TAYCHIPST

SUPER FAST RECTIFIERS

SF31 THRU SF38

50V-600V

3.0A

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: Axial leads, solderable per MIL-STD-202, method 208 guranteed
* Polarity: Color band denotes cathode end
* Mounting position: Any
* Weight: 1.10 grams

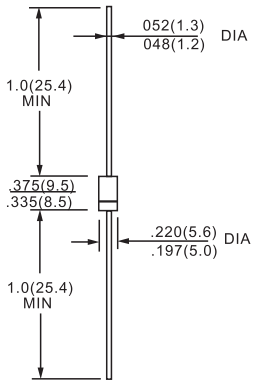
VOLTAGE RANGE

50 to 600 Volts

CURRENT

3.0 Amperes

DO-27



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	SF31	SF32	SF33	SF34	SF35	SF36	SF37	SF38	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length at Ta=55°C	3.0								A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	125								A
Maximum Instantaneous Forward Voltage at 3.0A	0.95				1.25		1.70		V
Maximum DC Reverse Current Ta=25°C	5.0								A
at Rated DC Blocking Voltage Ta=100°C	50								A
Maximum Reverse Recovery Time (Note 1)	35						50		nS
Typical Junction Capacitance (Note 2)	50								pF
Operating and Storage Temperature Range T_J, T_{STG}	-65 — +150								°C

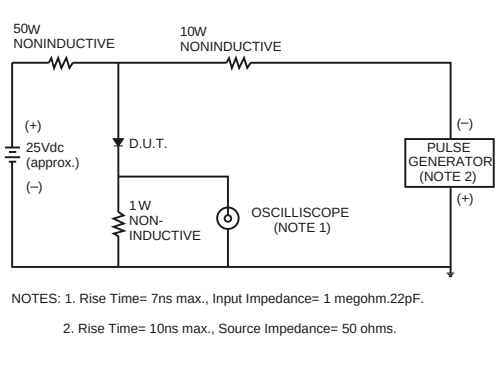
NOTES:

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.

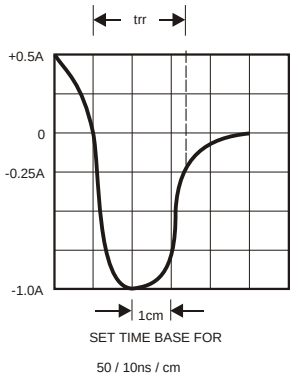
RATING AND CHARACTERISTIC CURVES (SF31 THRU SF38)

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.



SET TIME BASE FOR
50 / 10ns / cm

FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

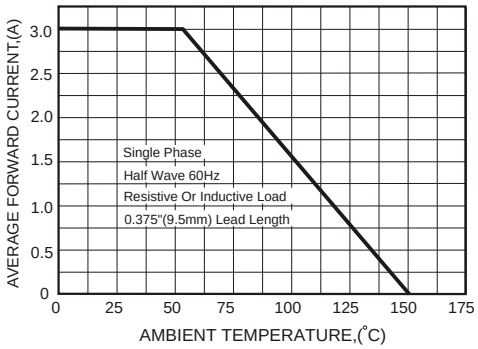


FIG.3-TYPICAL FORWARD CHARACTERISTICS

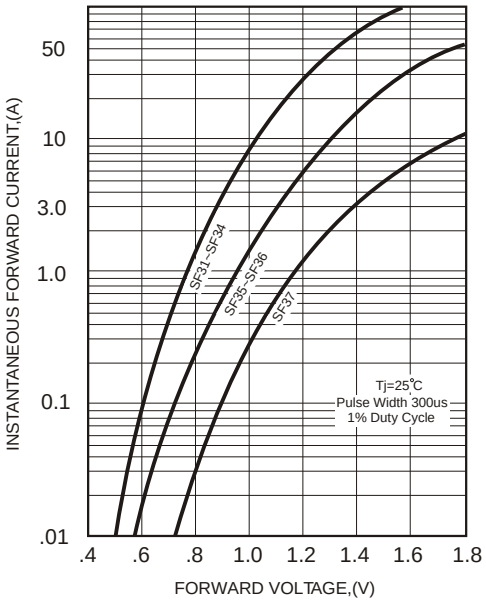


FIG.4-TYPICAL REVERSE CHARACTERISTICS

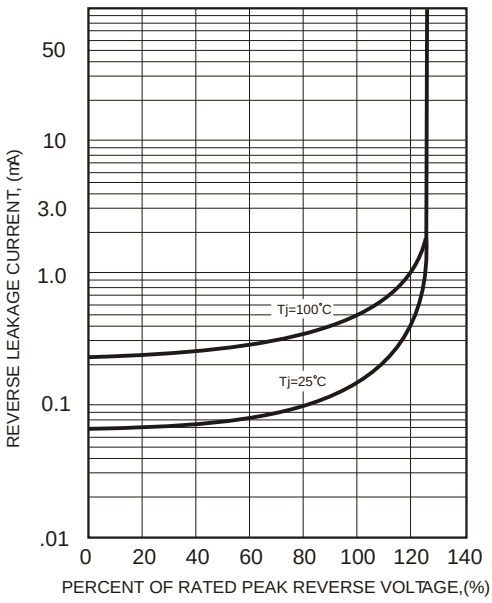


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

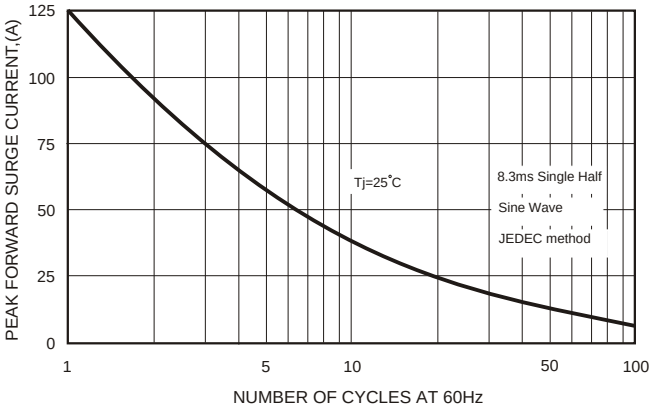


FIG.6-TYPICAL JUNCTION CAPACITANCE