

SURFACE MOUNT
SUPER FAST SILICON RECTIFIER
VOLTAGE RANGE 50 to 800 Volts CURRENT 1.0 Ampere

FEATURES

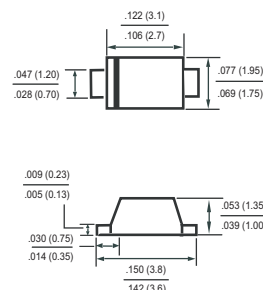
- * Low power loss, high efficiency
- * Low leakage
- * Low forward voltage
- * High current capability
- * High speed switching
- * High surge capability
- * High reliability

MECHANICAL DATA

- * Epoxy: Device has UL flammability classification 94V-0
- * Mounting position: Any
- * Weight: 0.018 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	SE1	SE2	SE3	SE4	SE5	SE6	SE7	SE8	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	800	Volts
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	420	560	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	800	Volts
Maximum Average Forward Rectified Current at T _C =105°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}	40								Amps
Current Squared Time	I ² t	6.6								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				10				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	SE1	SE2	SE3	SE4	SE5	SE6	SE7	SE8	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC		V _F	0.98				1.25		1.50		Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage	@T _A = 25°C	I _R	5								uA
	@T _A = 150°C		2								mA
Maximum Reverse Recovery Time (Note 4)		trr	35						50		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: $I_F = 0.5A$, $I_R = -1.0A$, $I_{RR} = -0.25A$.

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RATING AND CHARACTERISTICS CURVES (SE1 THRU SE8)

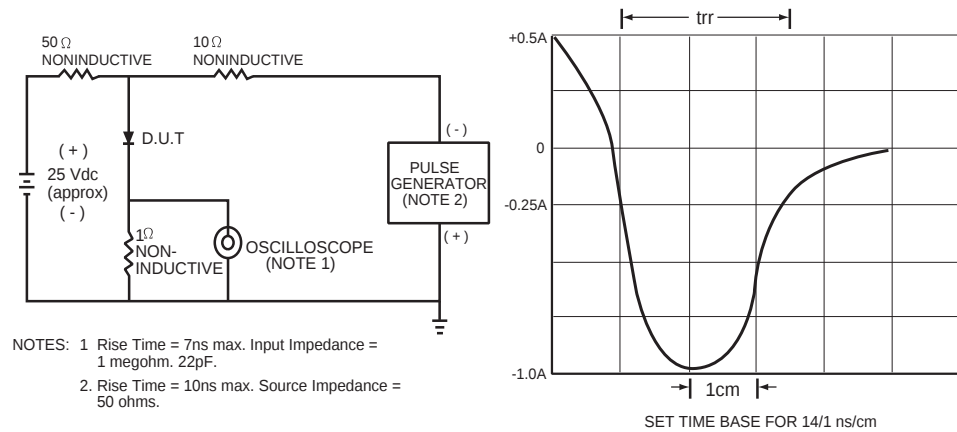


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

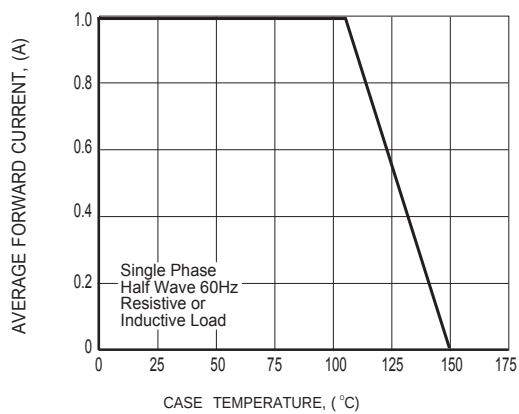


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

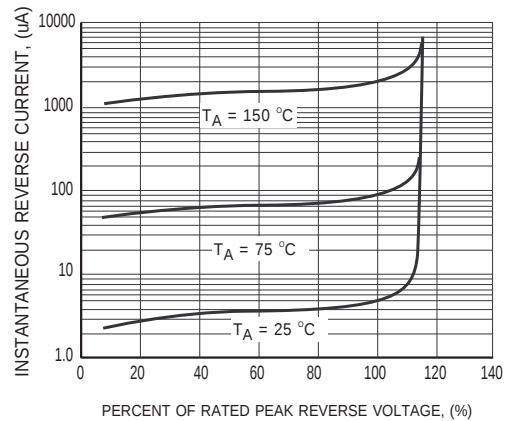


FIG.3 MAXIMUM REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (SE1 THRU SE8)

