

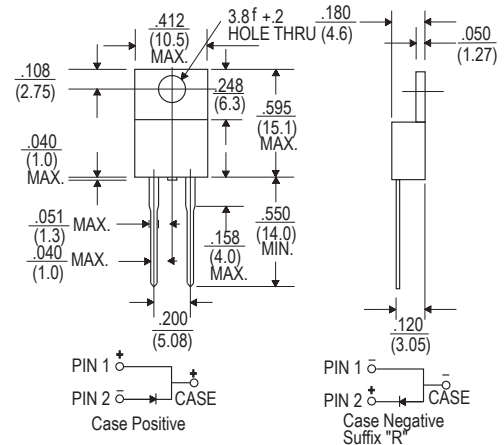
### Features

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- Super fast recovery time
- Good for use in switching mode circuits
- Plastic package has Underwrites Laboratory Flammability Classification 94V-0

### Mechanical Data

- Case : JEDEC TO-220A molded plastic body
- Terminals : Lead solderable per MIL-STD-750, method 2026
- Polarity : As marked
- Mounting Position : Any
- Weight : 0.08 ounce, 2.24 gram

### TO-220A



Dimensions in inches and (millimeters)

### 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 by 20%)

	Symbols	SF81	SF82	SF83	SF84	SF85	SF86	SF87	Units	
Maximum recurrent peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	300	400	600	Volts	
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	210	280	420	Volts	
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	300	400	600	Volts	
Maximum average forward rectified current at T <sub>c</sub> =100°C	I <sub>(AV)</sub>	8.0							Amps	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	125							Amps	
Maximum instantaneous forward voltage at 8.0A	V <sub>F</sub>	0.975			1.30		1.70		Volts	
Maximum DC reverse current at rated DC blocking voltage	T <sub>A</sub> =25°C	10							μA	
	T <sub>A</sub> =100°C	400								
Maximum reverse recovery time (Note 1)	T <sub>rr</sub>	35							ns	
Typical junction capacitance (Note 2)	C <sub>J</sub>	80				60				pF
Typical thermal resistance (Note 3)	R <sub>θJC</sub>	2.2							°C/W	
Operating junction and storage temperature range	T <sub>J</sub>	-55 to +125							°C	
	T <sub>STG</sub>	-55 to +150								

#### Notes:

- (1) Test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A.
- (2) Measured at 1MHz and applied reverse voltage of 4.0 Volts.
- (3) Thermal resistance from junction to case mounting on heatsink.

## RATINGS AND CHARACTERISTIC CURVES SF81 THRU SF87

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

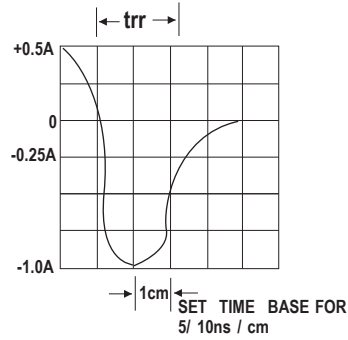
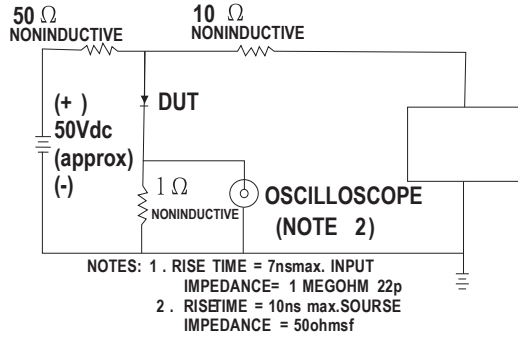


FIG. 2 -MAXIMUM AVERAGE FORWARD CURRENT DERATING

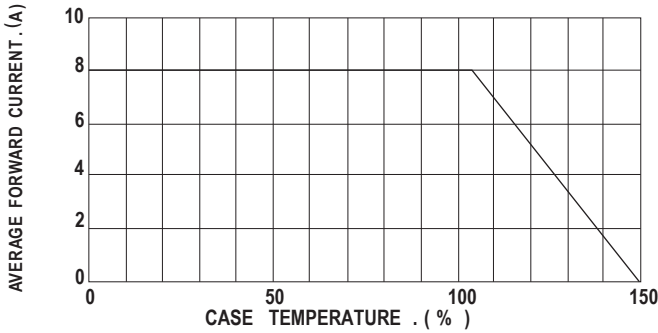


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

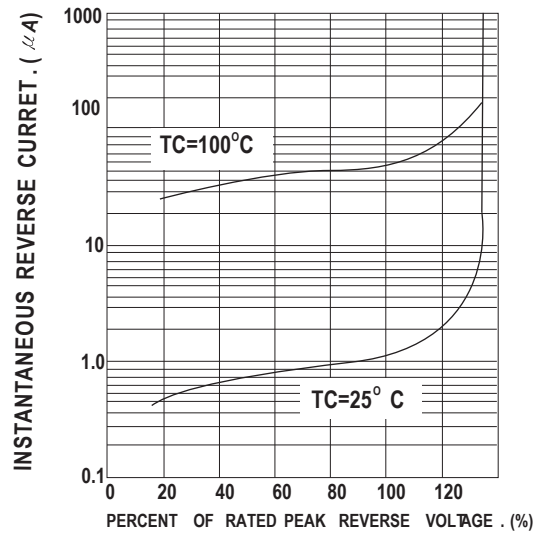


FIG. 4 -MAXIMUM NON - REPETITIVE FORWARD SURGE CURRENT

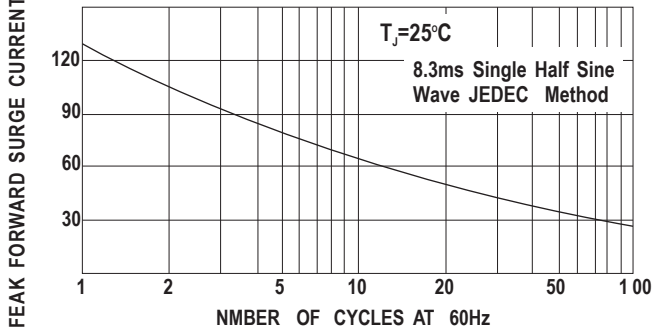


FIG. 6 -TYPICAL FRWARD CHARACTERISTICS

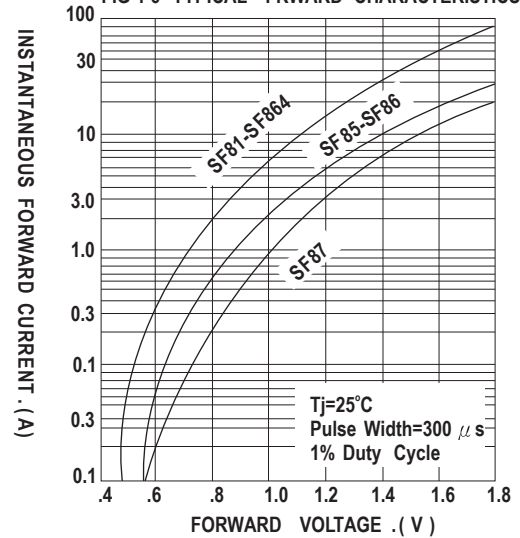


FIG. 5 -TYPICAL JUNCTIOON CAPACITANCE

