

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 current surge
- * High reliability
- * P/N suffix V means AEC-Q101 qualified
- * P/N suffix V means Halogen-free

MECHANICAL DATA

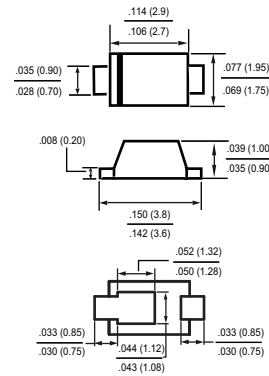
- * Mounting position: Any
- * Weight: 0.016 gram

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%.



SOD-123FL



Dimensions in inches and (millimeters)

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

RATINGS	SYMBOL	SF1L	SF2L	SF3L	SF4L	SF5L	SF6L	SF7L	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 Current Squarad Time	I ² t	3.74							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	SF1L	SF2L	SF3L	SF4L	SF5L	SF6L	SF7L	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: $I_F = 0.5\text{A}$, $I_R = -1.0\text{A}$, $I_{RR} = -0.25\text{A}$
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.

2018-01
REV:D

RATING AND CHARACTERISTICS CURVES (SF1L THRU SF7L)

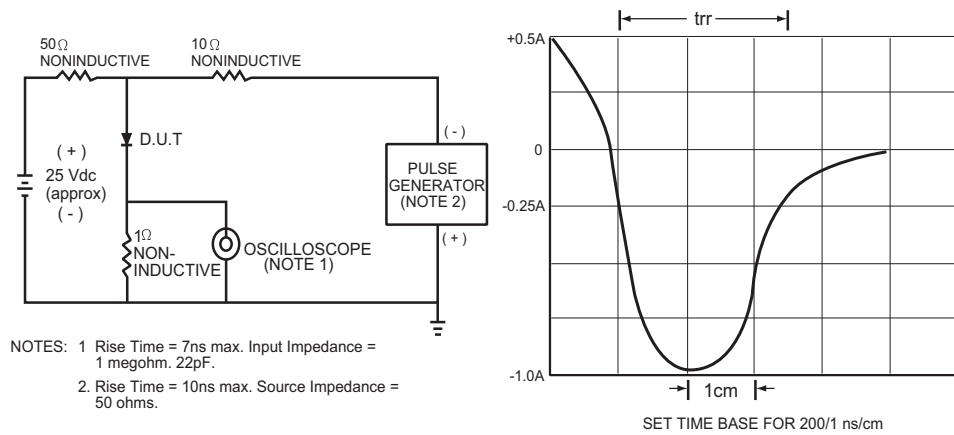


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

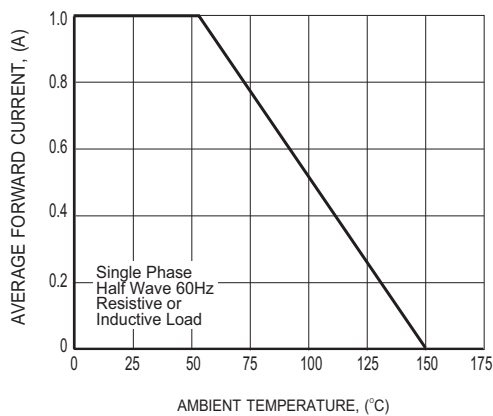


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

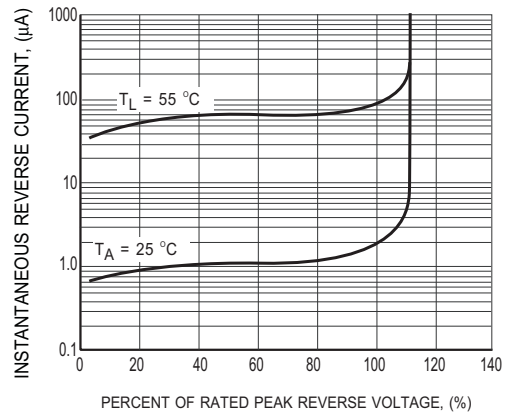


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (SF1L THRU SF7L)

