



**SURFACE MOUNT SUPER FAST RECTIFIER**

VOLTAGE RANGE 50 to 400 Volts CURRENT 1.0 Ampere

**SE1L  
THRU  
SE6L**

**FEATURES**

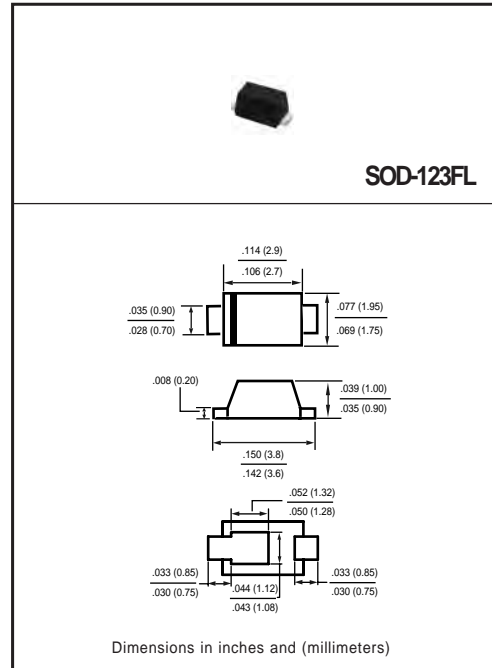
- \* High reliability
- \* Low leakage
- \* Low forward voltage
- \* High current capability
- \* Super fast switching speed
- \* High surge capability
- \* Good for switching mode circuit

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* 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%.



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

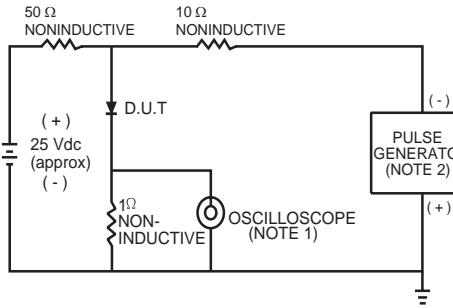
RATINGS	SYMBOL	SE1L	SE2L	SE3L	SE4L	SE5L	SE6L	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	400	Volts
Maximum Average Forward Rectified Current at T <sub>A</sub> = 55°C	I <sub>O</sub>	1.0						Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	15						Amps
Current Squarad Time	I <sup>2</sup> t	0.9						A <sup>2</sup> /Sec
Typical Thermal Resistance (Note 1)	R <sub>θJA</sub>	130						°C/W
Typical Thermal Resistance (Note 1)	R <sub>θJL</sub>	30						°C/W
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	15				10		pF
Operating Temperature Range	T <sub>J</sub>	150						°C
Storage Temperature Range	T <sub>STG</sub>	-55 to + 150						°C

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

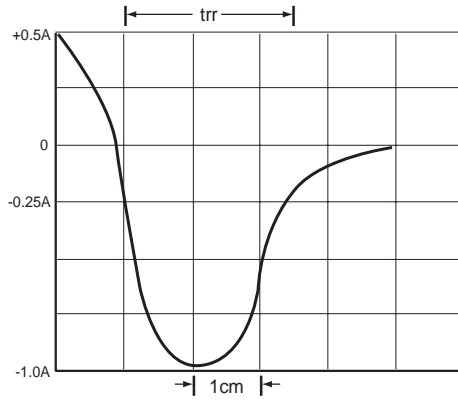
CHARACTERISTICS	SYMBOL	SE1L	SE2L	SE3L	SE4L	SE5L	SE6L	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC	V <sub>F</sub>	0.95				1.25		Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	@ T <sub>A</sub> = 25°C						μA
		@ T <sub>A</sub> = 100°C						μA
Maximum Reverse Recovery Time (Note 4)	t <sub>rr</sub>	35						nSec

- NOTES :
1. Thermal Resistance :Mounted on PCB.
  2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
  3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".
  4. Test Conditions: I<sub>F</sub>= 0.5A, I<sub>R</sub>= -1.0A, I<sub>RR</sub>= -0.25A.
  5. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

# RATING AND CHARACTERISTICS CURVES ( SE1L THRU SE6L )

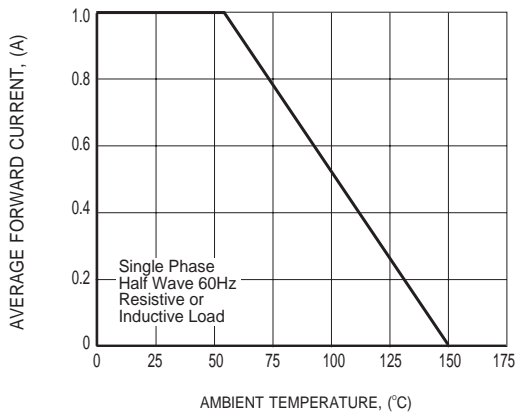


NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm, 22pF.  
 2. Rise Time = 10ns max. Source Impedance = 50 ohms.

