RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

05H1L THRU 05H6L

SURFACE MOUNT HIGH EFFICIENCY RECTIFIER

VOLTAGE RANGE 50 to 600 Volts CURRENT 0.5 Ampere

FEATURES

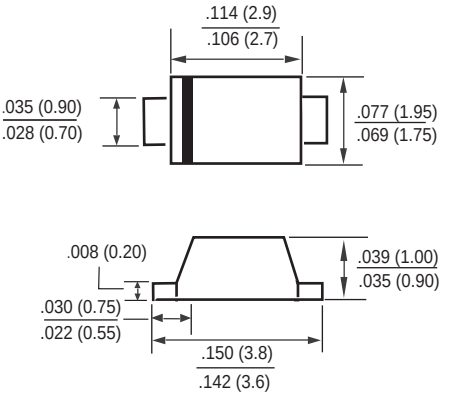
* Low power loss, high efficiency
* Low leakage
* Low forward voltage
* High current capability
* High speed switching
* High surge capability
* High reliability

MECHANICAL DATA

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



SOD-123FL



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 (At T_A = 25°C unless otherwise noted)

RATINGS	SYMBOL	05H1L	05H2L	05H3L	05H4L	05H5L	05H6L	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	300	400	600	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	210	280	420	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	300	400	600	Volts
Maximum Average Forward Rectified Current at T_A= 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					12	pF
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150						°C

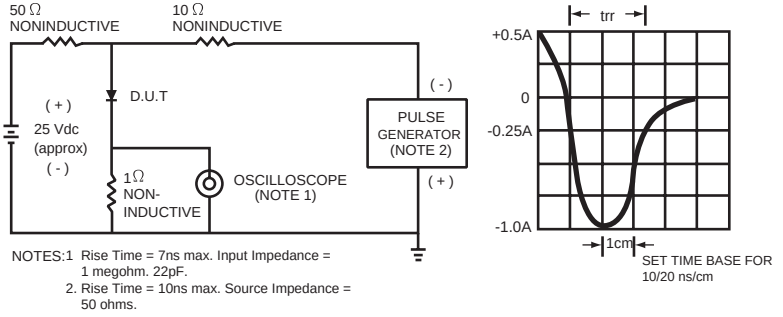
ELECTRICAL CHARACTERISTICS (At T_A = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	05H1L	05H2L	05H3L	05H4L	05H5L	05H6L	UNITS
Maximum Instantaneous Forward Voltage at 0.5A DC	V_F	1.0			1.3		1.7	Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage T_A = 25°C	I_R	5.0						uAmps
Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at T_L = 55°C		100						uAmps
Maximum Reverse Recovery Time (Note 1)	trr	50					75	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 (05H1L THRU 05H6L)

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



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

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

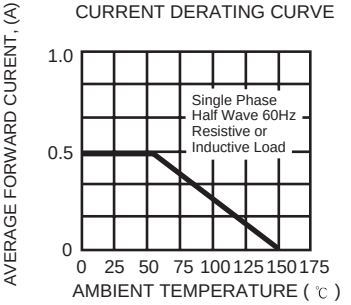


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

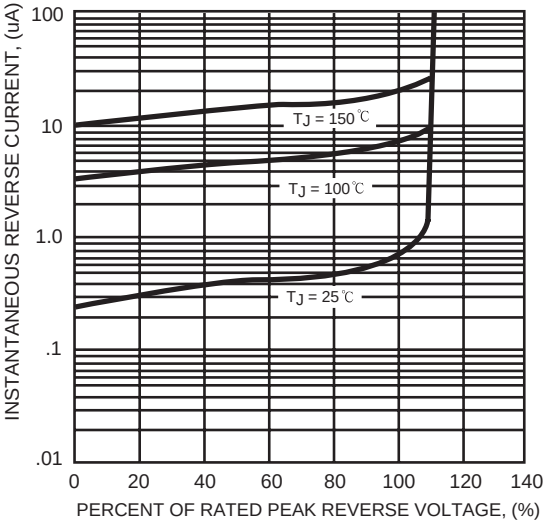


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

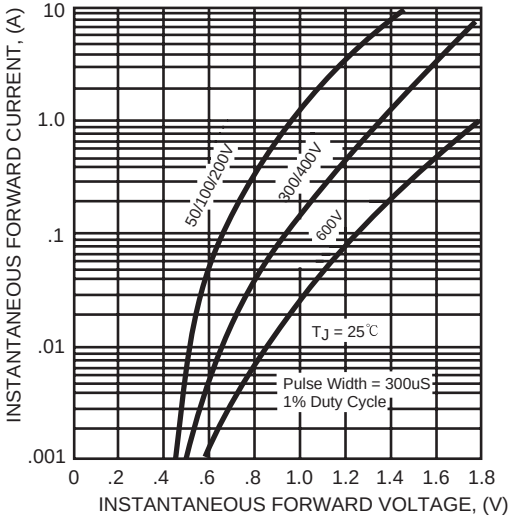


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

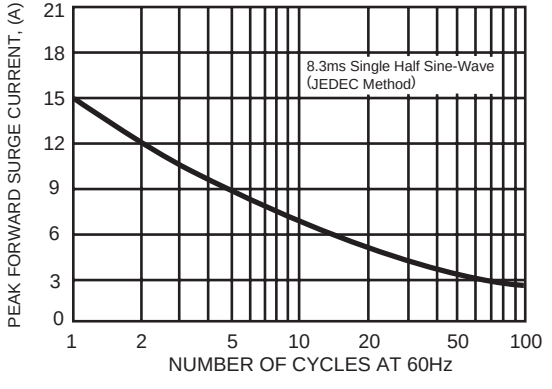
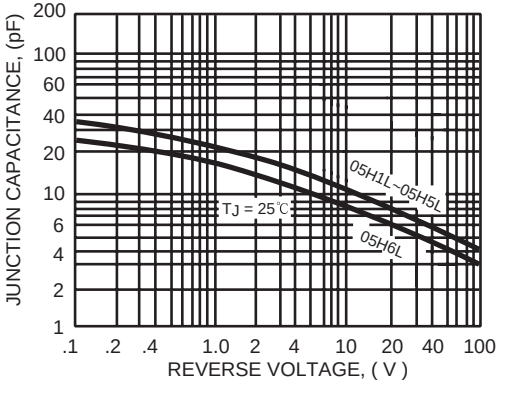
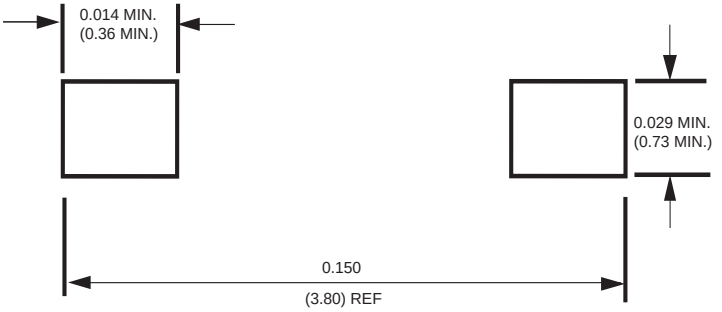


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



Mounting Pad Layout



Dimensions in inches and (millimeters)