RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

SF81 THRU SF87

GLASS PASSIVATED SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 600 Volts CURRENT 8.0 Amperes

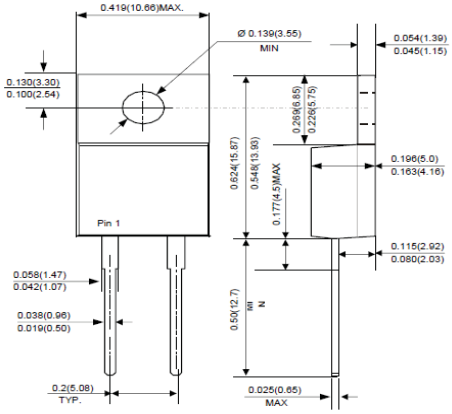
FEATURES

* 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

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, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

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

RATINGS	SYMBOL	SF81	SF82	SF83	SF84	SF85	SF86	SF87	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}	150							Amps
Typical Current Squarad Time	I^2t	93.37							A^2/Sec
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	SF81	SF82	SF83	SF84	SF85	SF86	SF87	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 "I" for ITO-220A Pkg.

2016-10
REV: C

RATING AND CHARACTERISTICS CURVES (SF81 THRU SF87)

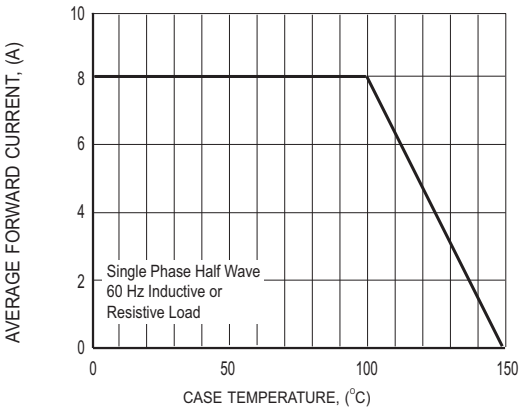


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

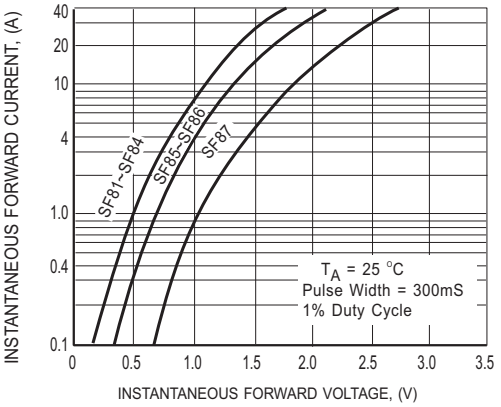


FIG.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

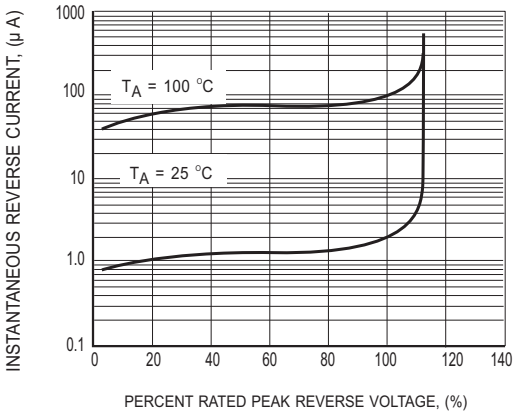


FIG.3 TYPICAL REVERSE CHARACTERISTICS

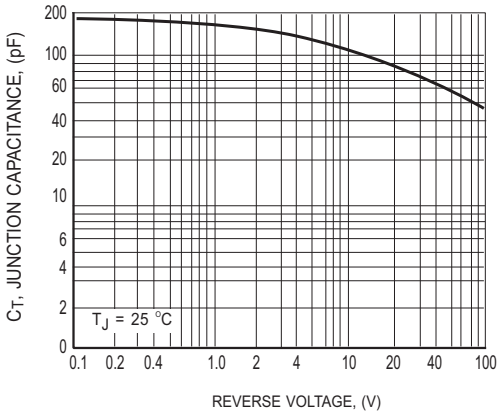


FIG.4 TYPICAL JUNCTION CAPACITANCE

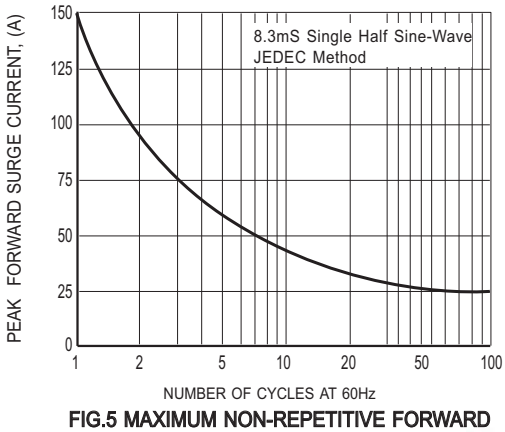


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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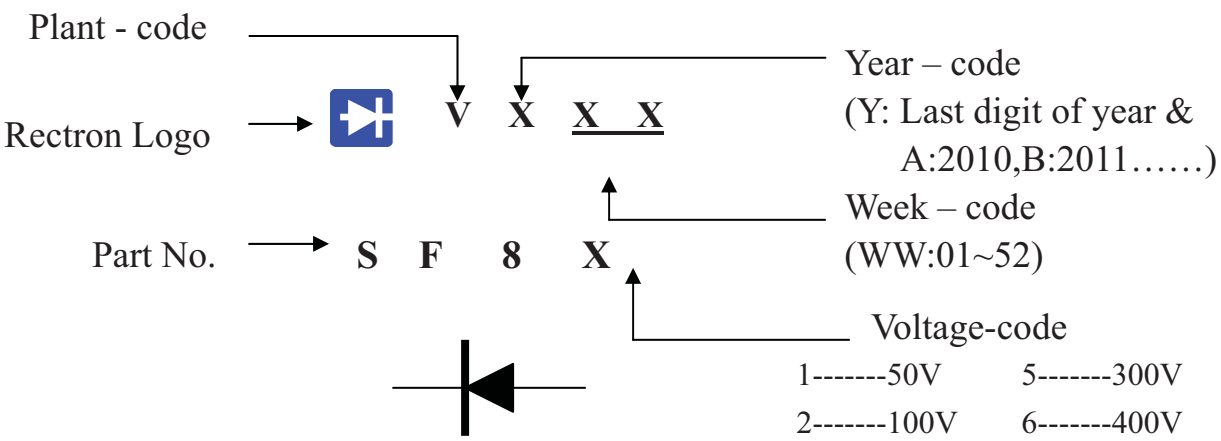
Attachment information about SF8X

1. Internal Circuit

Anode Cathode

2. Marking on the body



3. Items marked on the inner box and carton

3.1 On the box (for –C)

CUSTOMER
TYPE
LOT NO.
QUANTITY
Q.A.
DATE

3.2 On the carton

CUSTOMER
TYPE
QUANTITY
LOT NO.
REMARK

PACKAGING OF DIODE AND BRIDGE RECTIFIERS

TUBE PACK

PACKAGE	PACKING CODE	EA PER BOX	INNER BOX SIZE (mm)	CARTON SIZE (mm)	EA PER CARTON	WEIGHT(Kg)
(I)TO-220/TO-220A	-C	1,000	555*150*40	580*230*175	5,000	15.0

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