



## SUPER FAST RECTIFIER

### SF81 THRU SF86

VOLTAGE RANGE

50 to 400 Volts

CURRENT

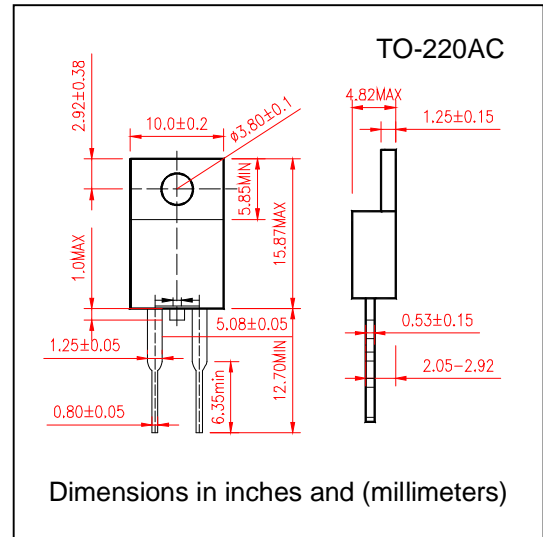
8.0 Ampere

### FEATURES

- Glass passivated chip junction
- Low power loss, high efficiency
- Low leakage
- Super fast switching speed
- High current capacity, high surge capacity
- High temperature soldering guaranteed
- 200°C/10 second, 0.16" (4.06mm) lead length from case
- Also available in reverse polarity, add the "R" Suffix, i.e. SF81R
- Also available in isolated package under part number SFF81

### MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color Band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.08ounce, 2.24 gram



### 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	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	Volts
Maximum Average Forward Rectified Current At $T_c=105^\circ\text{C}$	$I_{(AV)}$	8.0						Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	125						Amps
Maximum Instantaneous Forward Voltage at 8.0A	$V_F$	0.975				1.4		Volts
Maximum DC Reverse Current at rated DC Blocking Voltage	$I_R$	$T_A = 25^\circ\text{C}$						$\mu\text{A}$
		$T_A = 125^\circ\text{C}$						
Maximum Reverse Recovery Time Test conditions $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{RR}=0.25\text{A}$	$t_{rr}$	35				50		nS
Typical Junction Capacitance (Note 2)	$C_J$	40						pF
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	2.5						$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	(-55 to +150)						$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	(-55 to +150)						$^\circ\text{C}$

#### Notes:

1. Unit mounted on heatsink
2. measured at 1.0MHz and applied reverse voltage of 4.0V



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## RATING AND CHARACTERISTIC CURVES SF81 THRU SF86

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

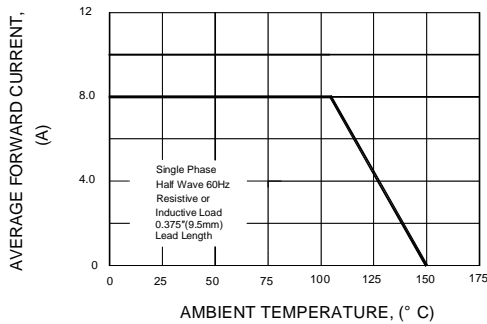


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

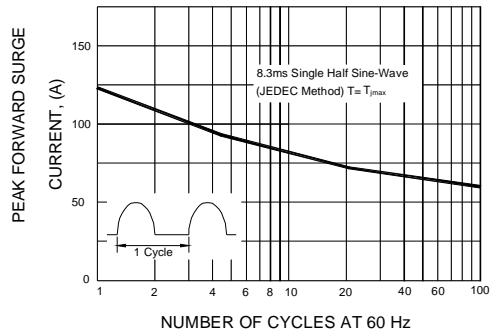


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

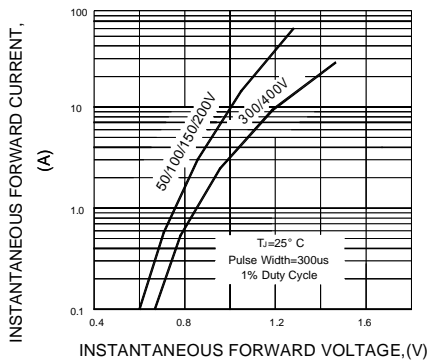


FIG.4-TYPICAL REVERSE CHARACTERISTICS PER LEG

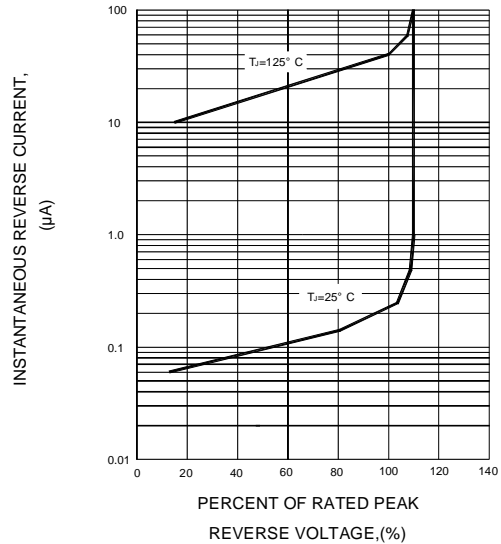


FIG.5-TYPICAL JUNCTION CAPACITANCE

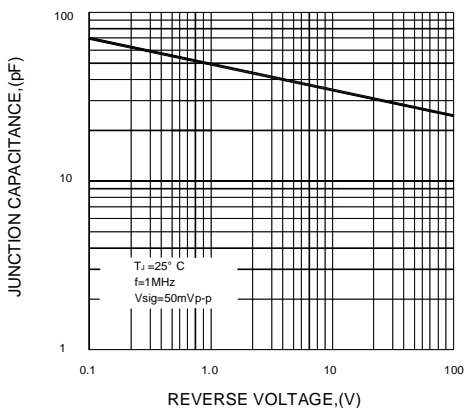


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

