

SF81 THRU SF88

GLASS PASSIVATED SUPER FAST RECTIFIER

REVERSE VOLTAGE: 50 to 600 VOLTS
FORWARD CURRENT: 8.0 AMPERE

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing Flame Retardant Epoxy Molding Compound.
- Superfast switching time for high efficiency
- Low forward voltage drop and high current capability
- High surge capacity.
- Low reverse leakage current

MECHANICAL DATA

Case: Molded plastic, TO-220A

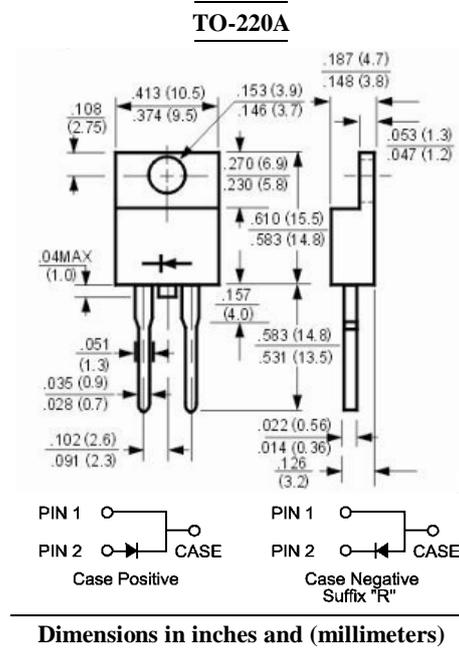
Epoxy: UL 94V-0 rate flame retardant

Terminals: Leads solderable per MIL-STD-202 method 208 guaranteed

Polarity: As marked

Mounting position: Any

Weight: 0.08ounce, 2.24gram



Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	Symbols	SF81	SF82	SF83	SF84	SF85	SF86	SF87	SF88	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	500	600	Volts
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	350	420	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	500	600	Volts
Maximum Average Forward Rectified Current at $T_C=100^\circ\text{C}$	$I_{(AV)}$	8.0								Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	125								Amp
Maximum Forward Voltage at 8.0A and $T_A=25^\circ\text{C}$	V_F	0.95			1.3		1.7			Volts
Maximum Reverse Current at Rated DC Blocking Voltage at $T_A=25^\circ\text{C}$ and $T_A=125^\circ\text{C}$	I_R	10.0								uAmp
		250								
Typical Junction Capacitance (Note 1)	C_J	80			60					pF
Maximum Reverse Recovery Time (Note 2)	T_{RR}	35			50					nS
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	2.2								$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{stg}	-55 to +150								$^\circ\text{C}$

NOTES:

- 1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
- 2- Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{RR}=0.25\text{A}$.
- 3- Thermal Resistance from Junction to Case Mounted on Heatsink.

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RATINGS AND CHARACTERISTIC CURVES

