

SF81R THRU SF88R

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GLASS PASSIVATED SUPER FAST RECTIFIER

Reverse Voltage – 50 to 600 V

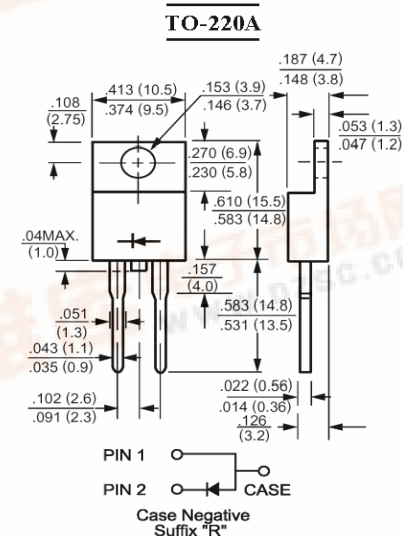
Forward Current – 8 A

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	SF81R	SF82R	SF83R	SF84R	SF85R	SF86R	SF87R	SF88R	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 °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 °C at Rated DC Blocking Voltage T _A = 125 °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 _{θJC}	2.2								°C/W
Operating and Storage Temperature Range	T _J , T _s	- 55 to + 150								°C

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

SEMTECH ELECTRONICS LTD.

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ISO/TS 16949 : 2002
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ISO 14001:2004
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RATINGS AND CHARACTERISTIC CURVES

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

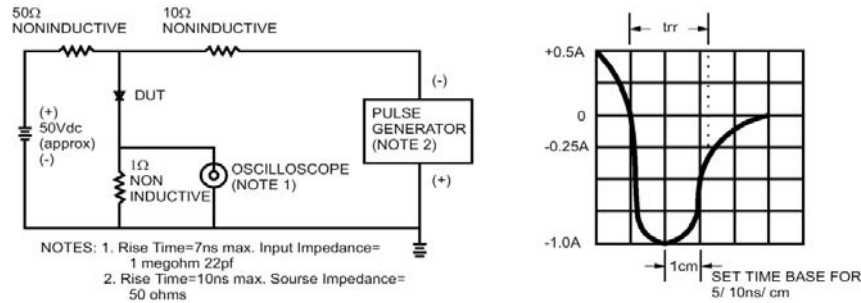


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

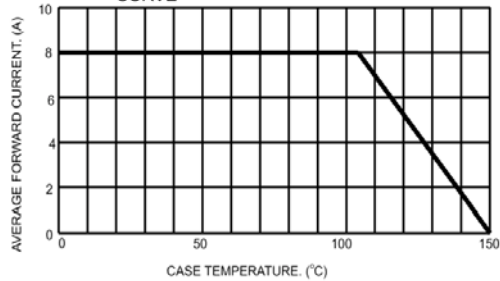


FIG.3- TYPICAL REVERSE CHARACTERISTICS

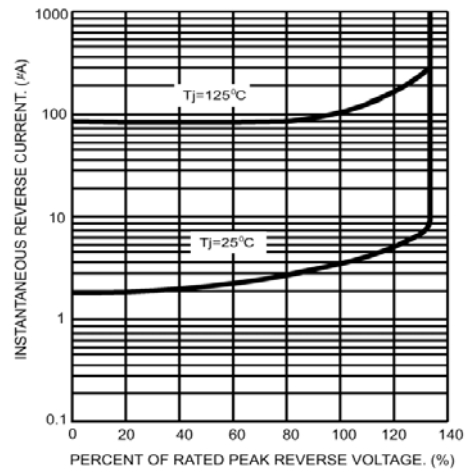


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

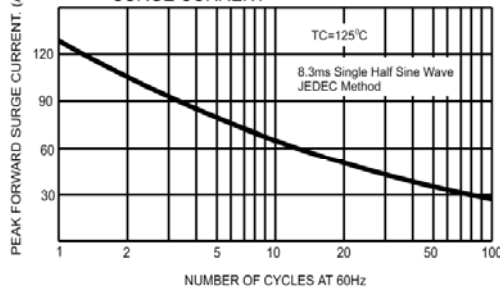


FIG.6- TYPICAL FORWARD CHARACTERISTICS

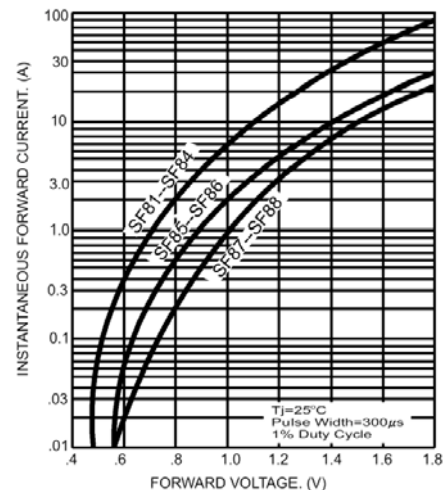
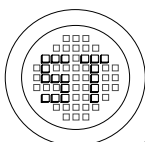
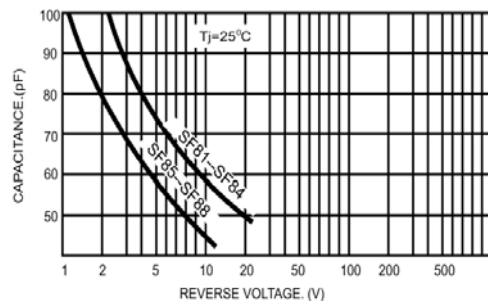


FIG.5- TYPICAL JUNCTION CAPACITANCE



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