

**SURFACE MOUNT SILICON RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 0.5 Ampere**

**FEATURES**

- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.016 gram

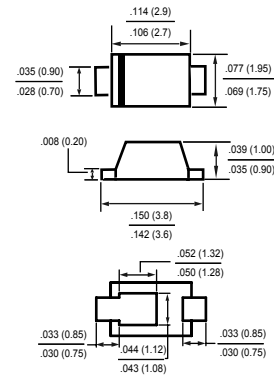
**MECHANICAL DATA**

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

NEW RELEASE



**SOD-123FL**



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	05A1L	05A2L	05A3L	05A4L	05A5L	05A6L	05A7L	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at TA = 55°C	I <sub>O</sub>				0.5				Amps
Peak Forward Surge Current I <sub>FM</sub> (surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>				15				Amps
Typical Thermal Resistance (Note 3)	R <sub>θJA</sub>				85				°C/W
	R <sub>θJL</sub>				25		30		
Typical Junction Capacitance (Note 1)	C <sub>J</sub>				8				pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>				-55 to + 150				°C

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

CHARACTERISTICS	SYMBOL	05A1L	05A2L	05A3L	05A4L	05A5L	05A6L	05A7L	UNITS
Maximum Forward Voltage at 0.5A DC	V <sub>F</sub>				1.1				Volts
Maximum Full Load Reverse Current, Full cycle Average at T <sub>A</sub> =55°C	I <sub>R</sub>				30				μAmps
Maximum DC Average Reverse Current at Rated DC Blocking Voltage					2.0				μAmps
		@T <sub>A</sub> = 25°C				50			
	@T <sub>A</sub> = 100°C								μAmps

- NOTES : 1. Measured at 1.0 MHz and applied average voltage of 4.0VDC  
2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".  
3. Thermal Resistance: Mounted on PCB.

## RATING AND CHARACTERISTICS CURVES ( 05A1L THRU 05A7L )

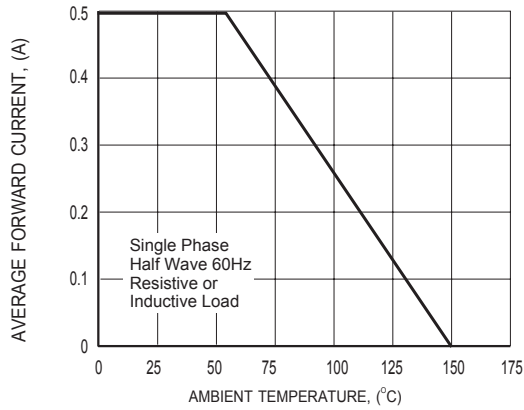


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

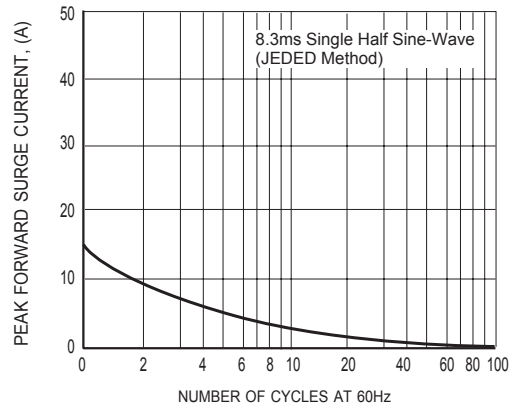


FIG.2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

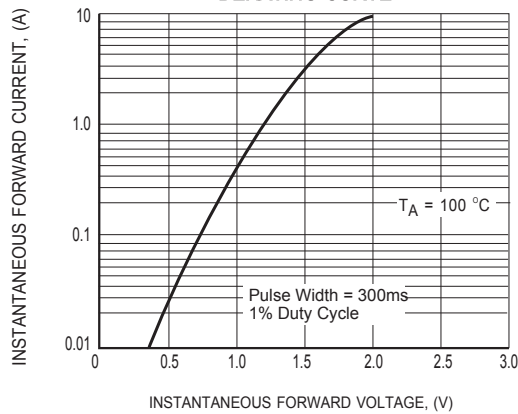


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

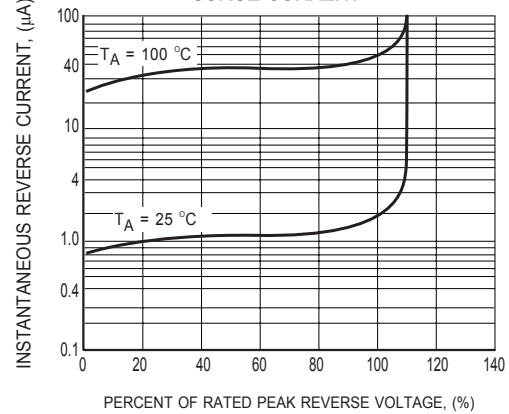


FIG.4 TYPICAL REVERSE CHARACTERISTICS

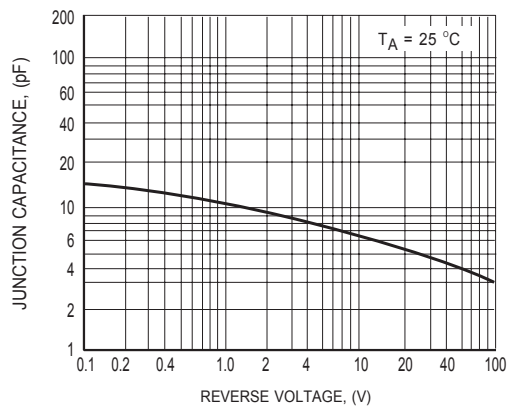
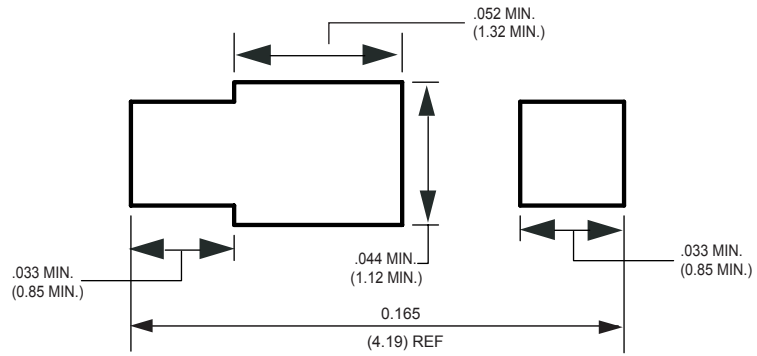


FIG.5 TYPICAL JUNCTION CAPACITANCE

## Mounting Pad Layout



Dimensions in inches and (millimeters)

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