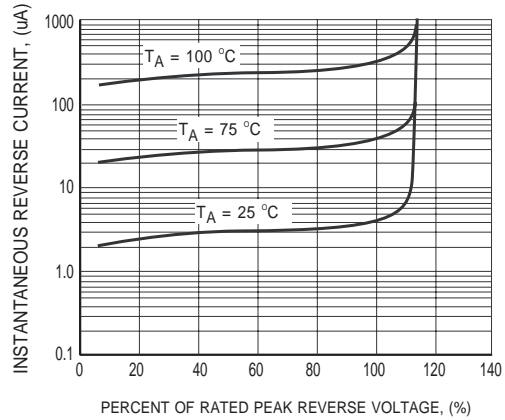


SET TIME BASE FOR 14/1 ns/cm

**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 ( SE1L THRU SE6L )

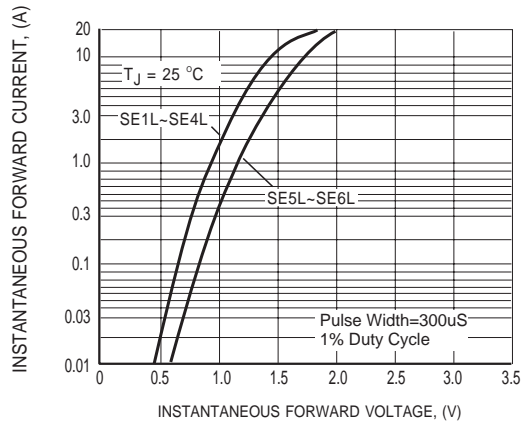


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

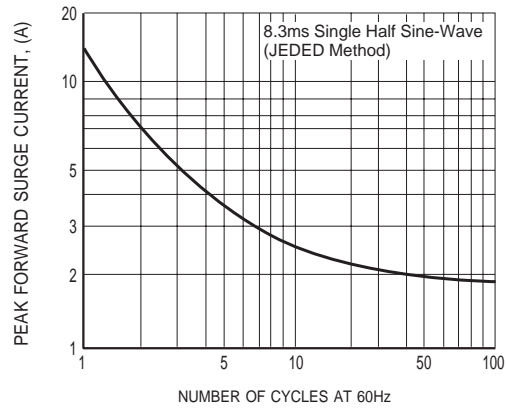


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

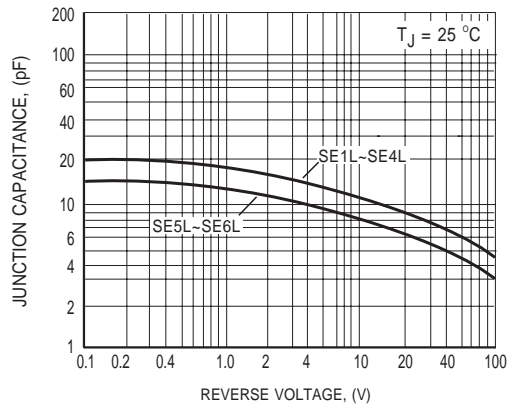
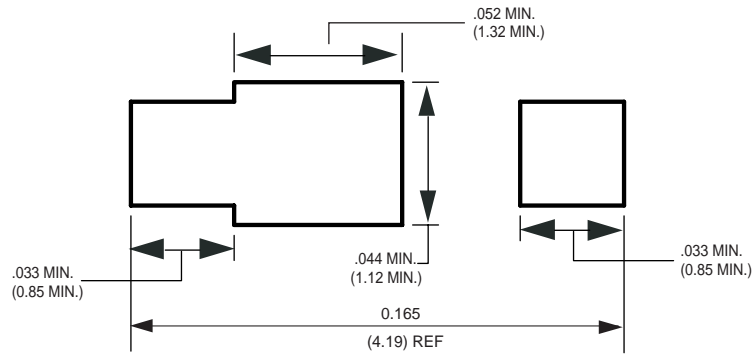


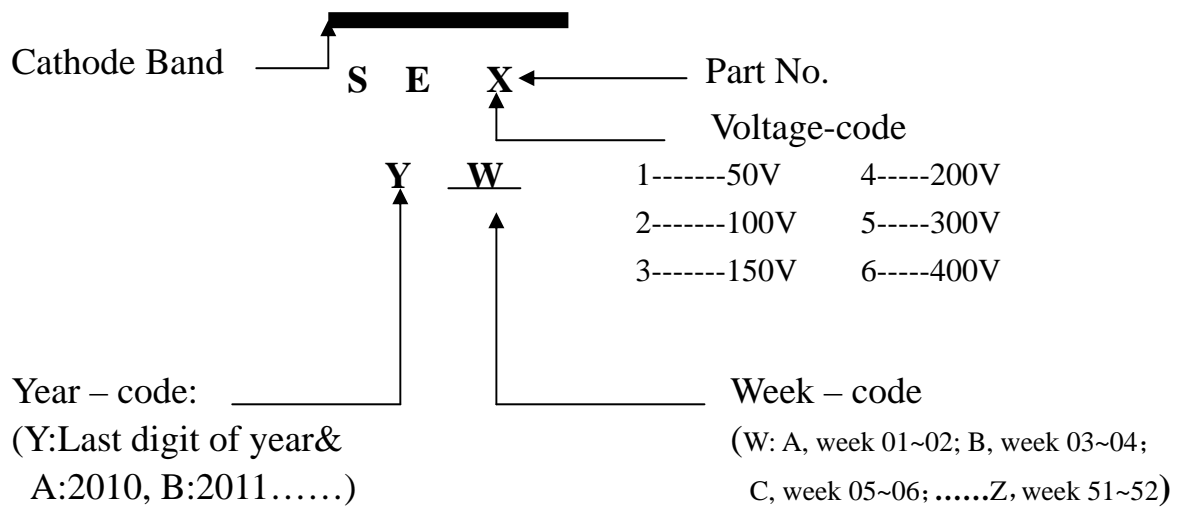
FIG.6 TYPICAL JUNCTION CAPACITANCE

## 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-123FL	-W	2,500	---	---	178	390*205*310	100,000	5.804

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