

GLASS PASSIVATED SUPER FAST RECTIFIER

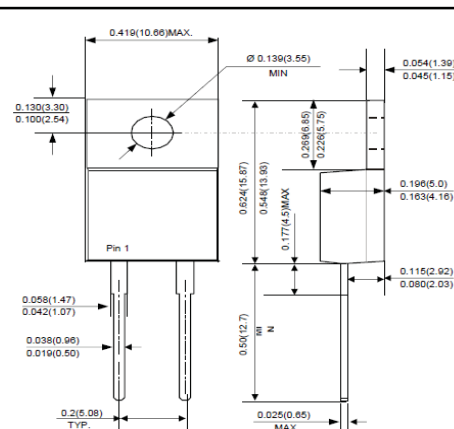
VOLTAGE RANGE 50 to 600 Volts CURRENT 8.0 Amperes

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 (@ TA=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 Squared Time	I ² t	93.37							A ² /Sec
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(@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)		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: $I_F = 0.5A$, $I_R = -0.1A$, $I_{RM} = -0.25A$.
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)

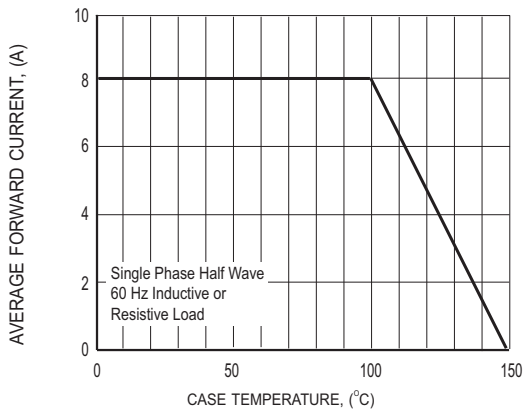


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

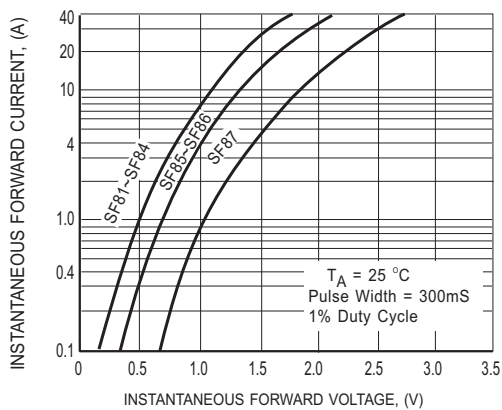


FIG.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

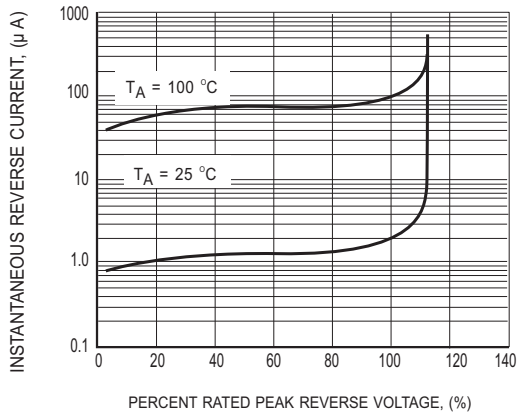


FIG.3 TYPICAL REVERSE CHARACTERISTICS

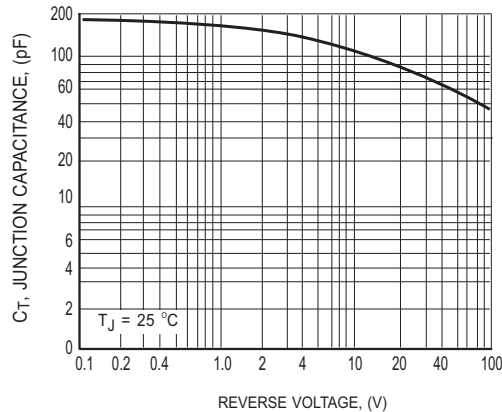


FIG.4 TYPICAL JUNCTION CAPACITANCE

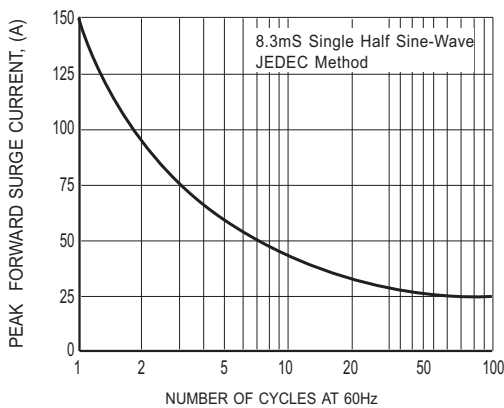
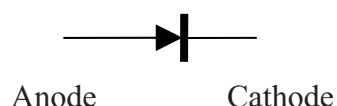


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

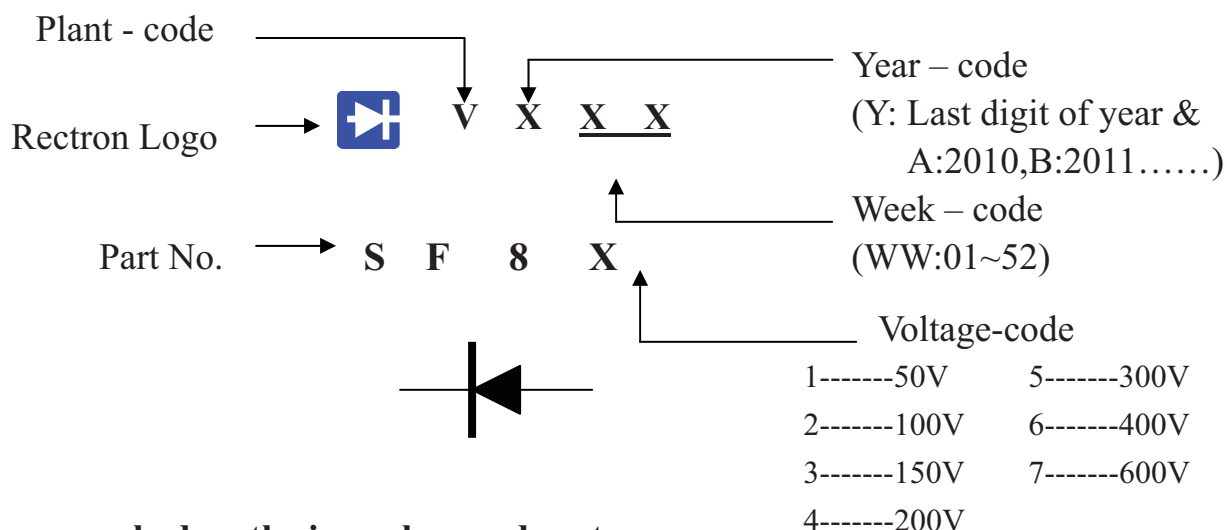


Attachment information about SF8X

1. Internal Circuit



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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