SF301 THRU SF306

30.0 AMP SUPER FAST RECTIFIERS



FEATURES

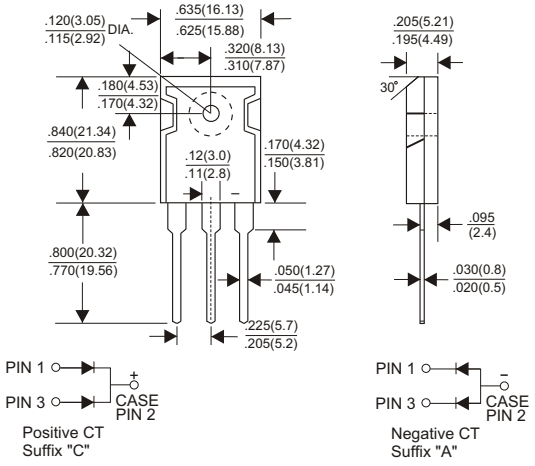
* Low forward voltage drop
* High current capability
* High reliability
* High surge current capability
* Good for switching mode application

MECHANICAL DATA

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

VOLTAGE RANGE
50 to 400 Volts
CURRENT
30.0 Amperes

TO-247



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25˚C ambient temperature uniess otherwies 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 Tc=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 Tc=25˚C	10						μA
at Rated DC Blocking Voltage Tc=100˚C	500						μA
Maximum Reverse Recovery Time (Note 1)	35				50		nS
Typical Junction Capacitance (Note 2)	120						pF
Operating and Storage Temperature Range T_J, T_{STG}	-65 — +150						˚C

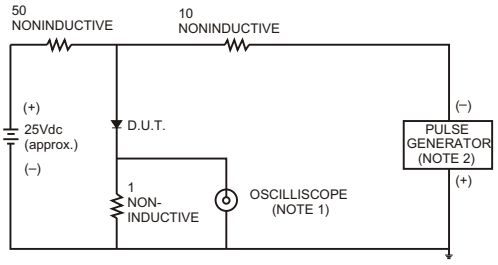
NOTES:

1. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A

2. 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.

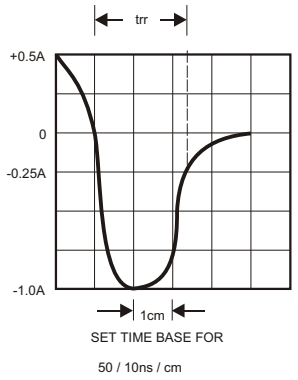


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

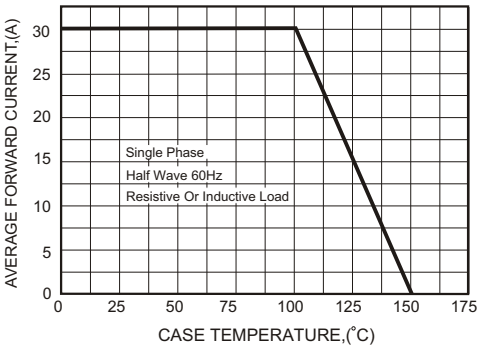


FIG.3-TYPICAL FORWARD CHARACTERISTICS

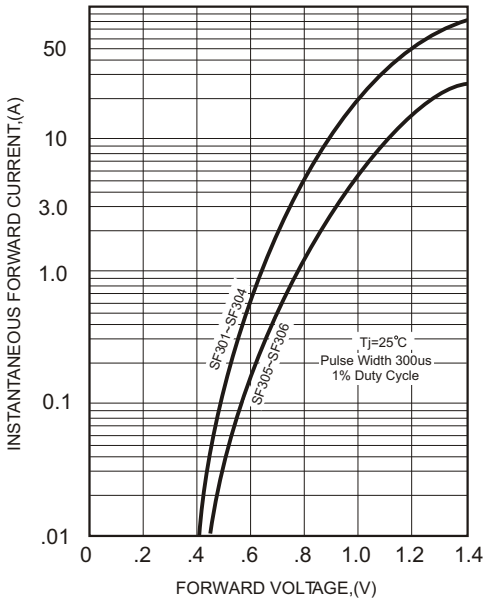


FIG.4-TYPICAL REVERSE CHARACTERISTICS

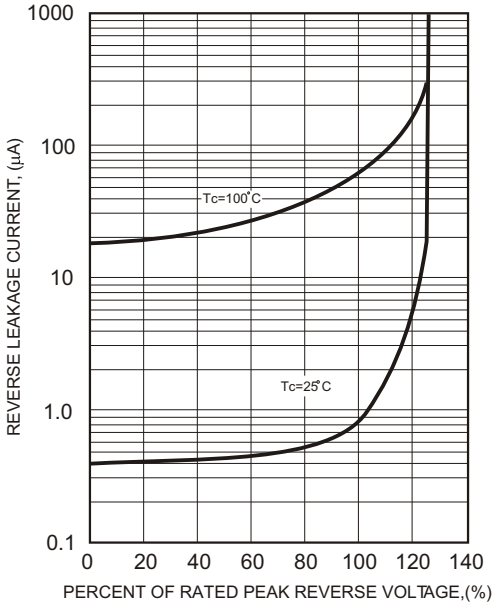


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

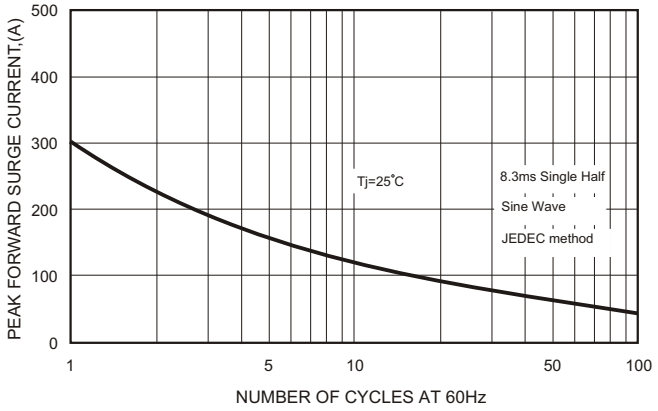


FIG.6-TYPICAL JUNCTION CAPACITANCE

