

**SURFACE MOUNT GLASS PASSIVATED  
SUPER FAST SILICON RECTIFIER**  
VOLTAGE RANGE 50 to 200 Volts CURRENT 0.5 Ampere

**FEATURES**

- \* Glass passivated device
- \* For surface mounted applications
- \* Ultrafast recovery times dor high efficiency
- \* Low forward voltage, low power loss
- \* Low leakage current

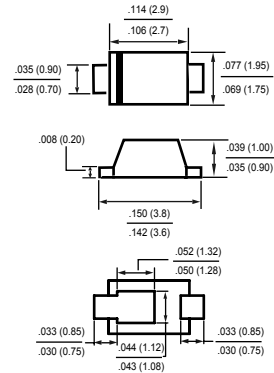
**MECHANICAL DATA**

- \* Epoxy: Device has UL flammability classification 94V-O
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.016 gram

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	05U1L	05U2L	05U3L	05U4L	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	Volts
Maximum Average Forward Rectified Current at T <sub>A</sub> = 55°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>	15				Amps
Typical Thermal Resistance (Note 1)	R <sub>θJA</sub>	120				°C/W
Typical Thermal Resistance (Note 1)	R <sub>θJL</sub>	20				°C/W
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	18				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	05U1L	05U2L	05U3L	05U4L	UNITS
Maximum Instantaneous Forward Voltage at 0.5A DC	V <sub>F</sub>	0.95				Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage	@ T <sub>A</sub> = 25°C	5				μA
	@ T <sub>A</sub> = 100°C	350				μA
Maximum Reverse Recovery Time (Note 4)	trr	20				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.