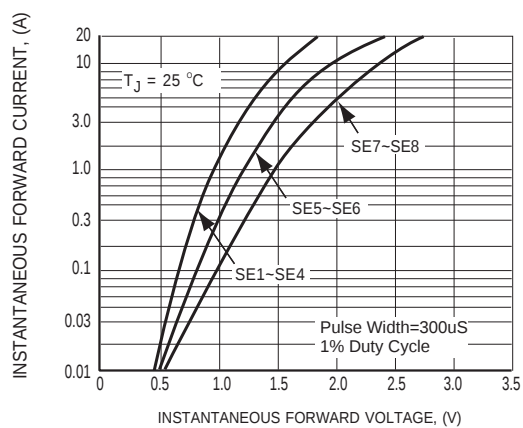


FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

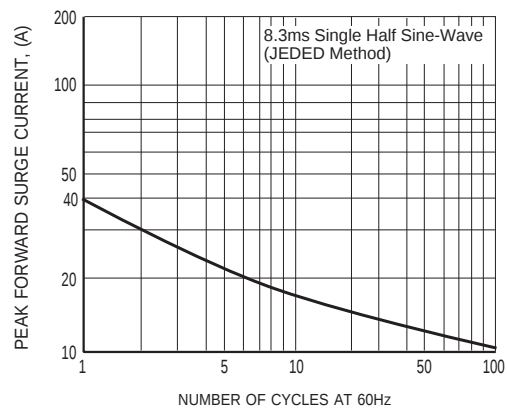


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

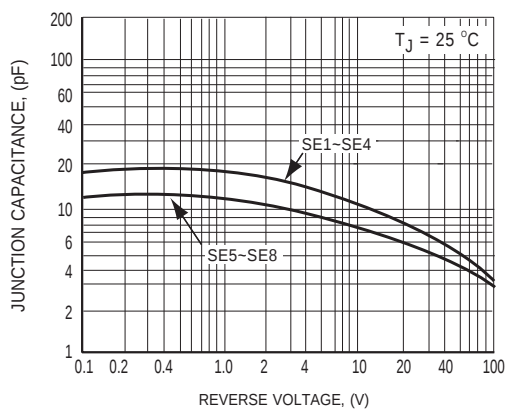
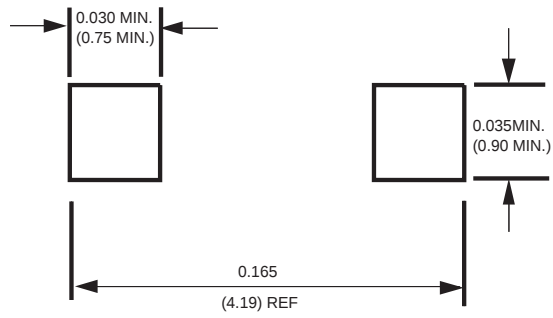


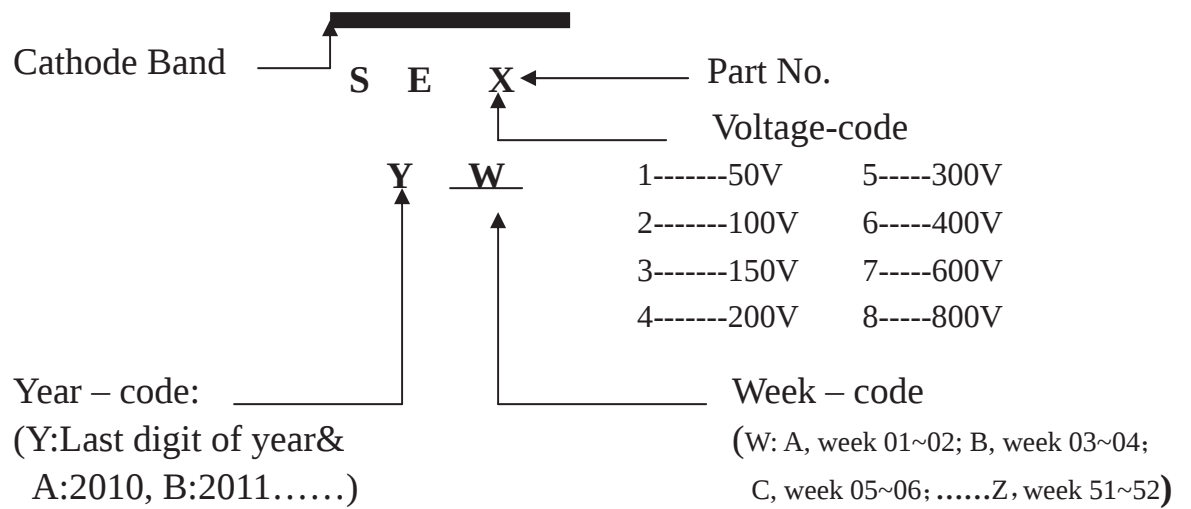
FIG.6 TYPICAL JUNCTION CAPACITANCE

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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