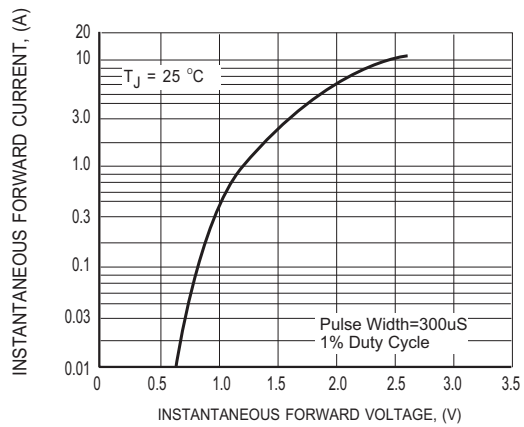


FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

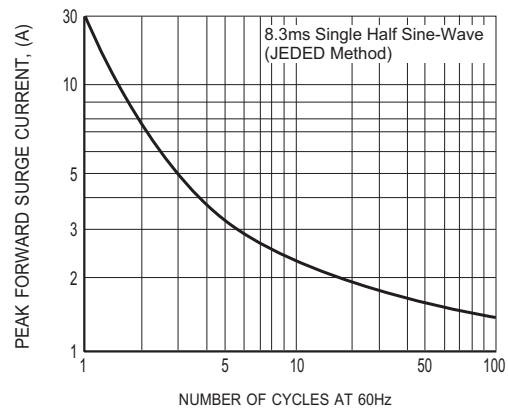


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

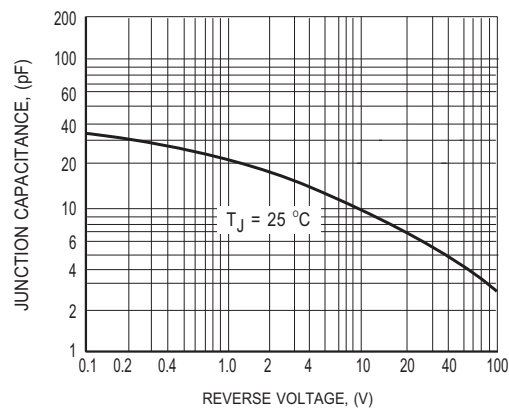
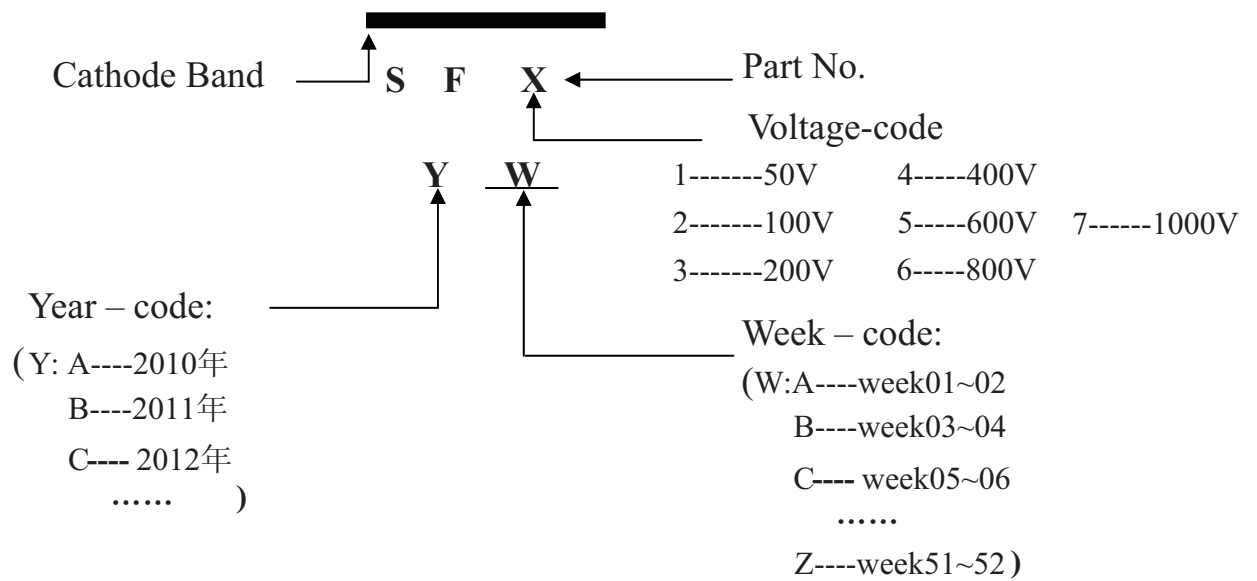
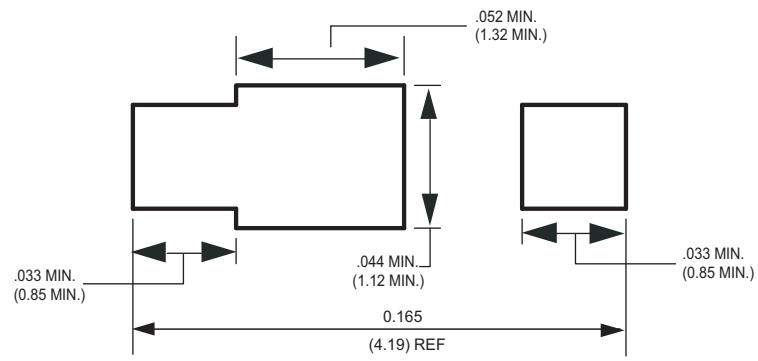


FIG.6 TYPICAL JUNCTION CAPACITANCE

Marking Description



Mounting Pad Layout



Dimensions in inches and (millimeters)

PACKAGING OF DIODE AND BRIDGE RECTIFIERS

REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SOD-123F/ SOD-123FL	-T/W	2,500	12,500	---	---	178	390*205*31	100,000	5.804

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