RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

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

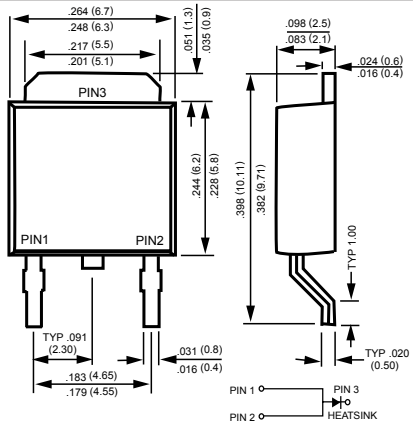
MECHANICAL DATA

* Case: D-PAK molded plastic
* Epoxy: Device has UL flammability classification 94V-O
* 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%.

D-PAK



Dimensions in inches and (millimeters)

MAXIMUM RATINGS (@ T_A=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)	$R_{\theta JC}$	3							°C/W
	$R_{\theta JA}$	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(@T_A=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	@T_A = 25°C	I_R	10							uAmps
	@T_A = 100°C		100							
Maximum Reverse Recovery Time (Note 3)		trr	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)

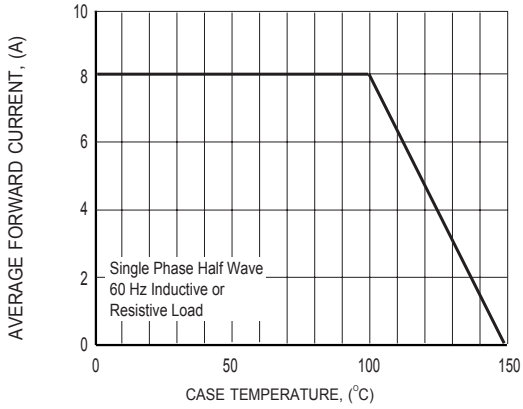

FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

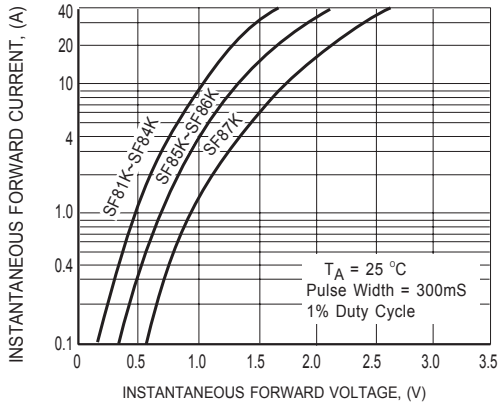

FIG.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

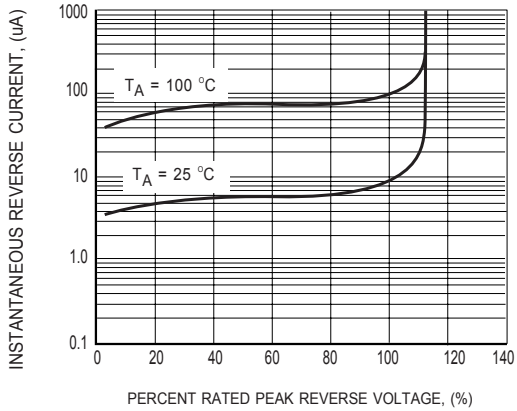

FIG.3 TYPICAL REVERSE CHARACTERISTICS

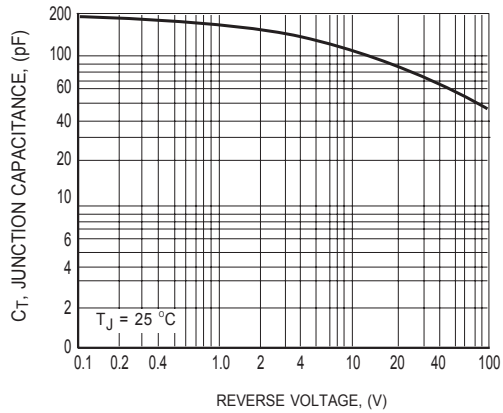

FIG.4 TYPICAL JUNCTION CAPACITANCE

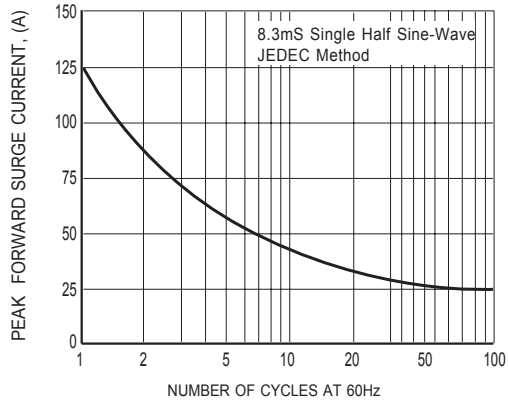

FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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