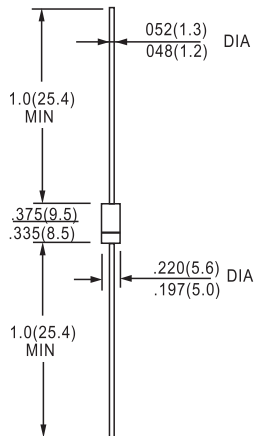


SF31 THRU SF38

SOFT RECOVERY ULTRAFAST PLASTIC RECTIFIERS

Reverse Voltage - 50 to 600 Volts Forward Current - 3.0 Amperes

DO-27



Dimensions in inches and (millimeters)

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound.
- 1 ampere operation at $T_A=100^{\circ}\text{C}$ with no thermal runaway.
- Exceeds environmental standards of MIL-S-19500/228
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

MECHANICAL DATA

Case: JEDEC DO-27 molded plastic body over passivated chip

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.015 ounce, 0.4 gram

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%.

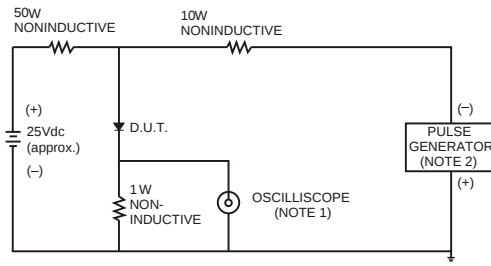
TYPE NUMBER	SF31	SF32	SF33	SF34	SF35	SF36	SF37	SF38	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current .375"(9.5mm) Lead 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 TJ, TSTG	-65—+150								°C

NOTES:

1. Reverse Recovery Time test condition: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $IRR=0.25\text{A}$
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

RATINGS 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.

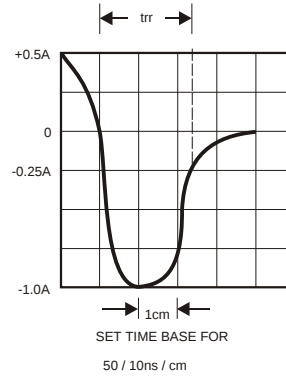


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

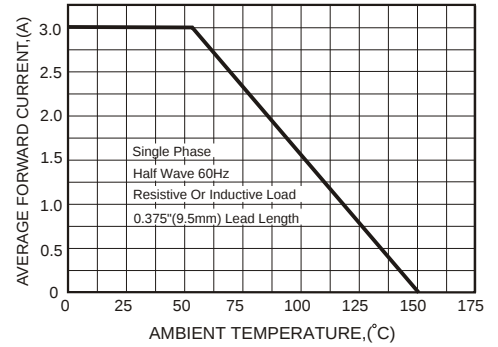


FIG.3-TYPICAL FORWARD CHARACTERISTICS

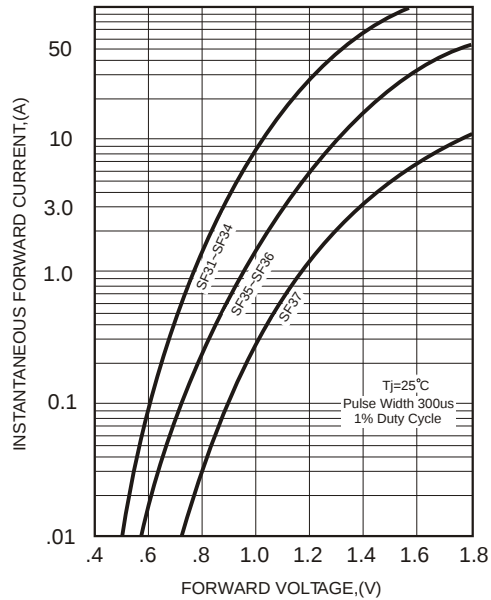


FIG.4-TYPICAL REVERSE CHARACTERISTICS

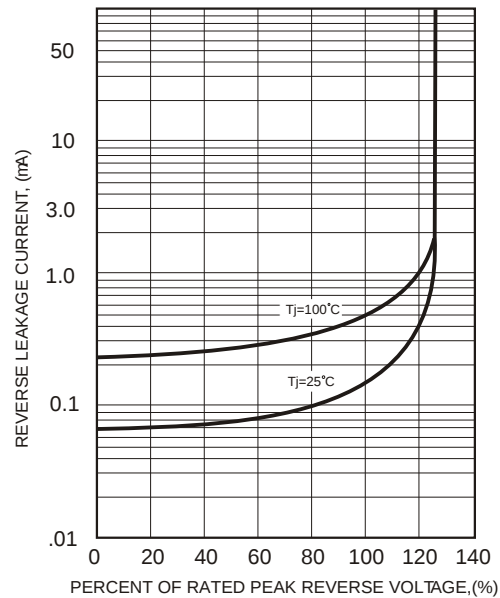


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

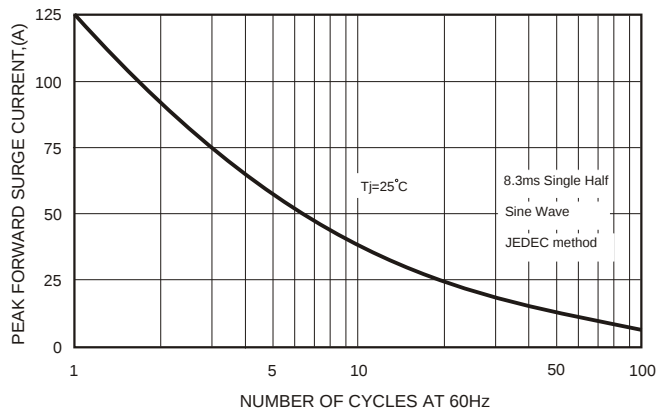


FIG.6-TYPICAL JUNCTION CAPACITANCE

