

# SF301 THRU SF306



## 30.0 AMP SUPER FAST RECTIFIERS



### FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability
- \* Good for switching mode application

### MECHANICAL DATA

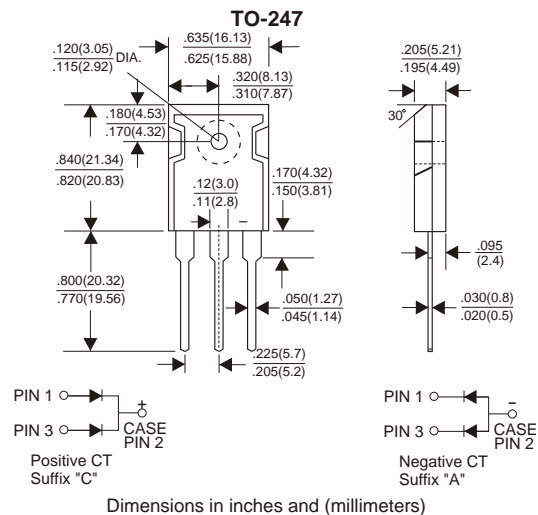
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Lead solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: As Marked
- \* Mounting position: Any
- \* Weight: 5.60 grams

### VOLTAGE RANGE

50 to 400 Volts

### CURRENT

30.0 Amperes



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.  
 Single phase half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

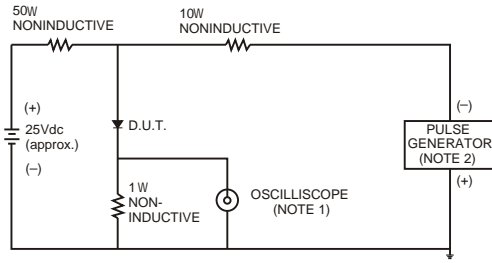
TYPE NUMBER	SF301	SF302	SF303	SF304	SF305	SF306	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	V
Maximum RMS Voltage	35	70	105	140	210	280	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	V
Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length at T <sub>c</sub> =100°C	30.0						A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	300						A
Maximum Instantaneous Forward Voltage at 15.0A	1.0			1.35			V
Maximum DC Reverse Current T <sub>c</sub> =25°C	10						mA
at Rated DC Blocking Voltage T <sub>c</sub> =100°C	500						mA
Maximum Reverse Recovery Time (Note 1)	35			50			nS
Typical Junction Capacitance (Note 2)	120						pF
Operating and Storage Temperature Range T <sub>j</sub> , T <sub>stg</sub>	-65 — +150						°C

#### NOTES:

- Reverse Recovery Time test condition: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A
- Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## RATING AND CHARACTERISTIC CURVES (SF301 THRU SF306)

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



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

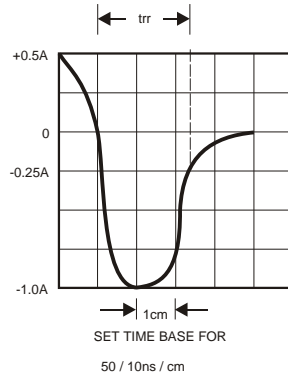


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

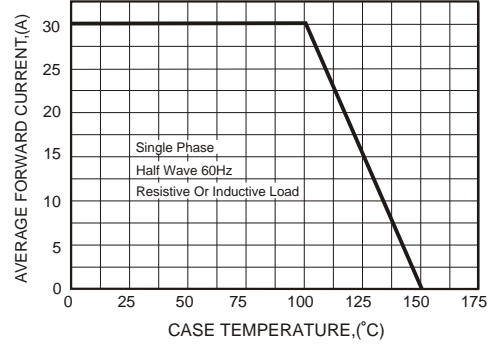


FIG.3-TYPICAL FORWARD CHARACTERISTICS

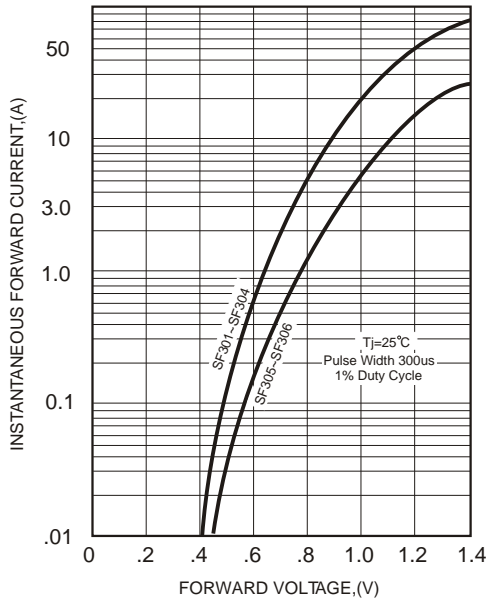


FIG.4-TYPICAL REVERSE CHARACTERISTICS

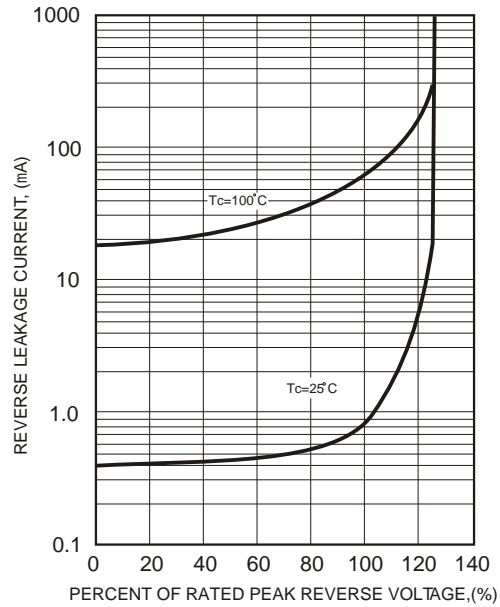


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

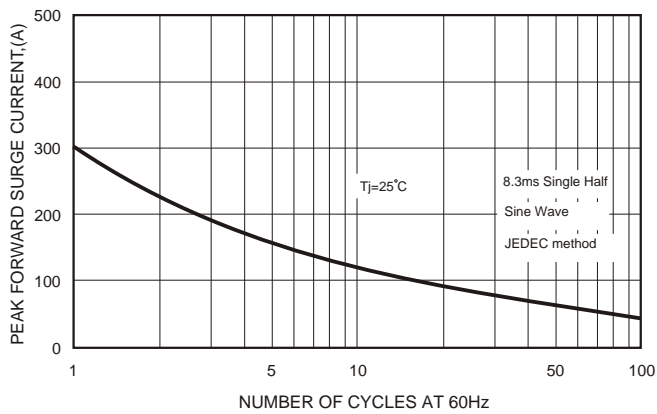


FIG.6-TYPICAL JUNCTION CAPACITANCE

