

**SURFACE MOUNT FAST RECOVERY RECTIFIER**

**VOLTAGE RANGE 20 to 60 Volts CURRENT 0.5 Ampere**

**FEATURES**

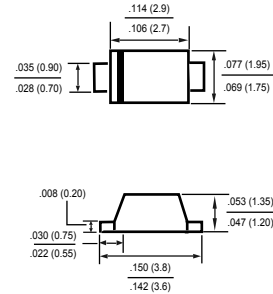
- \* Low power loss, high efficiency
- \* Low leakage
- \* Low forward voltage
- \* High current capability
- \* High speed switching
- \* High surge capability
- \* High reliability

**MECHANICAL DATA**

- \* Epoxy: Device has UL flammability classification 94V-0
- \* Mounting position: Any
- \* Weight: 0.016 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	05S2	05S3	05S4	05S5	05S6	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	20	30	40	50	60	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	14	21	28	35	42	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	20	30	40	50	60	Volts
Maximum Average Forward Rectified Current .375" (9.5mm) lead length 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 3)	R <sub>θJA</sub>	130					°C/W
	R <sub>θJL</sub>	30					
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	110					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	05S2	05S3	05S4	05S5	05S6	UNITS
Maximum Instantaneous Forward Voltage at 0.5A DC	V <sub>F</sub>	.55			.70		Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage	@ T <sub>A</sub> = 25°C	0.2					mAmps
	@ T <sub>A</sub> = 100°C	10					mAmps

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

## RATING AND CHARACTERISTICS CURVES ( 05S2 THRU 05S6 )

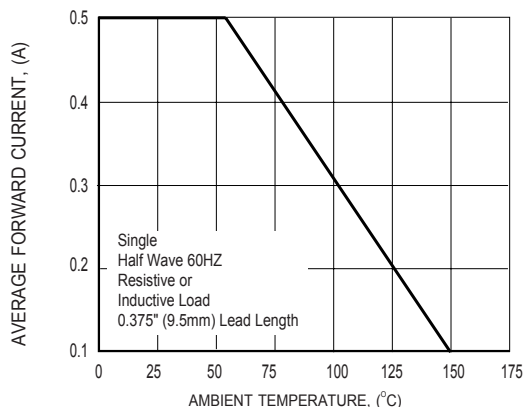


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

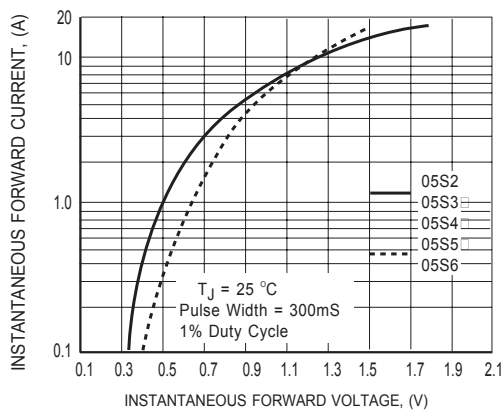


FIG.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

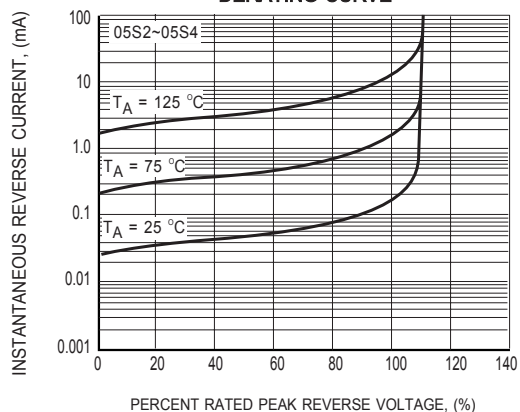


FIG.3 TYPICAL REVERSE CHARACTERISTICS

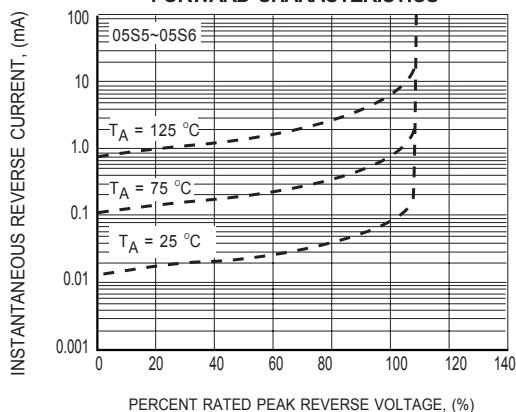


FIG.3 TYPICAL REVERSE CHARACTERISTICS

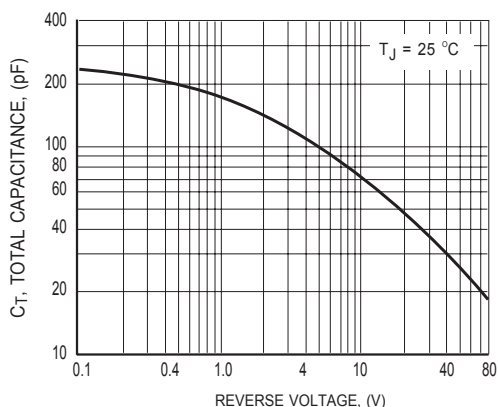


FIG.4 TYPICAL JUNCTION CAPACITANCE

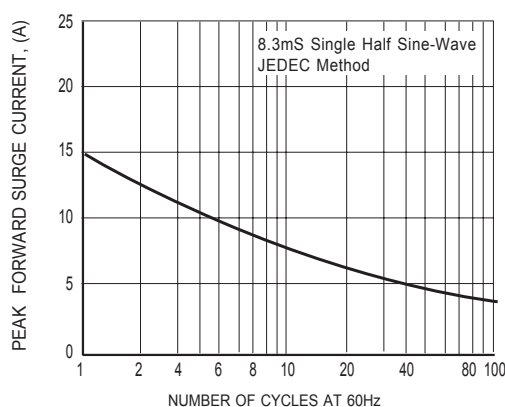
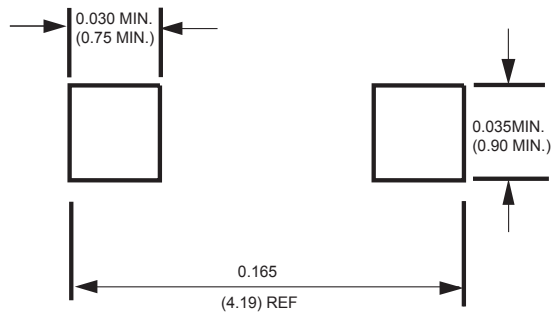


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

## Mounting Pad Layout



Dimensions in inches and (millimeters)

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