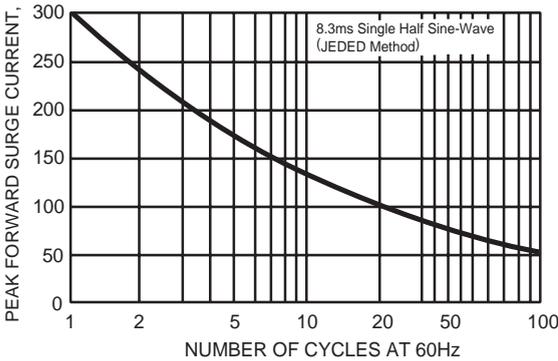


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

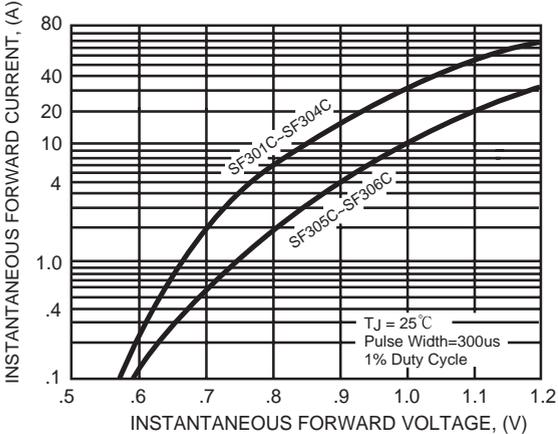


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

