

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

FEATURES

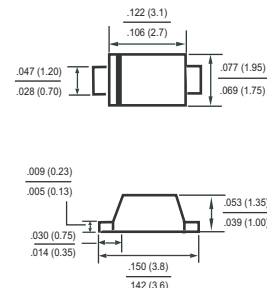
- * Glass passivated device
- * For surface mounted applications
- * Ultrafast recovery times dor high efficiency
- * Low forward voltage, low power loss
- * Low leakage current

MECHANICAL DATA

- * Epoxy: Device has UL flammability classification 94V-0
- * Metallurgically bonded construction
- * Mounting position: Any
- * Weight: 0.018 gram



SOD-123F



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
Resistive or inductive load.

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

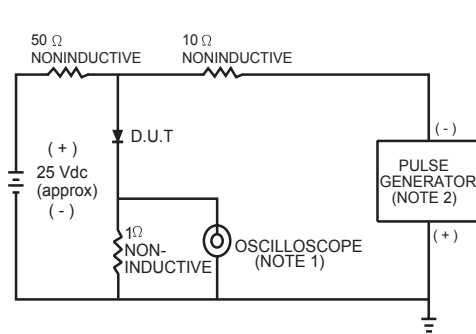
RATINGS	SYMBOL	05U1	05U2	05U3	05U4	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	Volts
Maximum RMS Voltage	V_{RMS}	35	70	105	140	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	Volts
Maximum Average Forward Rectified Current at $T_A = 55^{\circ}C$	I_O	0.5				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	15				Amps
Typical Current Square Time	I^2T	0.9				A ² S
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	120				°C/W
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$	20				°C/W
Typical Junction Capacitance (Note 2)	C_J	18				pF
Operating Temperature Range	T_J	150				°C
Storage Temperature Range	T_{STG}	-55 to + 150				°C

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

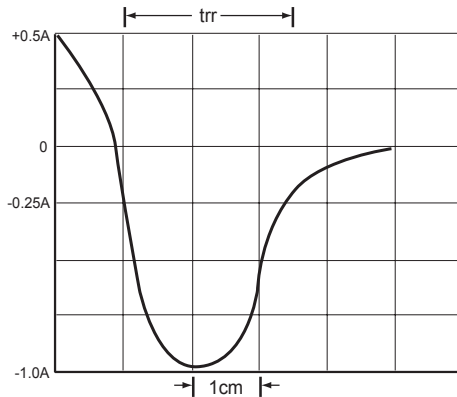
CHARACTERISTICS	SYMBOL	05U1	05U2	05U3	05U4	UNITS
Maximum Instantaneous Forward Voltage at 0.5A DC	V_F	.95				Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage	@ $T_A = 25^{\circ}C$	5.0				μA
	@ $T_A = 125^{\circ}C$	1.0				mA
Maximum Reverse Recovery Time (Note 3)	t_{rr}	20				nSec

- NOTES : 1. Thermal Resistance :Mounted on PCB.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. Test Conditions: $I_F = 0.5A$, $I_R = -1.0A$, $I_{RR} = -0.25A$.

RATING AND CHARACTERISTICS CURVES (05U1 THRU 05U4)



