

SURFACE MOUNT SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 400 Volts CURRENT 0.5 Ampere

FEATURES

- * High reliability
- * Low leakage
- * Low forward voltage
- * High current capability
- * Super fast switching speed
- * High surge capability
- * Good for switching mode circuit

MECHANICAL DATA

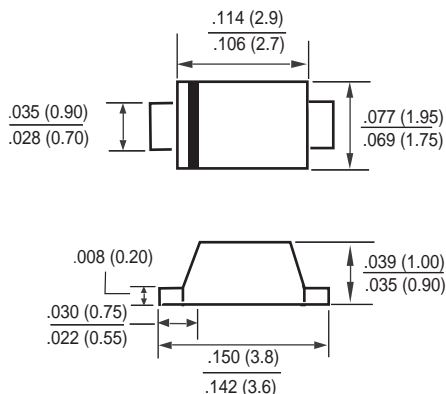
- * Case: Molded plastic
- * Epoxy: Device has UL flammability classification 94V-0
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.016 gram

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	05E1L	05E2L	05E3L	05E4L	05E5L	05E6L	UNITS
Maximum Recurrent Peak Reverse Voltage		V _{RRM}	50	100	150	200	300	400	Volts
Maximum RMS Volts		V _{RMS}	35	70	105	140	210	280	Volts
Maximum DC Blocking Voltage		V _{DC}	50	100	150	200	300	400	Volts
Maximum Average Forward Current at TA = 55°C		I _O	0.5						Amps
Peak Forward Surge Current I _{FM} (surge):8.3 ms single half sine-wave superimposed on rated load (JEDEC method)		I _{FSM}	15						Amps
Typical Junction Capacitance (Note 2)		C _J	12			14			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	05E1L	05E2L	05E3L	05E4L	05E5L	05E6L	UNITS
Maximum Forward Voltage at 0.5A DC		V _F	0.95			1.25			Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@ TA = 25°C	I _R	5.0						uAmps
	@ TA = 100°C		100						
Maximum Reverse Recovery Time (Note 1)		t _{rr}	35						nSec

NOTES : 1. Test Conditions: I_F=0.5A, I_R=-1.0A, I_{RR}=-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 (05E1L THRU 05E6L)

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

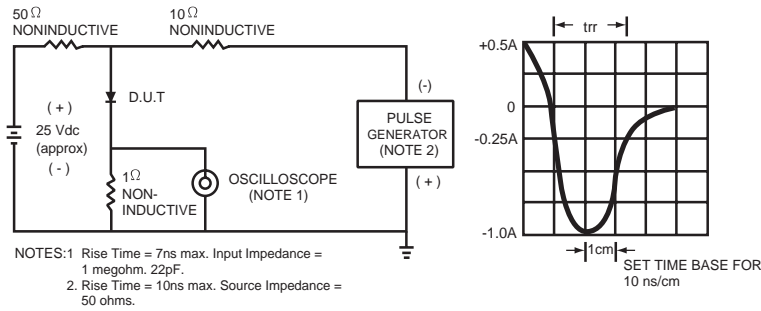


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

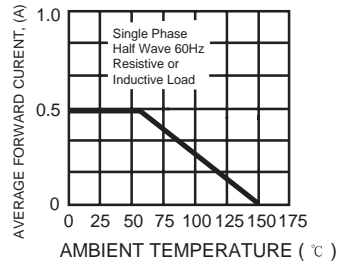


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

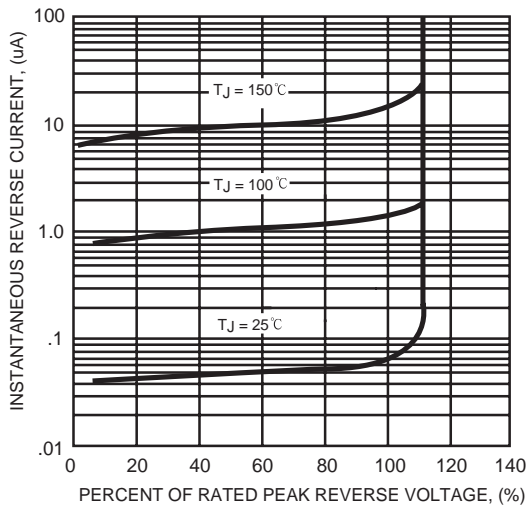


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

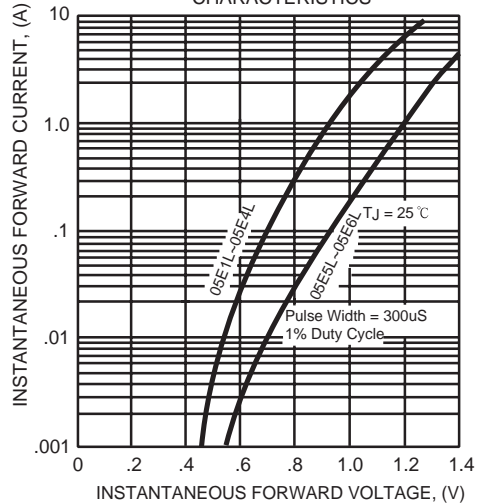


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

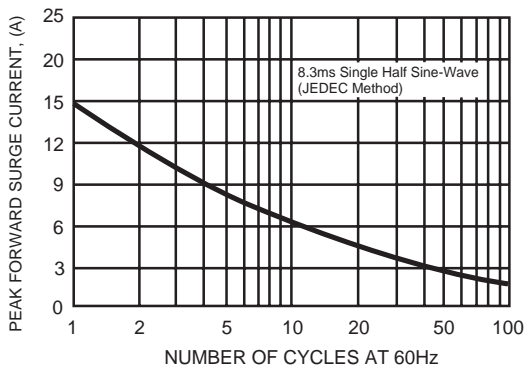
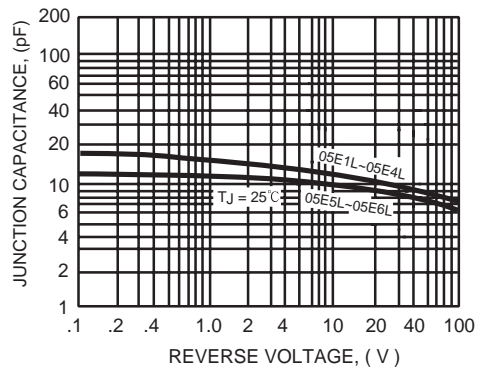
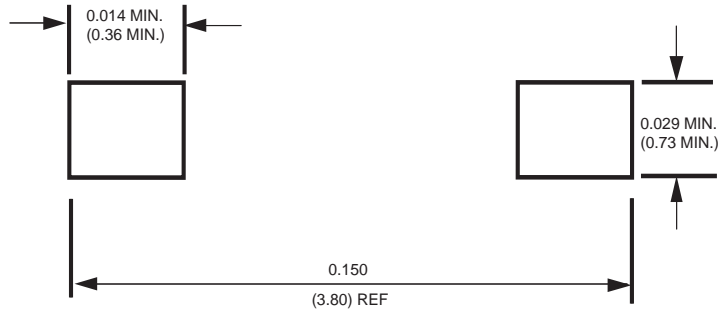


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



Mounting Pad Layout



Dimensions in inches and (millimeters)