## RATING AND CHARACTERISTICS CURVES ( 05U1L THRU 05U4L )

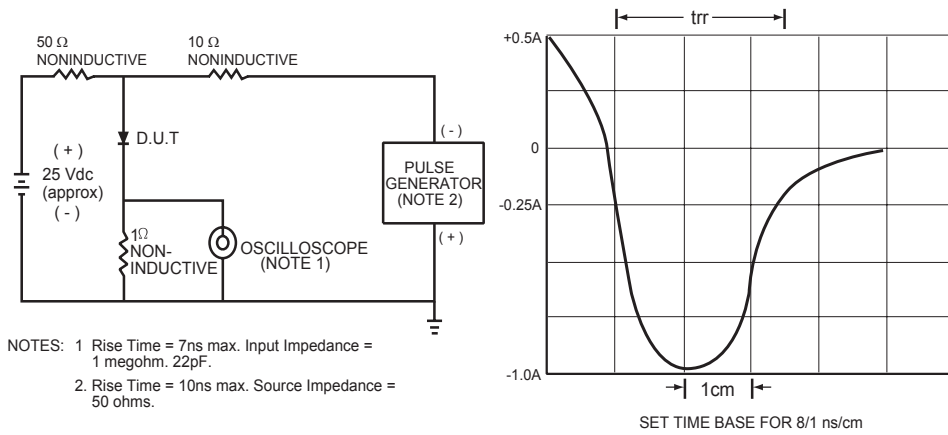


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

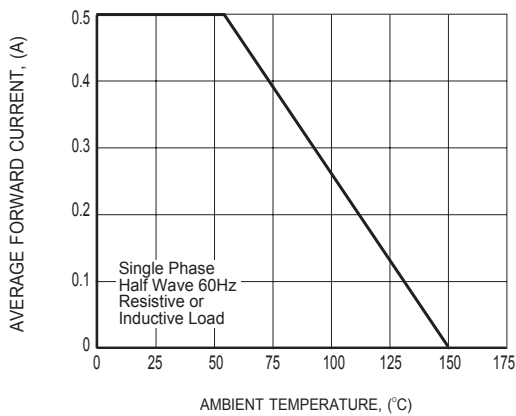


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

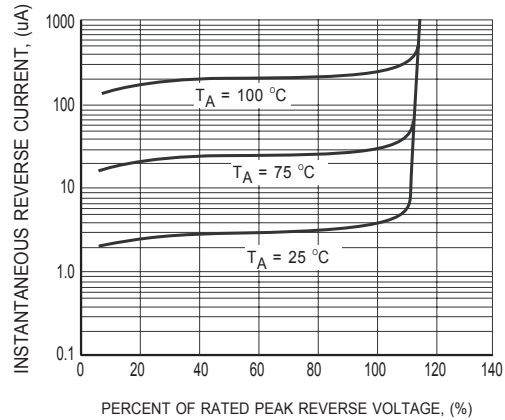
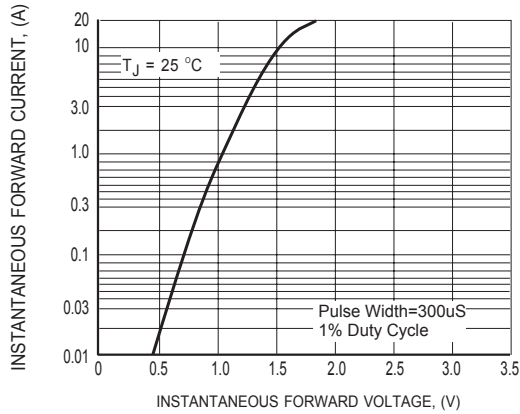
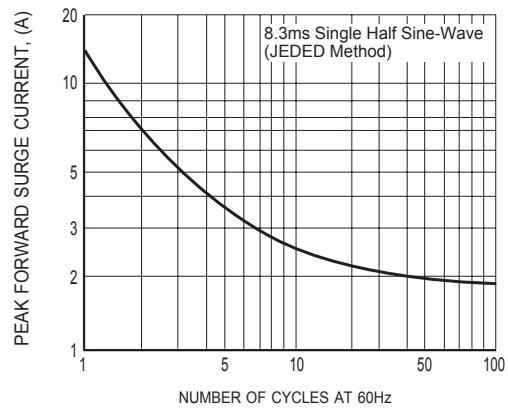


FIG.3 TYPICAL REVERSE CHARACTERISTICS

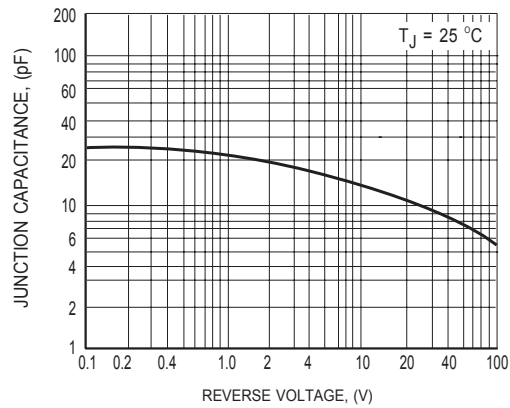
## RATING AND CHARACTERISTICS CURVES ( 05U1L THRU 05U4L )



**FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

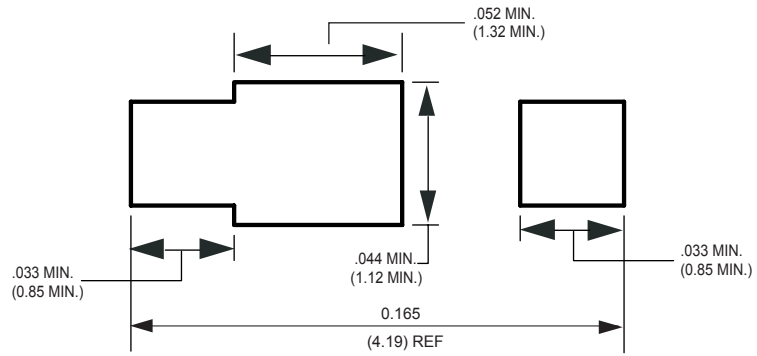


**FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.6 TYPICAL JUNCTION CAPACITANCE**

## Mounting Pad Layout



Dimensions in inches and (millimeters)

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