RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

SF1 THRU SF7

SURFACE MOUNT FAST RECOVERY RECTIFIER

VOLTAGE RANG 50 to1000 Volts CURRENT 1.0 Ampere

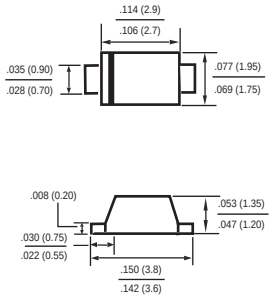
FEATURES

* Fast switching
* Low leakage
* Low forward voltage drop
* High current capability
* High currenf surge
* High reliability

MECHANICAL DATA

* Mounting position: Any
* Weight: 0.016 gram

SOD-123F



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	SF1	SF2	SF3	SF4	SF5	SF6	SF7	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at T_A = 55°C	I_O	1.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30							Amps
Typical Thermal Resistance (Note 4)	$R_{\theta JA}$	32							°C/W
	$R_{\theta JL}$	150							
Typical Junction Capacitance (Note 2)	C_J	15							pF
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150							°C

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

CHARACTERISTICS	SYMBOL	SF1	SF7	SF3	SF4	SF5	SF6	SF7	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC	V_F	1.3							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage T_A = 25°C	I_R	2.0							uAmps
Maximum Full Load Reverse Current Full Cycle Average, .375" (9.5mm) lead length at T_L = 55°C		100							uAmps
Maximum Reverse Recovery Time (Note 1)	trr	150				250	500		nSec

NOTES : 1. Reverse Recovery Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts
3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".
4. Thermal Resistance : Mounted on PCB.

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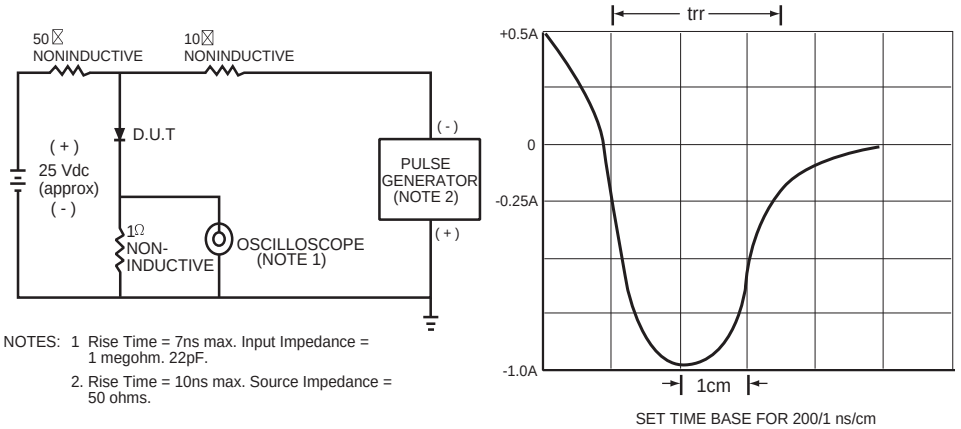
RATING AND CHARACTERISTICS CURVES (SF1 THRU SF7)



NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.

