

**SURFACE MOUNT  
SCHOTTKY BARRIER RECTIFIER**  
VOLTAGE RANGE 20 to 40 Volts CURRENT 0.5 Ampere

**FEATURES**

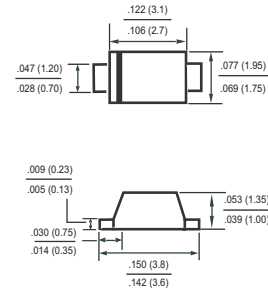
- \* Low power loss, high efficiency
- \* Low leakage
- \* Low forward voltage
- \* High current capability
- \* High speed switching
- \* High surge capability
- \* High reliability

**MECHANICAL DATA**

- \* Epoxy: Device has UL flammability classification 94V-0
- \* Mounting position: Any



SOD-123F



**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	05SSL20	05SSL30	05SSL40	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	20	30	40	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	14	21	28	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	20	40	40	Volts
Maximum Average Forward Rectified Current .375" (9.5mm) lead length at T <sub>A</sub> =100°C	I <sub>O</sub>	0.5			Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	60			Amps
Typical Current Squared Time	I <sup>2</sup> T	14.9			A <sup>2</sup> S
Typical Junction Capacitance (Note1)	C <sub>J</sub>	110			pF
Typical Thermal Resistance (Note 2)	R <sub>θJA</sub>	110			°C/W
	R <sub>θJL</sub>	30			
Operating Temperature Range	T <sub>J</sub>	-55 to + 150			°C
Storage Temperature Range	T <sub>STG</sub>	-55 to + 150			°C

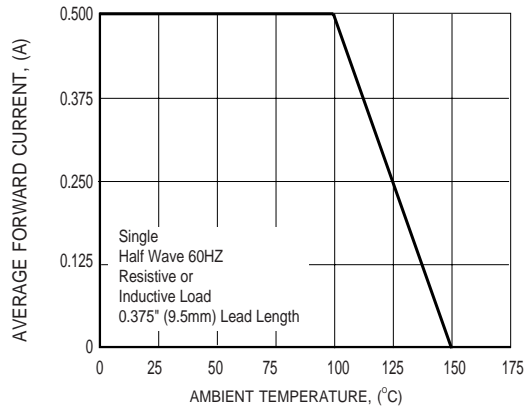
**ELECTRICAL CHARACTERISTICS**(@TA=25 °C unless otherwise noted)

CHARACTERISTICS	SYMBOL	05SSL20	05SSL30	05SSL40	UNITS
Maximum Instantaneous Forward Voltage at 0.5A DC	V <sub>F</sub>	0.30			Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	@ T <sub>A</sub> = 25°C	1.0		mAmps
		@ T <sub>A</sub> = 125°C	20		mAmps

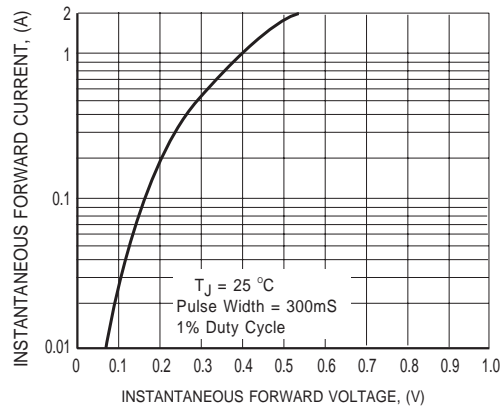
NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
2. Thermal resistance: Mounted on PCB.

