

# SF301C THRU SF307C

### GLASS PASSIVATED SUPER FAST RECTIFIER

### VOLTAGE RANGE 50 to 600 Volts CURRENT 30 Ampere

#### **FEATURES**

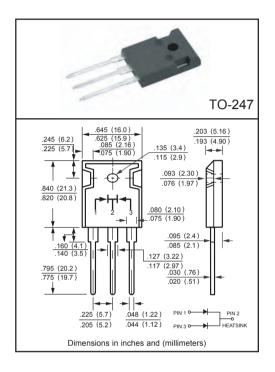
- \* Low switching noise
- \* Low forward voltage drop
- \* Low thermal resistance
- \* High current capability
- \* Super fast switching speed
- \* High-reliability
- \* Good for switching mode circuit

### **MECHANICAL DATA**

- \* Case: TO-247 molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 6.10 grams

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature.



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

RATINGS	SYMBOL	SF301C	SF302C	SF303C	SF304C	SF305C	SF306C	SF307C	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	VRMS	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	VDC	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at Tc = 100°C	lo	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	R <sub>θ</sub> JC	3						₀C/W	
Typical Junction Capacitance (Note 2)	Cı	120 100				pF			
Operating and Storage Temperature Range	ТJ, Tsтg	-55 to + 150						°C	

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

CHARACTERISTICS		SYMBOL	SF301C	SF302C	SF303C	SF304C	SF305C	SF306C	SF307C	UNITS
Maximum Instantaneous Forward Voltage at 15.0A DC		VF	1.0 1.35 1.70				1.70	Volts		
Maximum DC Reverse Current	@Tc = 25°C		10							uAmps
at Rated DC Blocking Voltage	@Tc = 100°C	lR	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.
- 3. Suffix "A" =Common Anode.
- 4. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

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REV:A

## RATING AND CHARACTERISTIC CURVES (SF301C THRU SF307C)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

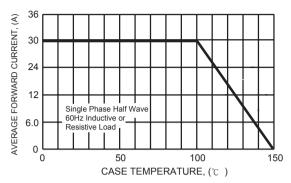
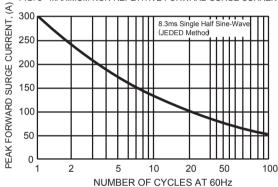


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



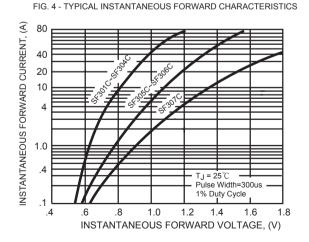


FIG. 2 - TYPICAL REVERSE CHARACTERISTICS

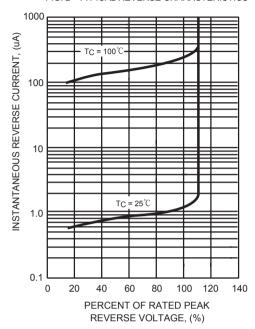
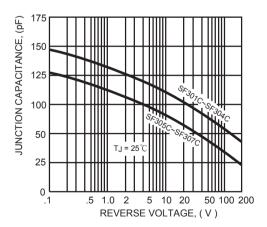


FIG. 5 - TYPICAL JUNCTION CAPACITANCE





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