

**SURFACE MOUNT
HIGH EFFICIENCY RECTIFIER**
VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.0 Ampere

FEATURES

- * Low power loss, high efficiency
- * Low leakage
- * Low forward voltage
- * High current capability
- * High speed switching
- * High surge capability
- * High reliability

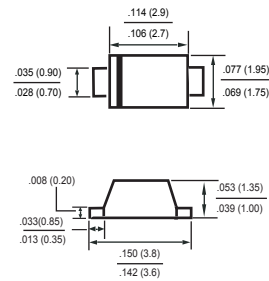
MECHANICAL DATA

- * Epoxy: Device has UL flammability classification 94V-O
- * Mounting position: Any
- * Weight: 0.018 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-123F



Dimensions in inches and (millimeters)

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

RATINGS	SYMBOL	SH1	SH2	SH3	SH4	SH5	SH6	SH7	SH8	UNITS	
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	300	400	600	800	1000	Volts	
Maximum RMS Voltage	V _{RMS}	35	70	140	210	280	420	420	700	Volts	
Maximum DC Blocking Voltage	V _{DC}	50	100	200	300	400	600	600	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	
Current Squared Time	I ² t	3.7								A ² /Sec	
Typical Thermal Resistance (Note 1)	R _{θJA}	130								°C/W	
Typical Thermal Resistance (Note 1)	R _{θJL}	30								°C/W	
Typical Junction Capacitance (Note 2)	C _J	15					12				pF
Operating Temperature Range	T _J	-55 to + 150								°C	
Storage Temperature Range	T _{STG}	-55 to + 150								°C	

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

CHARACTERISTICS		SYMBOL	SH1	SH2	SH3	SH4	SH5	SH6	SH7	SH8	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC		V _F	1.0			1.3		1.7			Volts
Maximum Average Reverse Current	@T _A = 25°C	I _R	5.0								uA
at Rated DC Blocking Voltage	@T _A = 125°C		1.0								mA
Maximum Reverse Recovery Time (Note 4)		trr	50					75			nSec

NOTES : 1. Thermal Resistance :Mounted on PCB.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. "ROHS compliant"
4. Test Conditions: $I_F = 0.5A$, $I_R = -1.0A$, $I_{RR} = -0.25A$.
5. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

2020-04
REV:B

RATING AND CHARACTERISTICS CURVES (SH1 THRU SH8)

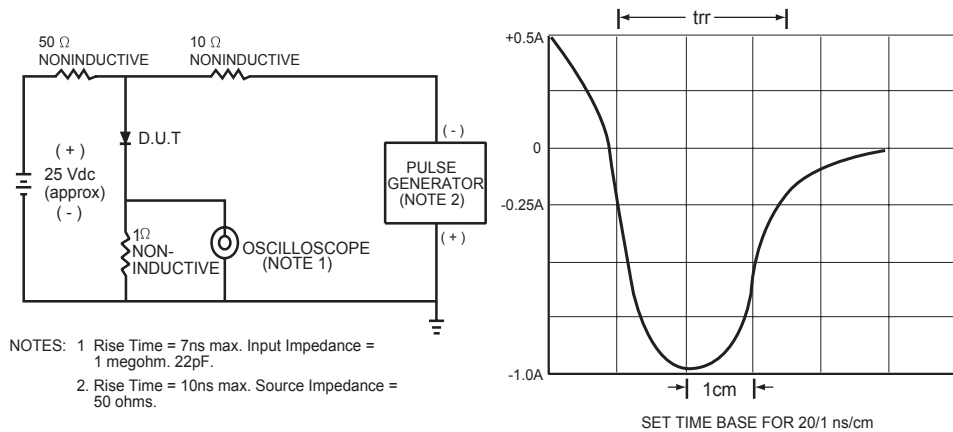


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

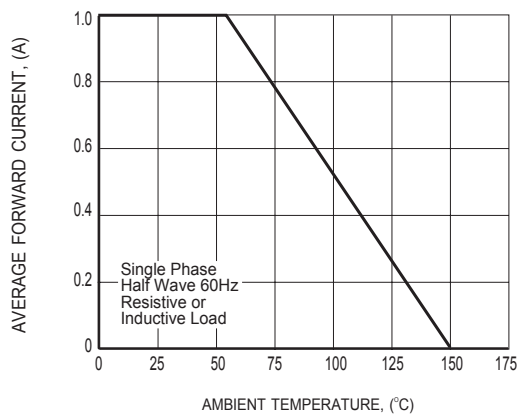


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

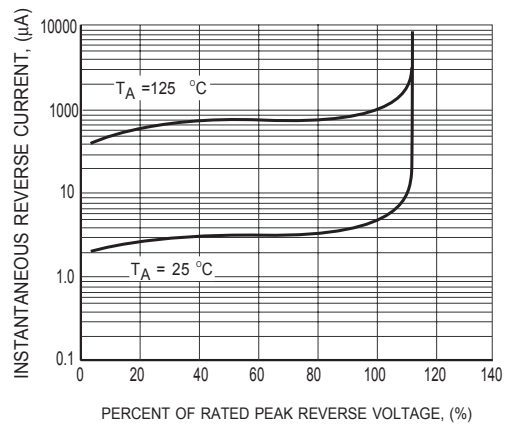


FIG.3 MAXIMUM REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (SH1 THRU SH8)

