



**SF1
THRU
SF5**

**SURFACE MOUNT
FAST RECOVERY RECTIFIER**
VOLTAGE RANGE 50 to 600 Volts CURRENT 1.0 Ampere

FEATURES

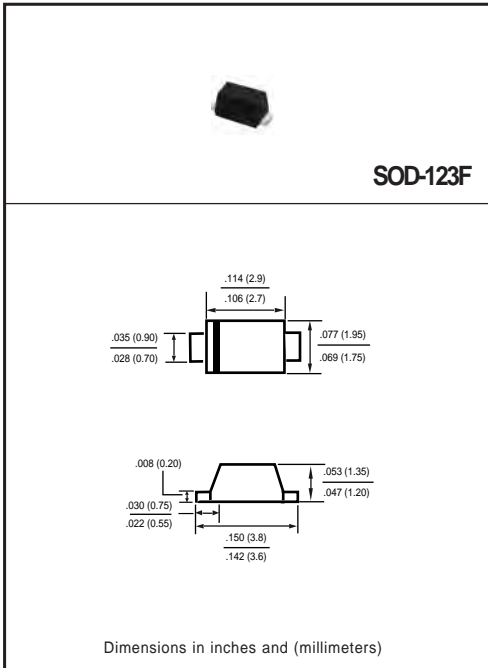
- * Fast switching
- * Low leakage
- * Low forward voltage drop
- * High current capability
- * High current surge
- * High reliability

MECHANICAL DATA

- * Epoxy: Device has UL flammability classification 94V-O
- * Mounting position: Any
- * Weight: 0.016 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
resistive or inductive load.



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

RATINGS	SYMBOL	SF1	SF2	SF3	SF4	SF5	UNITS	
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	Volts	
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	Volts	
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	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}	20						Amps
Typical Current Squared Time	I ² T	1.6						A ² S
Typical Thermal Resistance (Note 4)	R _{θJA}	32						°C/W
	R _{θJL}	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	SF2	SF3	SF4	SF5	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)	t _{rr}	150				250		nSec

- NOTES : 1. Reverse Recovery Test Conditions: I_F = 0.5A, I_R = -1.0A, I_{RR} = -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.
 5. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

RATING AND CHARACTERISTICS CURVES (SF1 THRU SF5)

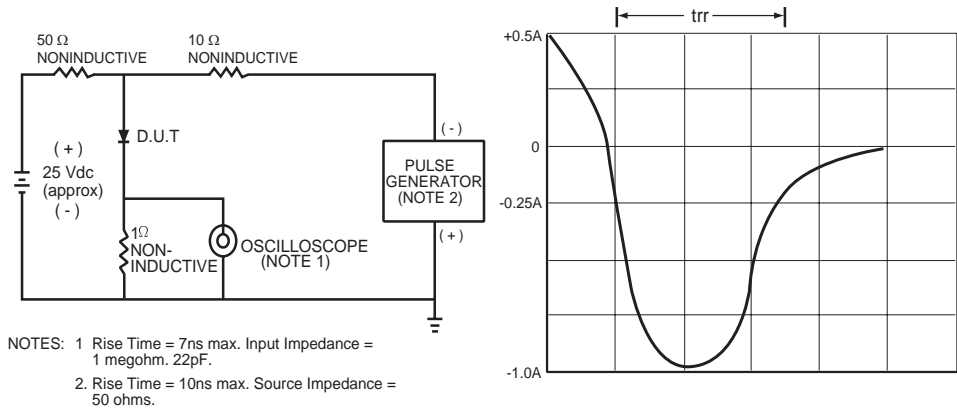


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

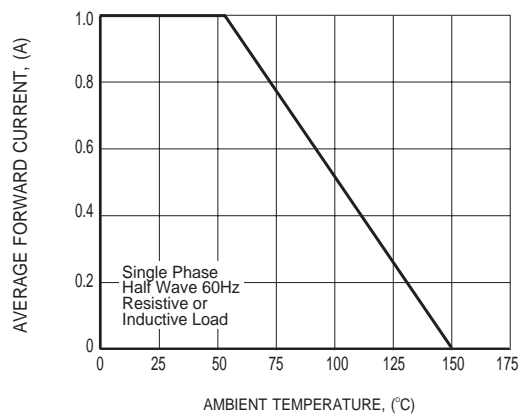


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

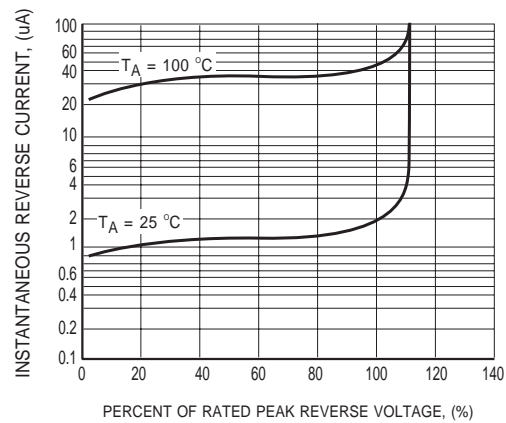


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (SF1 THRU SF5)

