

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

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	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 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					μAmps
Maximum Full Load Reverse Current Full Cycle Average, .375" (9.5mm) lead length at T _L = 55 °C		100					μAmps
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.

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RATING AND CHARACTERISTICS CURVES (SF1 THRU SF5)

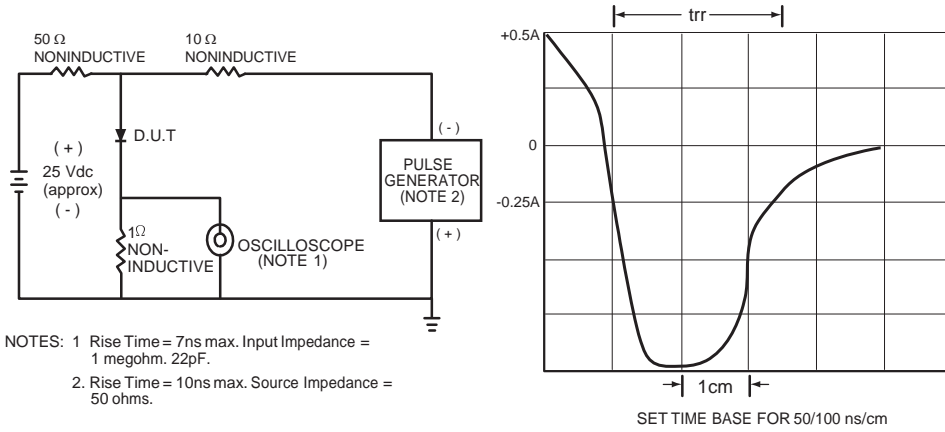


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

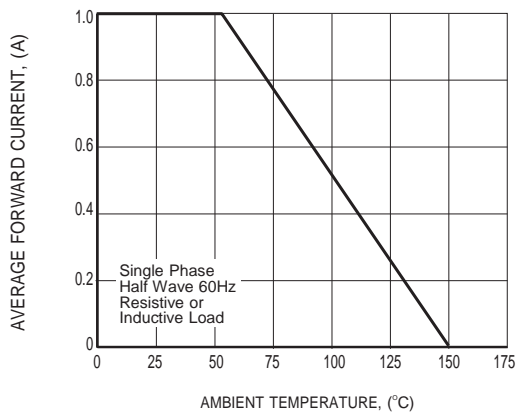


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

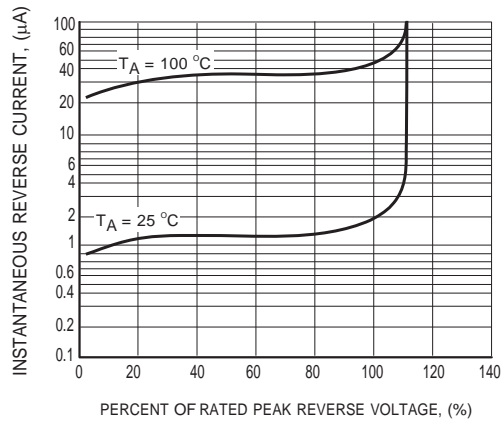


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (SF1 THRU SF5)

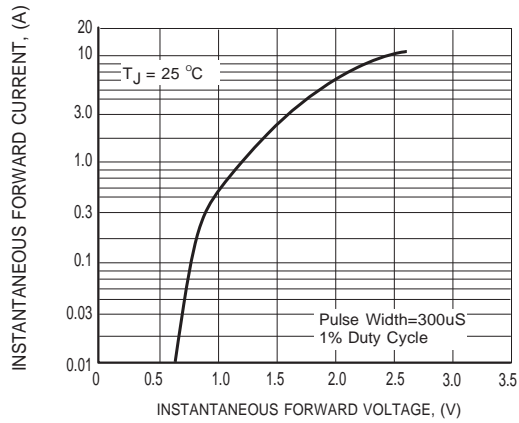


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

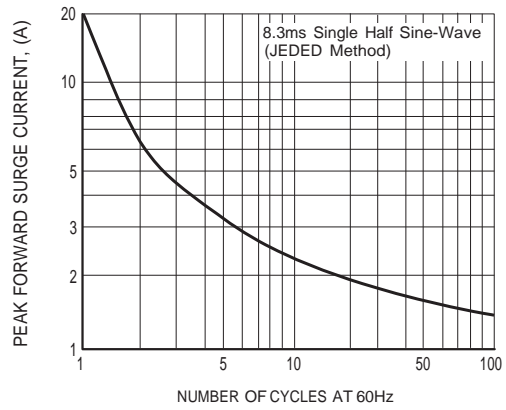


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

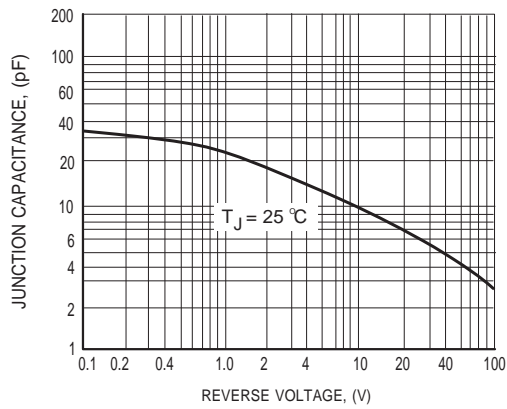


FIG.6 TYPICAL JUNCTION CAPACITANCE