

**GLASS PASSIVATED SUPER FAST RECTIFIER**

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

**FEATURES**

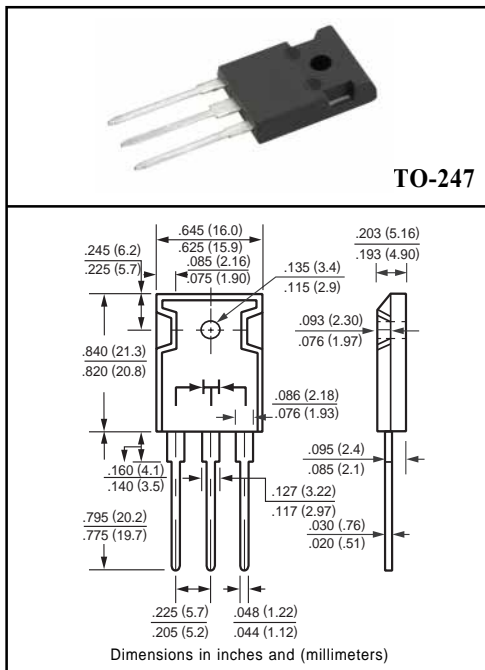
- \* Low switching noise
- \* Low forward voltage drop
- \* Low thermal resistance
- \* High current capability
- \* Super fast switching speed
- \* High reliability
- \* Good for switching mode circuit

**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  $T_A = 25^\circ\text{C}$  unless otherwise noted)

RATINGS	SYMBOL	SF301C	SF302C	SF303C	SF304C	SF305C	SF306C	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	Volts
Maximum DC Blocking Voltage	V <sub>bc</sub>	50	100	150	200	300	400	Volts
Maximum Average Forward Rectified Current at $T_c = 100^\circ\text{C}$	I <sub>O</sub>	30.0						Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	300						Amps
Typical Thermal Resistance	R <sub>θJC</sub>	3						°C/W
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	120				100		pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150						°C

**ELECTRICAL CHARACTERISTICS** (At  $T_A = 25^\circ\text{C}$  unless otherwise noted)

CHARACTERISTICS	SYMBOL	SF301C	SF302C	SF303C	SF304C	SF305C	SF306C	UNITS
Maximum Instantaneous Forward Voltage at 15.0A DC	V <sub>F</sub>	1.0				1.35		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	10						uAmps
		500						
Maximum Reverse Recovery Time (Note 1)	t <sub>rr</sub>	35				50		nSec

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 ( SF301C THRU SF306C )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

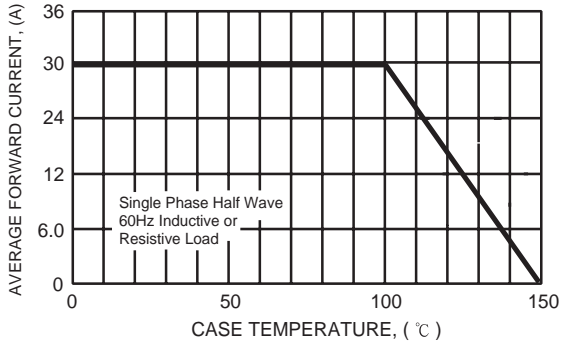


FIG. 2 - TYPICAL REVERSE CHARACTERISTICS

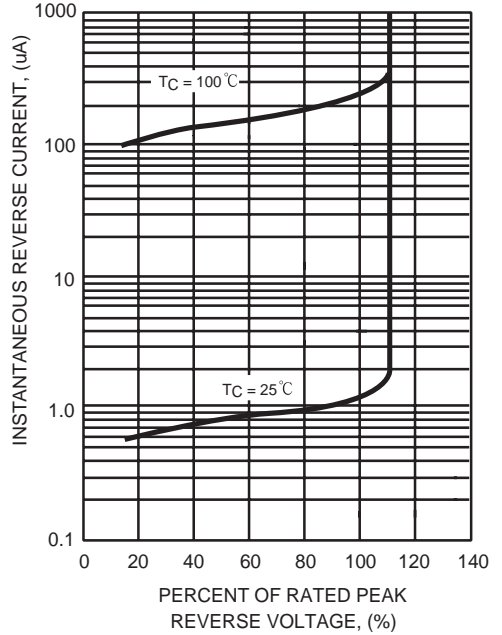


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

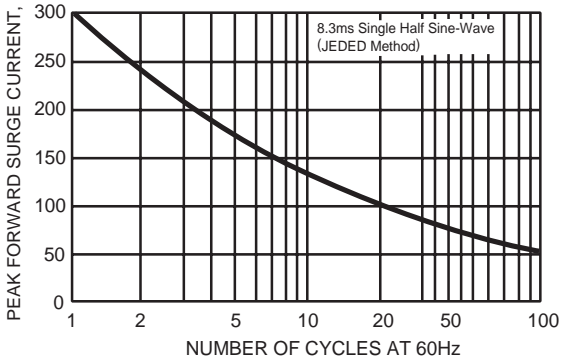


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

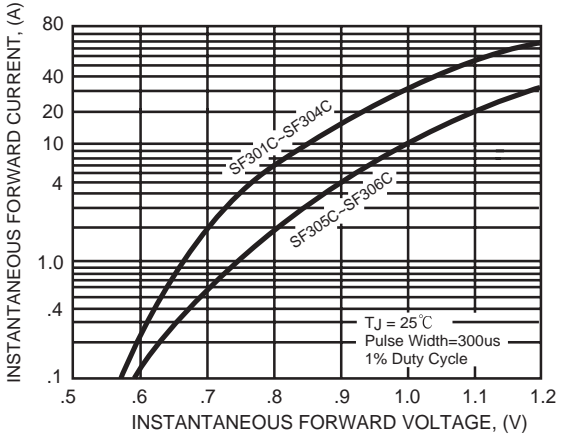


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

