RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

SF301C THRU SF306C

GLASS PASSIVATED SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 400 Volts CURRENT 30 Amperes

FEATURES

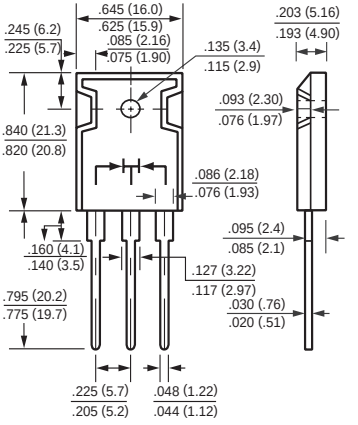
* Low switching noise
* Low forward voltage drop
* Low thermal resistance
* High current capability
* Super fast switching speed
* High reliability
* Good for switching mode circuit

MECHANICAL DATA

* Case: TO-247 molded plastic
* Epoxy: Device has UL flammability classification 94V-O
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 5.60 grams



TO-247



Dimensions in inches and (millimeters)

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°C unless otherwise noted)

RATINGS	SYMBOL	SF301C	SF302C	SF303C	SF304C	SF305C	SF306C	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	Volts
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	Volts
Maximum Average Forward Rectified Current at T_C = 100°C	I_O	30.0						Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	300						Amps
Typical Thermal Resistance	RθJC	3						°C/W
Typical Junction Capacitance (Note 2)	C_J	120				100		pF
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to + 150						°C

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

CHARACTERISTICS		SYMBOL	SF301C	SF302C	SF303C	SF304C	SF305C	SF306C	UNITS
Maximum Instantaneous Forward Voltage at 15.0A DC		V_F	1.0				1.35		Volts
Maximum DC Reverse Current	@T_C = 25°C	I_R	10						uAmps
at Rated DC Blocking Voltage	@T_C = 100°C		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.

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RATING AND CHARACTERISTIC CURVES (SF301C THRU SF306C)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

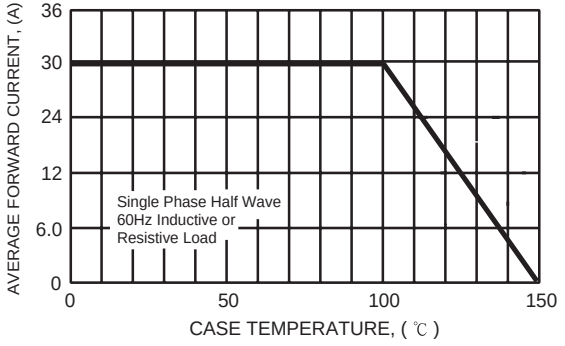


FIG. 2 - TYPICAL REVERSE CHARACTERISTICS

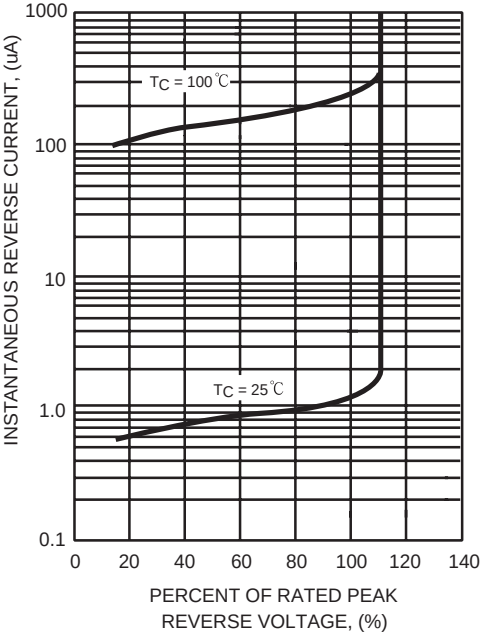


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

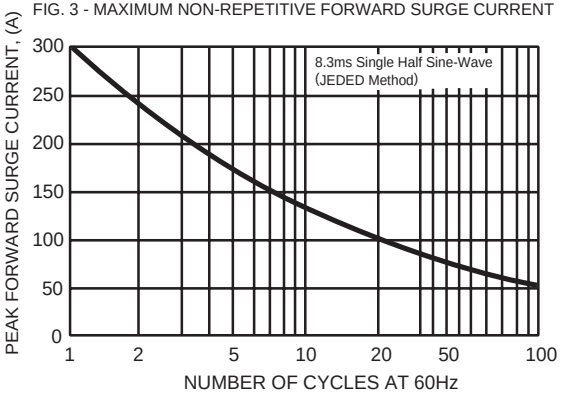


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

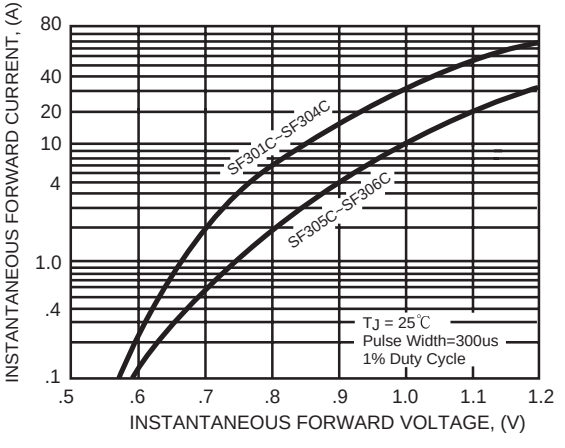


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