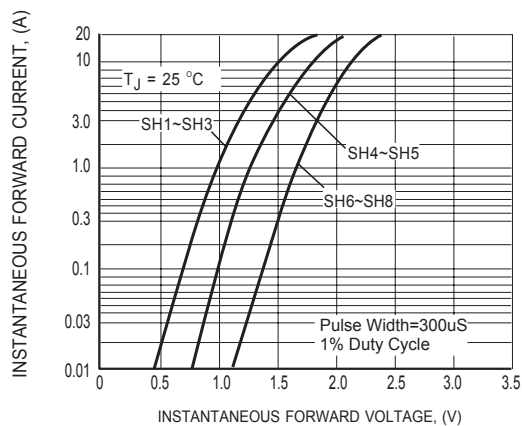


FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

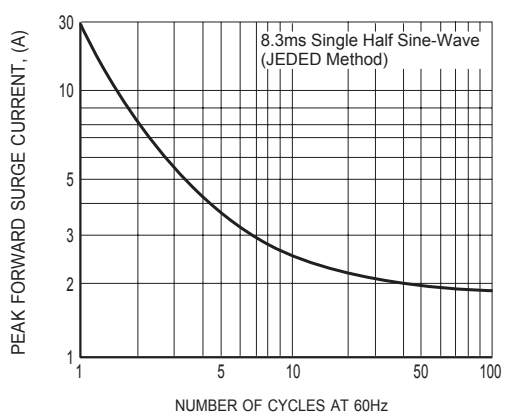


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

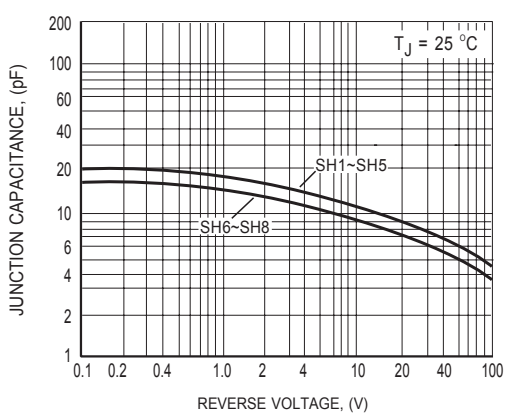
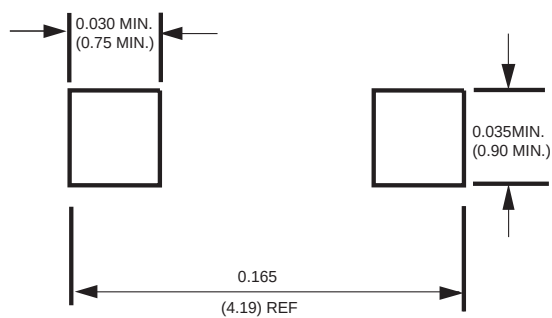


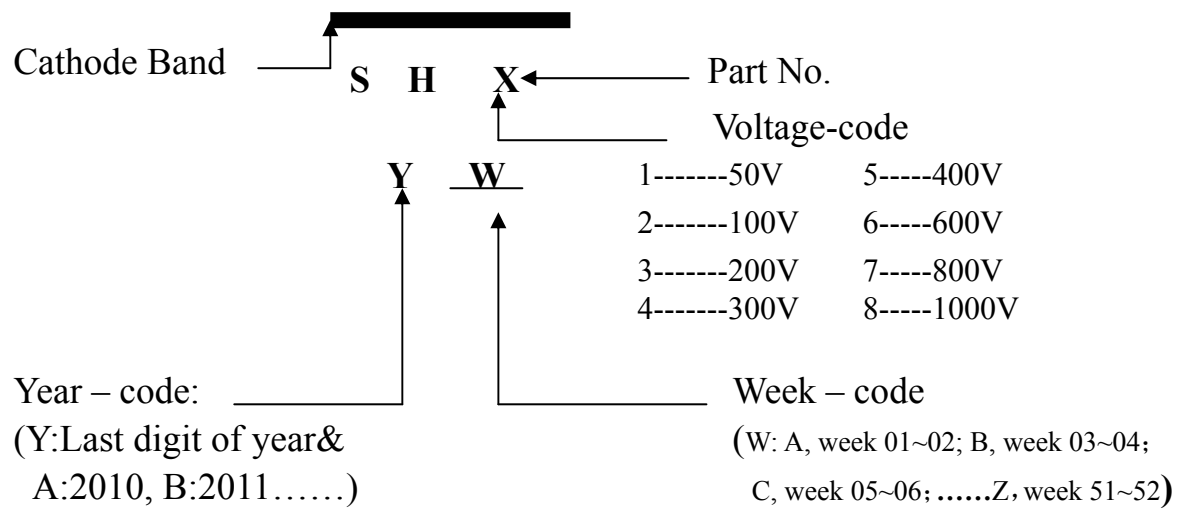
FIG.6 TYPICAL JUNCTION CAPACITANCE

Mounting Pad Layout



Dimensions in inches and (millimeters)

Marking Description



PACKAGING OF DIODE AND BRIDGE RECTIFIERS

REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	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	-W	3,000	15,000	---	---	178	390*205*31	120,000	6.964

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