2022-10  
REV: B

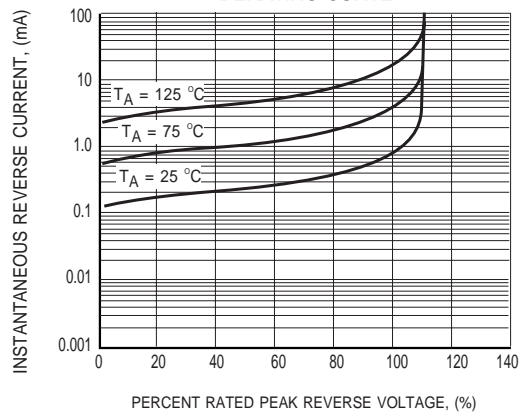
## RATING AND CHARACTERISTICS CURVES ( 05SSL20 THRU 05SSL40 )



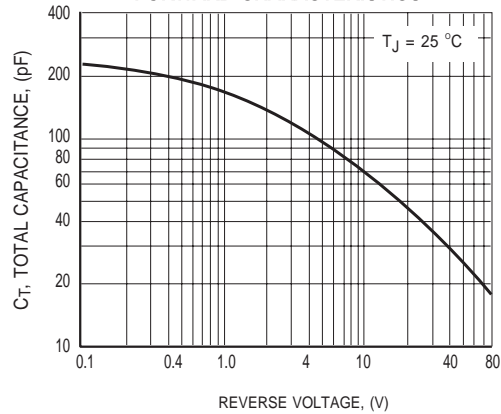
**FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE**



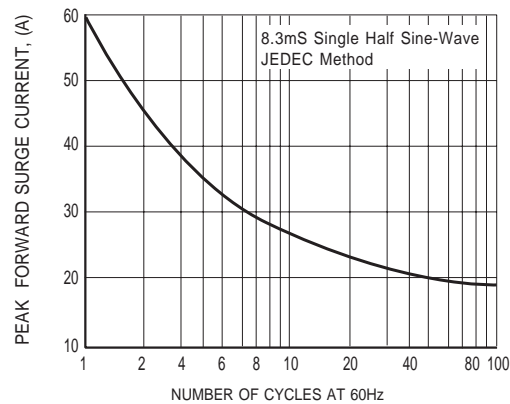
**FIG.2 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG.3 TYPICAL REVERSE CHARACTERISTICS**

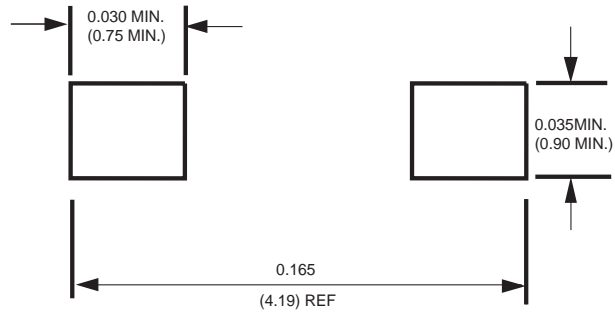


**FIG.4 TYPICAL JUNCTION CAPACITANCE**



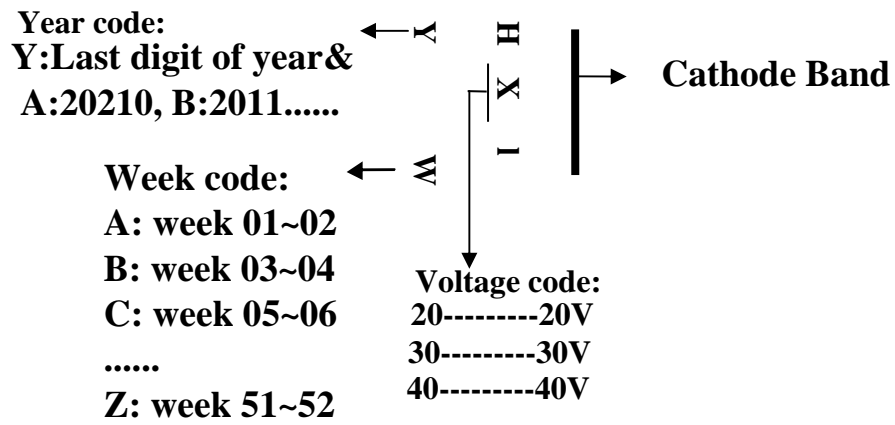
**FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**

## 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