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

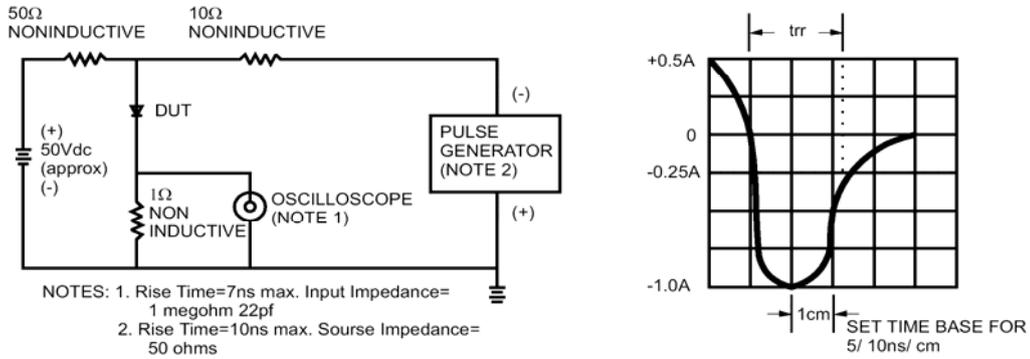


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

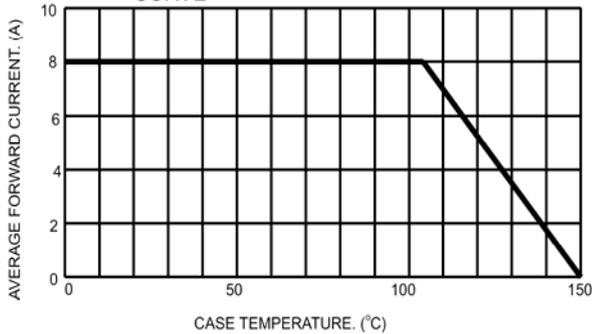


FIG.3- TYPICAL REVERSE CHARACTERISTICS

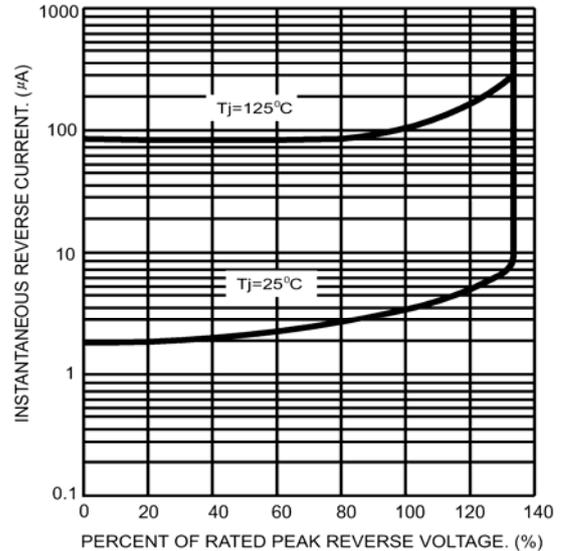


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

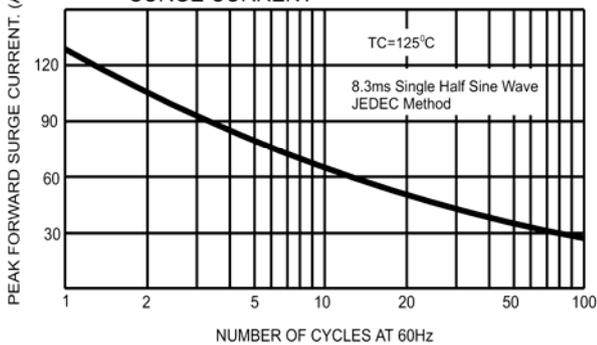


FIG.6- TYPICAL FORWARD CHARACTERISTICS

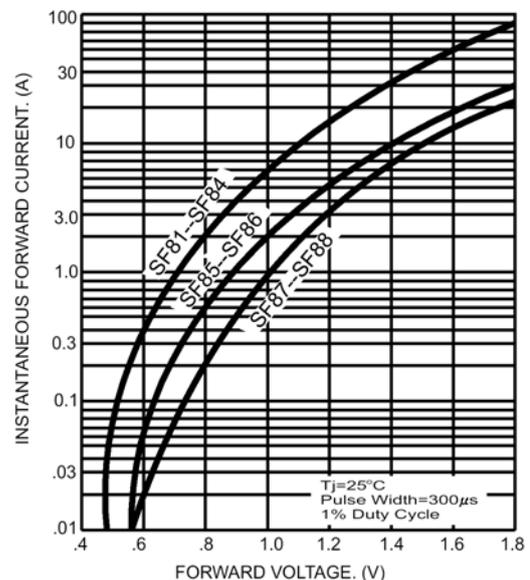


FIG.5- TYPICAL JUNCTION CAPACITANCE