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



SET TIME BASE FOR 50/100 ns/cm

FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

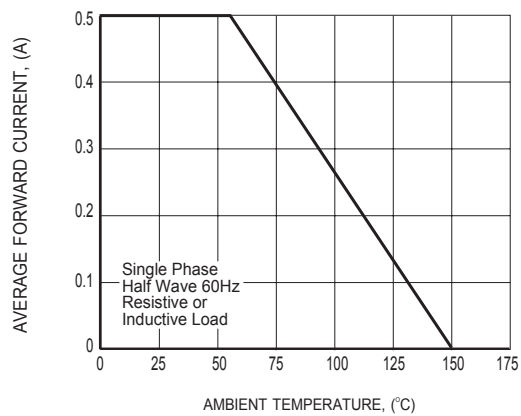


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

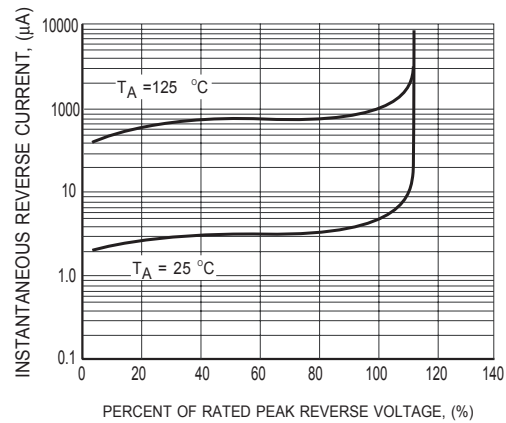


FIG.3 MAXIMUM REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (05U1 THRU 05U4)

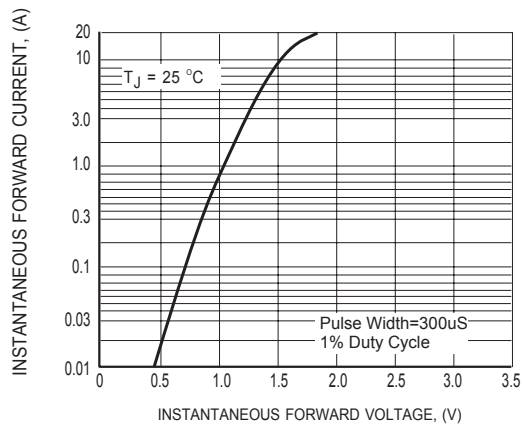


FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

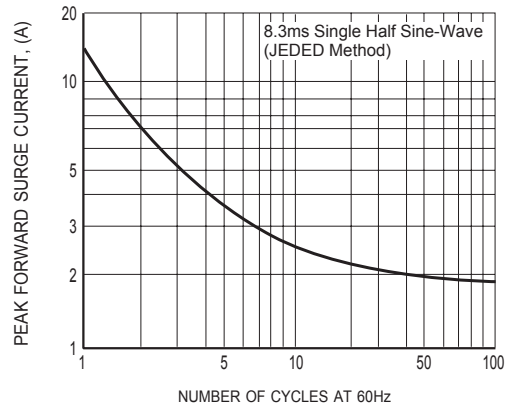


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

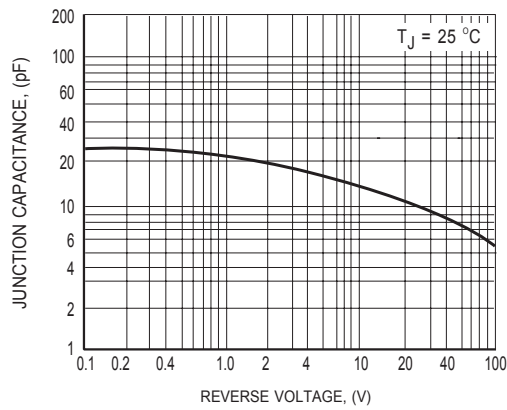
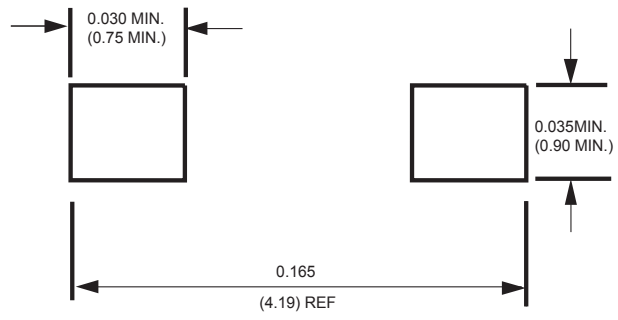


FIG.6 TYPICAL JUNCTION CAPACITANCE

Mounting Pad Layout



Dimensions in inches and (millimeters)

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

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