

SF81K THRU SF87K

GLASS PASSIVATED SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 600 Volts CURRENT 8.0 Amperes

FEATURES

- * Low switching noise
- * Low forward voltage drop
- * Low thermal resistance
- * High current capability
- * Super fast switching speed
- * High reliability
- * Good for switching mode circuit

MECHANICAL DATA

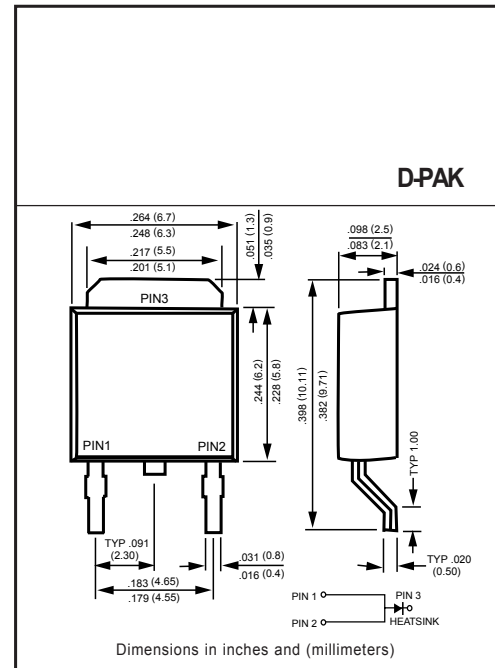
- * Case: D-PAK molded plastic
- * Epoxy: Device has UL flammability classification 94V-0
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.33 gram

MAXIMUM RATINGS AND ELECTRICAL 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%.



MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)

RATINGS	SYMBOL	SF81K	SF82K	SF83K	SF84K	SF85K	SF86K	SF87K	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at T _C = 100°C	I _O	8.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	125							Amps
Typical Thermal Resistance (Note 1)	R _{θJC}	3							°C/W
	R _{θJA}	20							
Typical Junction Capacitance (Note 2)	C _J	150							pF
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to + 150							°C

ELECTRICAL CHARACTERISTICS (@TA=25 °C unless otherwise noted)

CHARACTERISTICS	SYMBOL	SF81K	SF82K	SF83K	SF84K	SF85K	SF86K	SF87K	UNITS
Maximum Instantaneous Forward Voltage at 8.0A DC	V _F	1.0			1.35		1.70		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I _R	@T _A = 25°C							uAmps
		@T _A = 100°C							
Maximum Reverse Recovery Time (Note 3)	t _{rr}	35			50				nSec

- NOTES :
1. Thermal Resistance : Heat-sink case mounted or if PCB mounted.
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts. □
 3. Test conditions: I_F= 0.5A, I_R= -0.1A, I_{RR}=-0.25A.
 4. "Fully ROHS compliant", "100% Sn plating (Pb-free)".
 5. Suffix "R" for Reverse Polarity.
 6. Suffix "S" for D2-PAK Pkg.

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RATING AND CHARACTERISTICS CURVES (SF81K THRU SF87K)

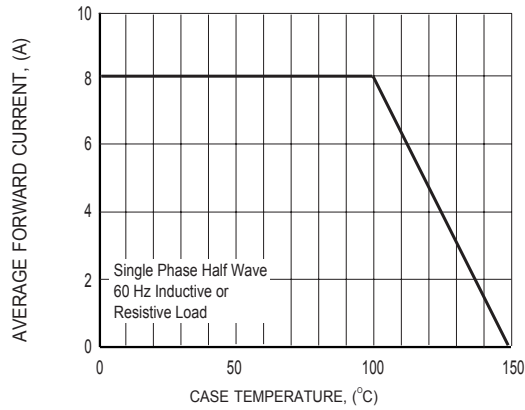


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

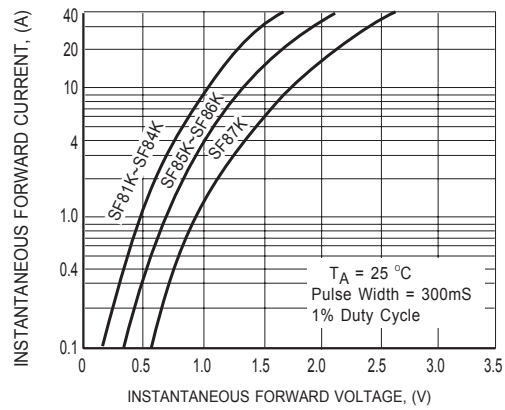


FIG.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

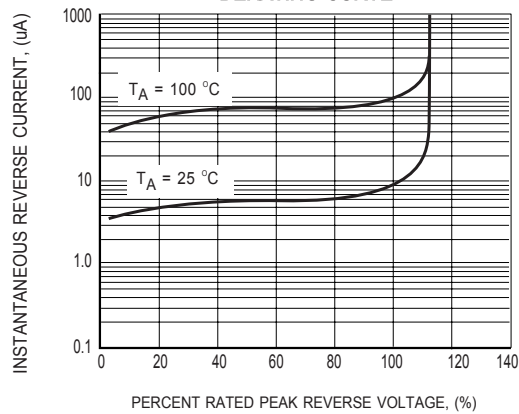


FIG.3 TYPICAL REVERSE CHARACTERISTICS

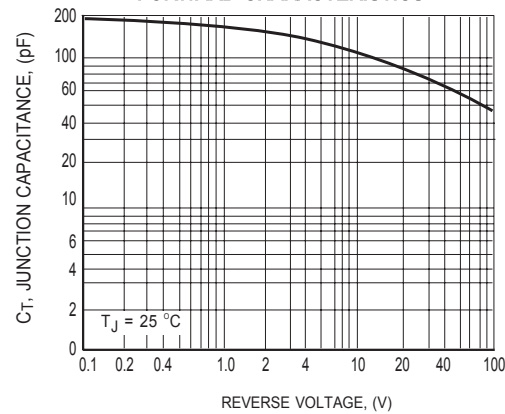


FIG.4 TYPICAL JUNCTION CAPACITANCE

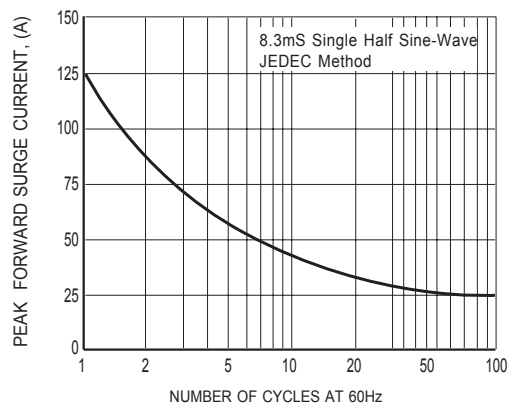


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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