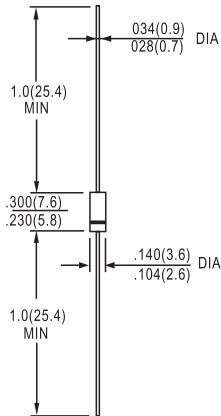


SF21 THRU SF28

SOFT RECOVERY ULTRAFAST PLASTIC RECTIFIERS

Reverse Voltage - 50 to 600 Volts Forward Current - 2.0 Amperes

DO-15



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 $T_A=125^\circ\text{C}$ 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-15 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

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		SF21	SF22	SF23	SF24	SF25	SF26	SF27	SF28	UNITS
Maximum recurrent peak reverse voltage	V _{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current 9.5mm lead length, @T _A =75°C	I _{F(AV)}	2.0								A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @T _J =125°C	I _{FSM}	50								A
Maximum instantaneous forward voltage @ 2.0A	V _F	0.95				1.3		1.7		V
Maximum reverse current @T _A =25°C at rated DC blocking voltage @T _A =125°C	I _R	5.0 50.0								μA
Maximum reverse recovery time (Note1)	t _{rr}	35								ns
Typical junction capacitance (Note2)	C _J	60				30				pF
Typical thermal resistance (Note3)	R _{θJA}	20								°C/W
Operating junction temperature range	T _J	- 55 ----- + 175								°C
Storage temperature range	T _{STG}	- 55 ----- + 175								°C

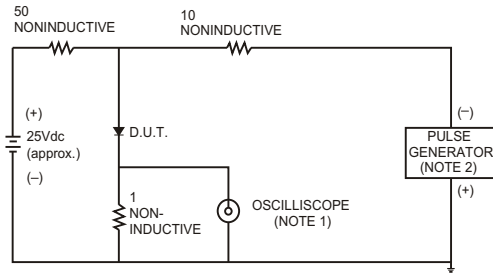
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.

RATINGS AND CHARACTERISTIC CURVES SF21 THRU SF28

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.

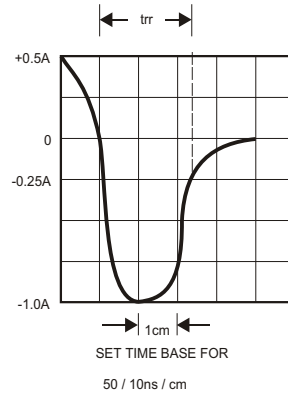


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

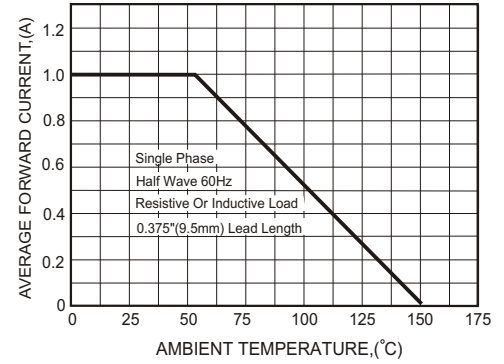


FIG.3-TYPICAL FORWARD CHARACTERISTICS

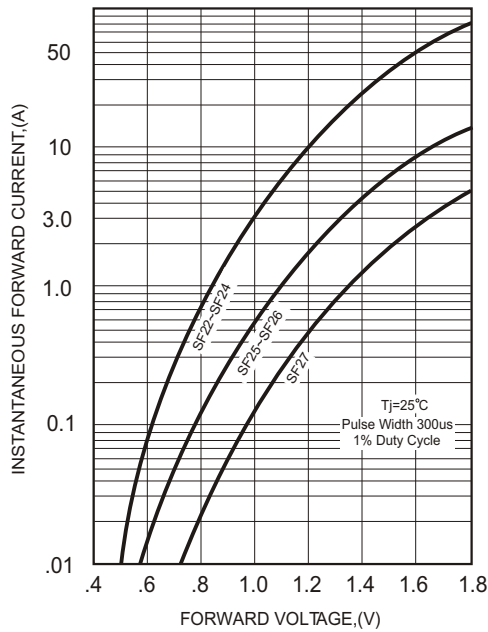


FIG.4-TYPICAL REVERSE CHARACTERISTICS

