

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

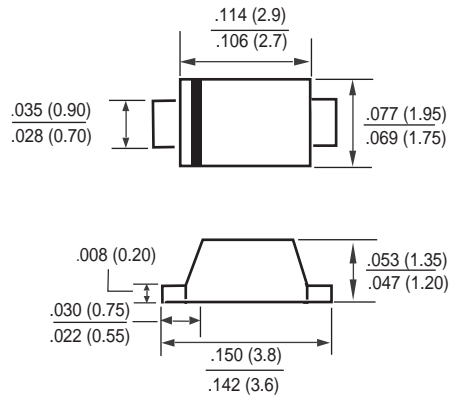
- * Epoxy: Device has UL flammability classification 94V-0
- * Mounting position: Any
- * Weight: 0.016 gram

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-123F



Dimensions in inches and (millimeters)

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

RATINGS	SYMBOL	05F1	05F2	05F3	05F4	05F5	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	Volts
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	Volts
Maximum Average Forward Rectified Current at TA = 55°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 Junction Capacitance (Note 2)	C _J	15					pF
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to + 150					°C

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

CHARACTERISTICS	SYMBOL	05F1	05F2	05F3	05F4	05F5	UNITS
Maximum Instantaneous Forward Voltage at 0.5A DC	V _F	1.3					Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage TA = 25°C	I _R	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)	t _{rr}	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 (05F1 THRU 05F5)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

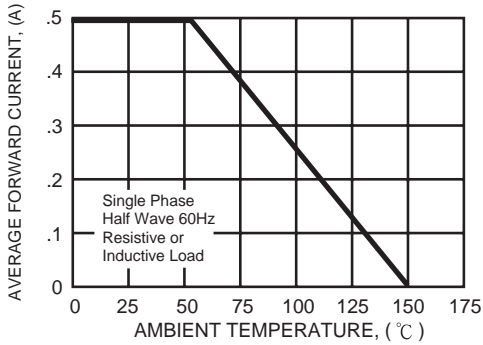


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

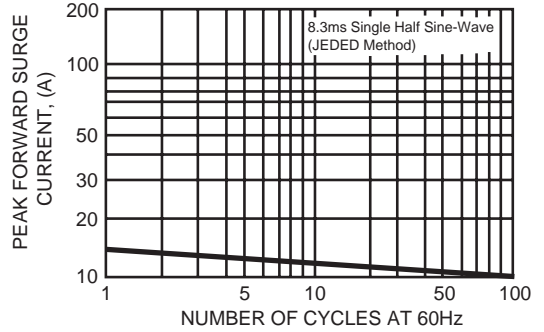


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

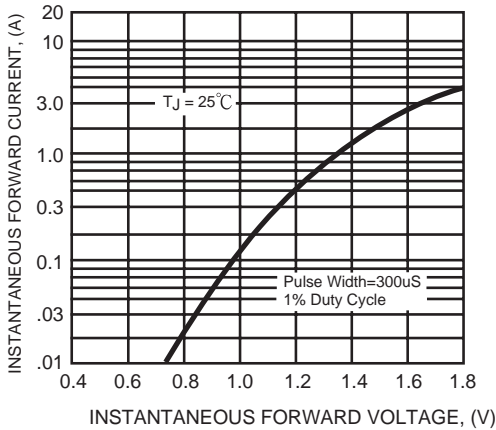


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

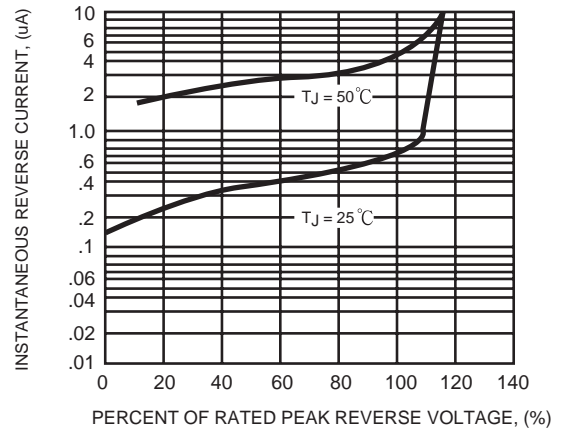


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

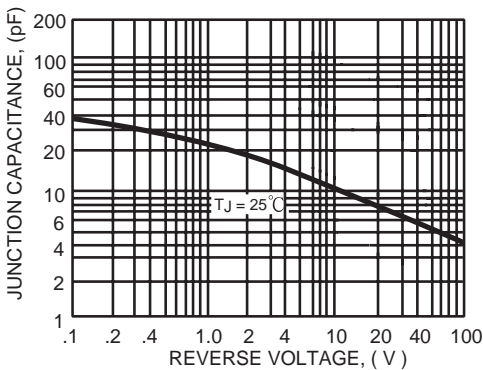
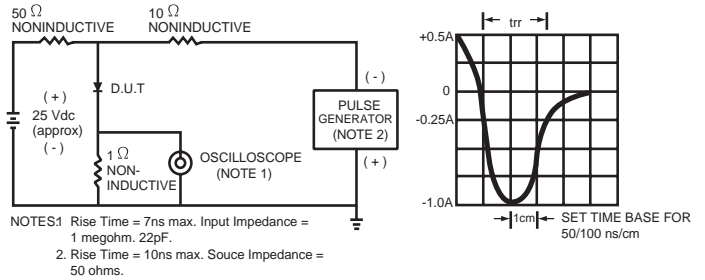
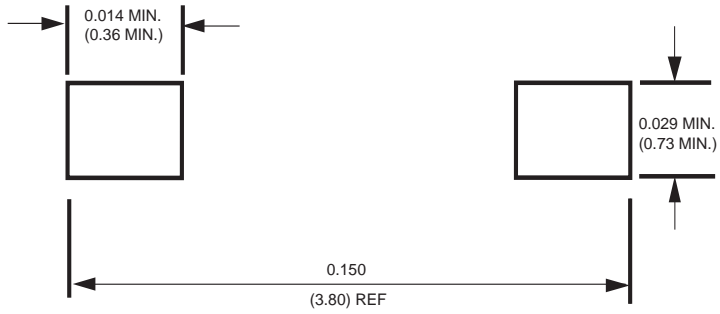


FIG. 6 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



Mounting Pad Layout



Dimensions in inches and (millimeters)