

SF81 THRU SF88

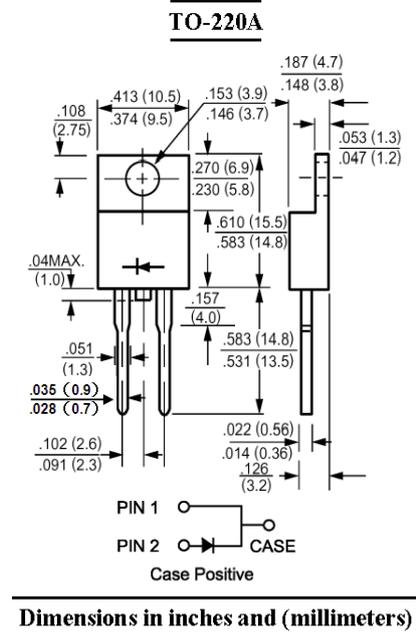
Glass Passivated Super Fast Rectifier Reverse Voltage - 50 to 600 V Forward Current - 8 A

Features

- Low forward voltage drop
- Low reverse leakage current
- Superfast switching time for high efficiency
- High current capability
- High surge current capability

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



Absolute Maximum Ratings and Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	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	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 at $T_C = 100\text{ }^\circ\text{C}$	$I_{(AV)}$	8								A
Peak Forward Surge Current 8.3 ms Single half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	125								A
Maximum Forward Voltage at 8 A and 25 °C	V_F	0.95		1.3		1.7			V	
Maximum Reverse Current at $T_A = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 125\text{ }^\circ\text{C}$	I_R	10 500								μA
Typical Junction Capacitance ¹⁾	C_J	80			60			pF		
Maximum Reverse Recovery Time ²⁾	t_{rr}	35			50			ns		
Typical Thermal Resistance ³⁾	$R_{\theta JC}$	2.2								$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150								$^\circ\text{C}$

¹⁾ Measured at 1 MHz and applied reverse voltage of 4 V.

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

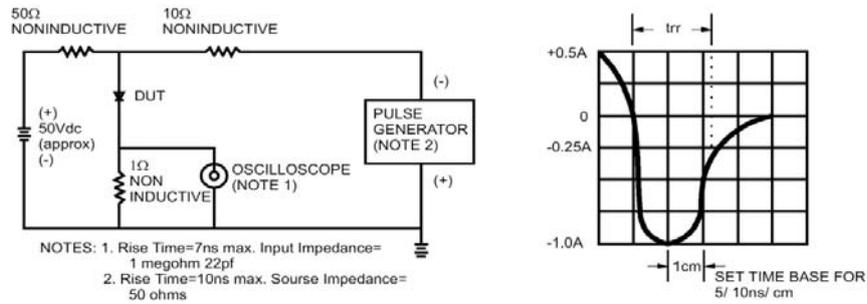


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

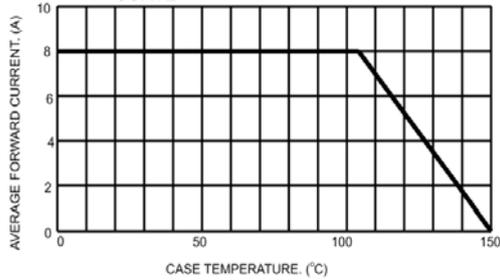


FIG.3- TYPICAL REVERSE CHARACTERISTICS

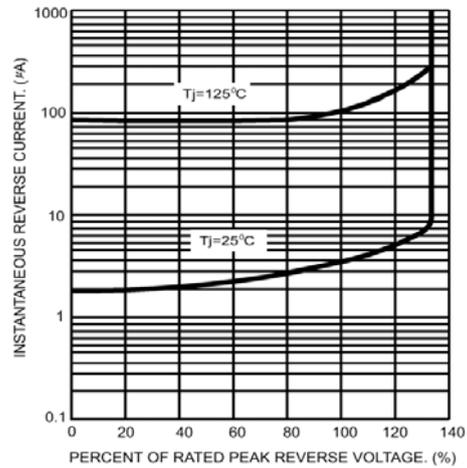


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

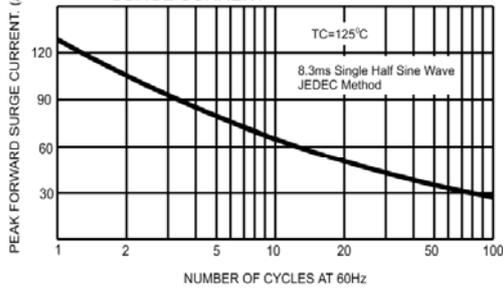


FIG.6- TYPICAL FORWARD CHARACTERISTICS

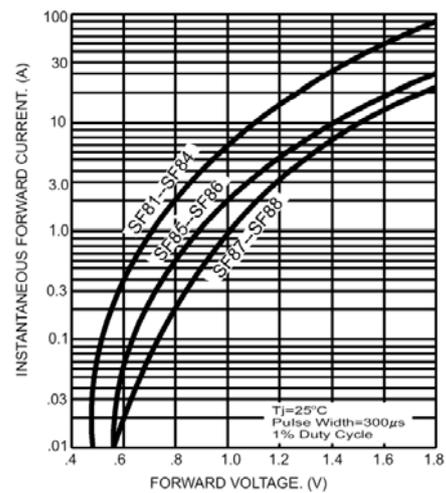


FIG.5- TYPICAL JUNCTION CAPACITANCE

