

SURFACE MOUNT FAST RECOVERY RECTIFIER

VOLTAGE RANGE 50 to 600 Volts CURRENT 0.5 Ampere

FEATURES

- * Fast switching
- * Low leakage
- * Low forward voltage drop
- * High current capability
- * High current surge
- * High reliability

MECHANICAL DATA

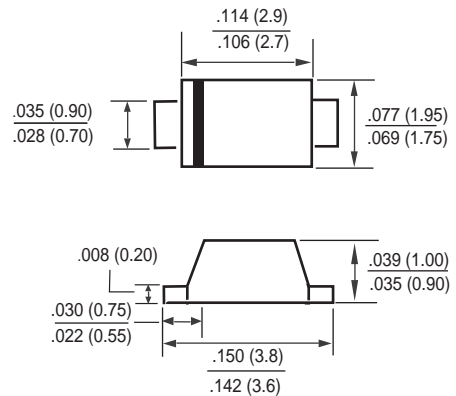
- * Epoxy: Device has UL flammability classification 94V-0
- * Mounting position: Any
- * Weight: 0.016 gram

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%.



SOD-123FL



Dimensions in inches and (millimeters)

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

RATINGS	SYMBOL	05F1L	05F2L	05F3L	05F4L	05F5L	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	Volts
Maximum RMS Voltage	VRMS	35	70	140	280	420	Volts
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	Volts
Maximum Average Forward Rectified Current at TA = 55°C	Io	0.5					Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	15					Amps
Typical Junction Capacitance (Note 2)	Cj	15					pF
Operating and Storage Temperature Range	TJ, TSTG	-55 to + 150					°C

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

CHARACTERISTICS	SYMBOL	05F1L	05F2L	05F3L	05F4L	05F5L	UNITS
Maximum Instantaneous Forward Voltage at 0.5A DC	VF	1.3					Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage TA = 25°C	IR	5.0					uAmps
Maximum Full Load Reverse Current Full Cycle Average, .375" (9.5mm) lead length at TL = 55°C		100					uAmps
Maximum Reverse Recovery Time (Note 1)	trr	150				250	nSec

- NOTES: 1. Reverse Recovery Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts
 3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

RATING AND CHARACTERISTIC CURVES (05F1L THRU 05F5L)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

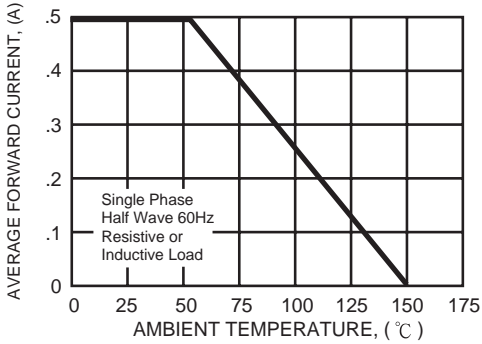


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

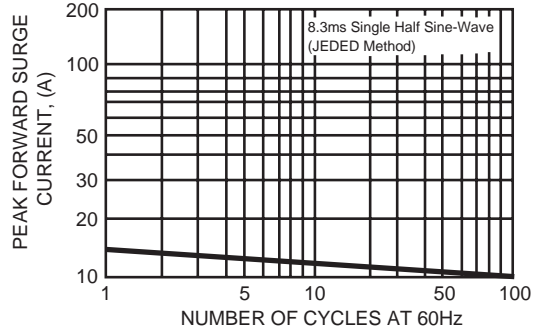


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

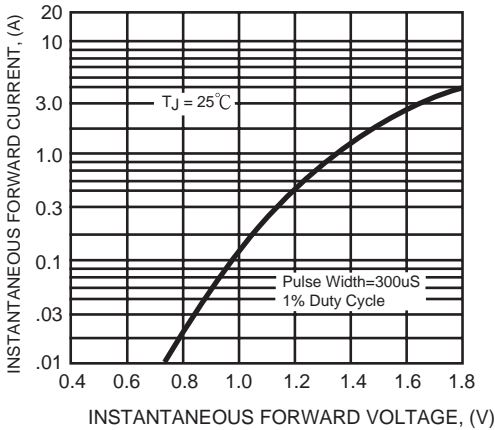


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

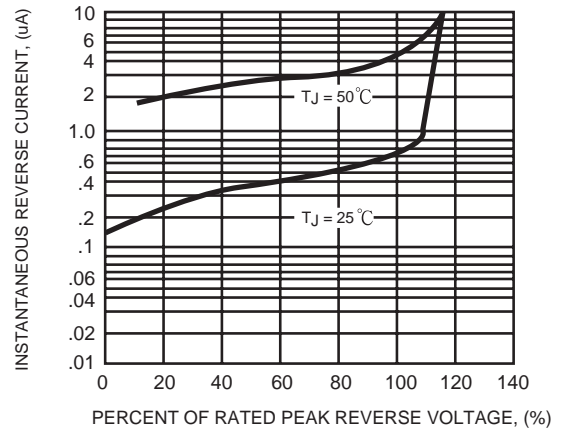


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

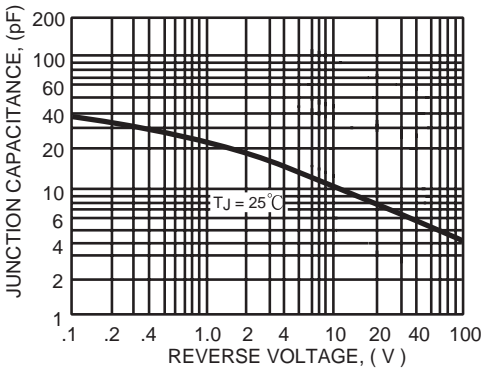
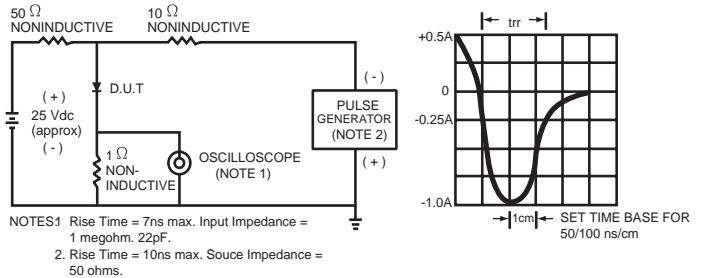
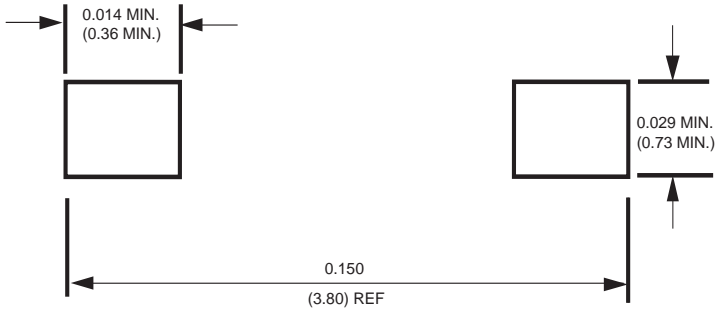


FIG. 6 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



Mounting Pad Layout



Dimensions in inches and (millimeters)