2. Rise Time = 10ns max. Source Impedance = 50 ohms.

SET TIME BASE FOR 200/1 ns/cm

FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

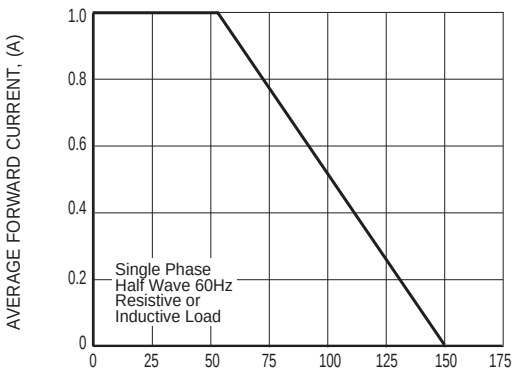


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

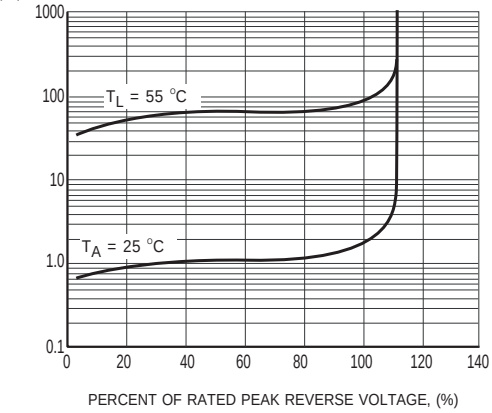
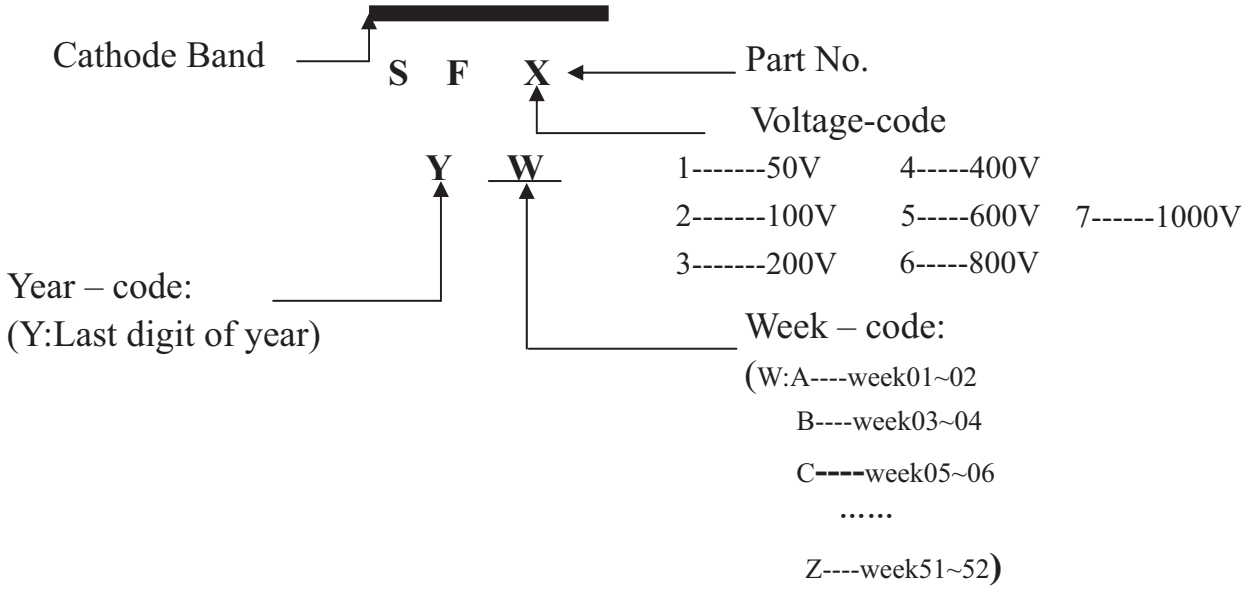
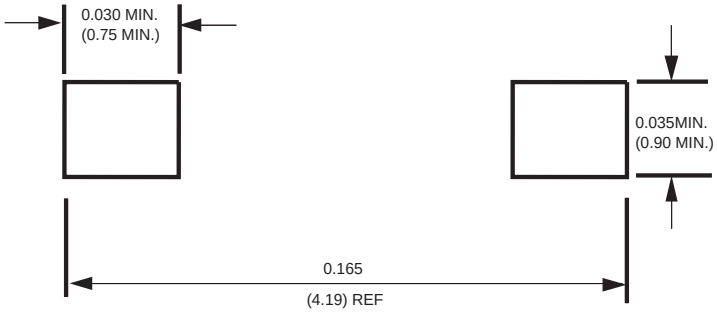


FIG.3 TYPICAL REVERSE CHARACTERISTICS

Marking Description



Mounting Pad Layout



Dimensions in inches and (millimeters)

PACKAGING OF DIODE AND BRIDGE RECTIFIERS

REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	COMPONENT SPACE(mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SOD-123F	-W	2,500	---	---	178	390*205*310	100,000	5.804

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