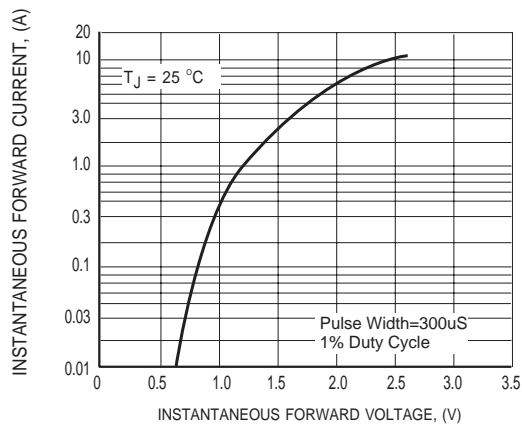


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

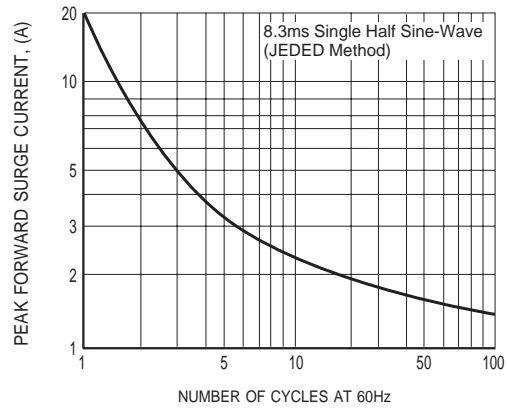


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

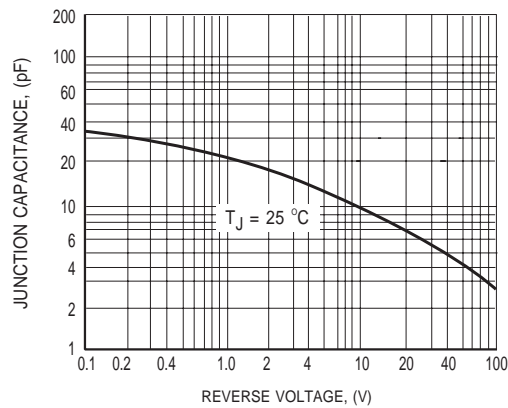
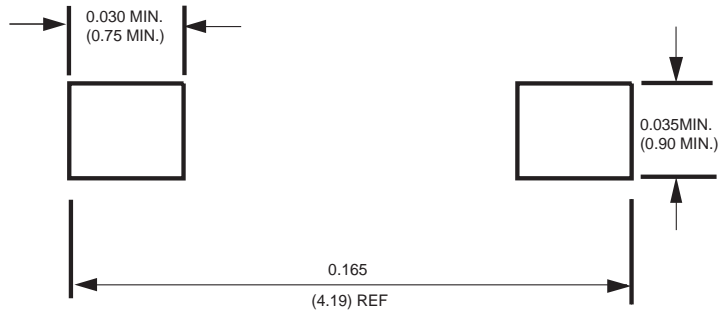


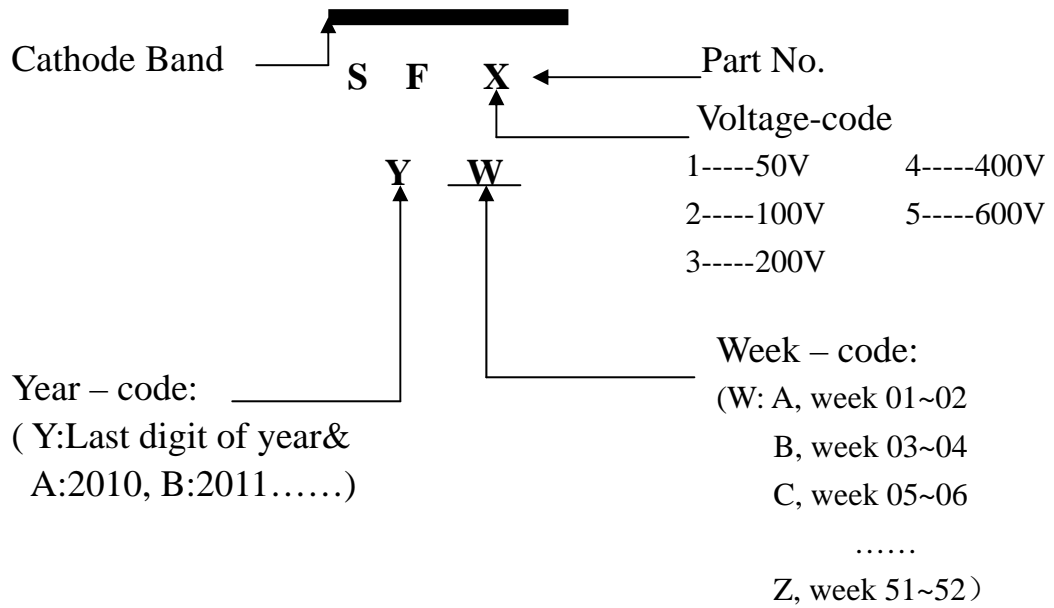
FIG.6 TYPICAL JUNCTION CAPACITANCE

Mounting Pad Layout



Dimensions in inches and (millimeters)

Marking Description



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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