RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

05H1L THRU 05H6L

SURFACE MOUNT HIGH EFFICIENCY RECTIFIER

VOLTAGE RANGE 50 to 600 Volts CURRENT 0.5 Ampere

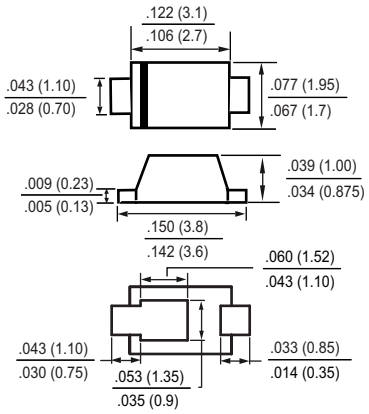
FEATURES

* 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: 0.015 gram

SOD-123FL



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	05H1L	05H2L	05H3L	05H4L	05H5L	05H6L	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	Volts
Maximum RMS Voltage	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 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 Current Square Time	I^2T	0.9						A^2S
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	130						°C/W
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$	30						°C/W
Typical Junction Capacitance (Note 2)	C_J	15					12	pF
Operating Temperature Range	T_J	-55 to + 150						°C
Storage Temperature Range	T_{STG}	-55 to + 150						°C

ELECTRICAL CHARACTERISTICS(@TA=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 Average Reverse Current	@T_A = 25°C	I_R	5						µA
at Rated DC Blocking Voltage	@T_A = 150°C		20						mA
Maximum Reverse Recovery Time (Note 4)		trr	50					75	nSec

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

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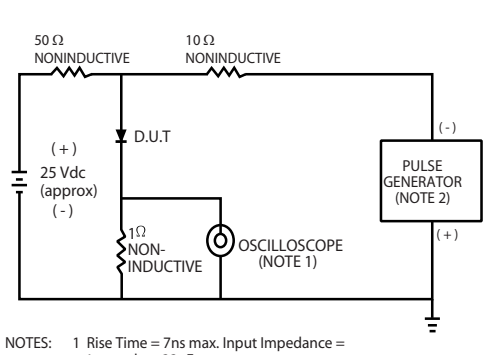
RATING AND CHARACTERISTICS CURVES (05H1L THRU 05H6L)



NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.

2. Rise Time = 10ns max. Source Impedance = 50 ohms.

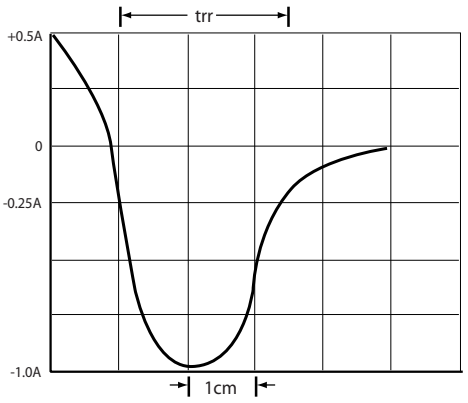


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

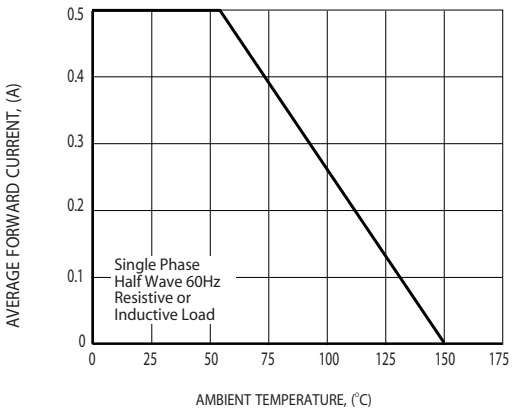


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

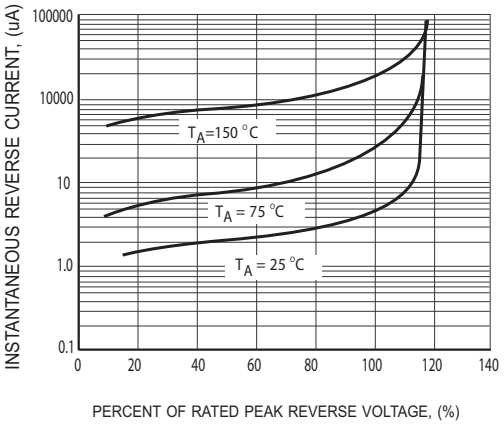


FIG.3 MAXIMUM REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (05H1L THRU 05H6L)

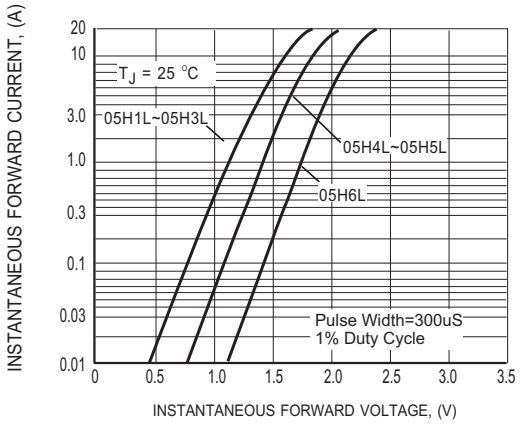


FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

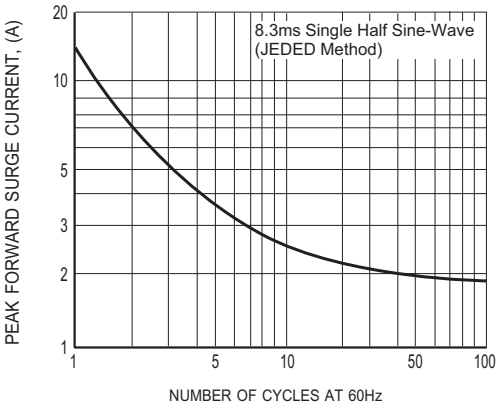


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

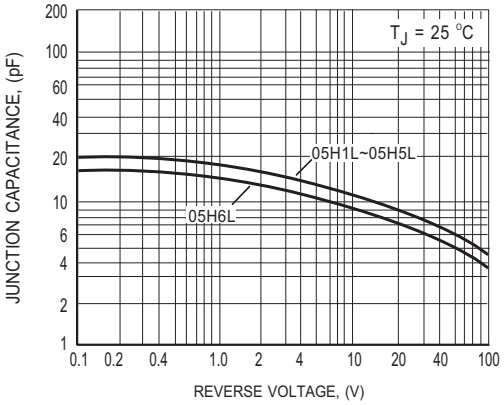
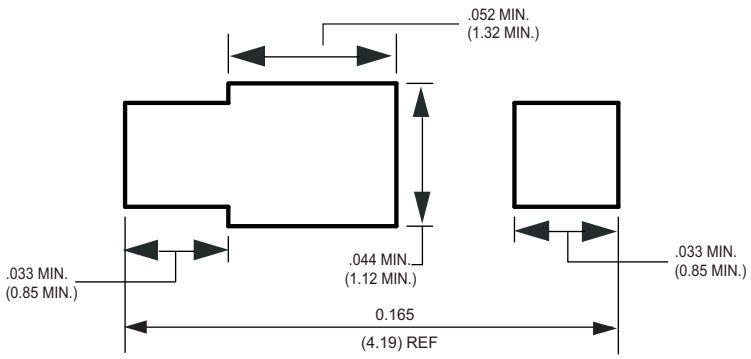


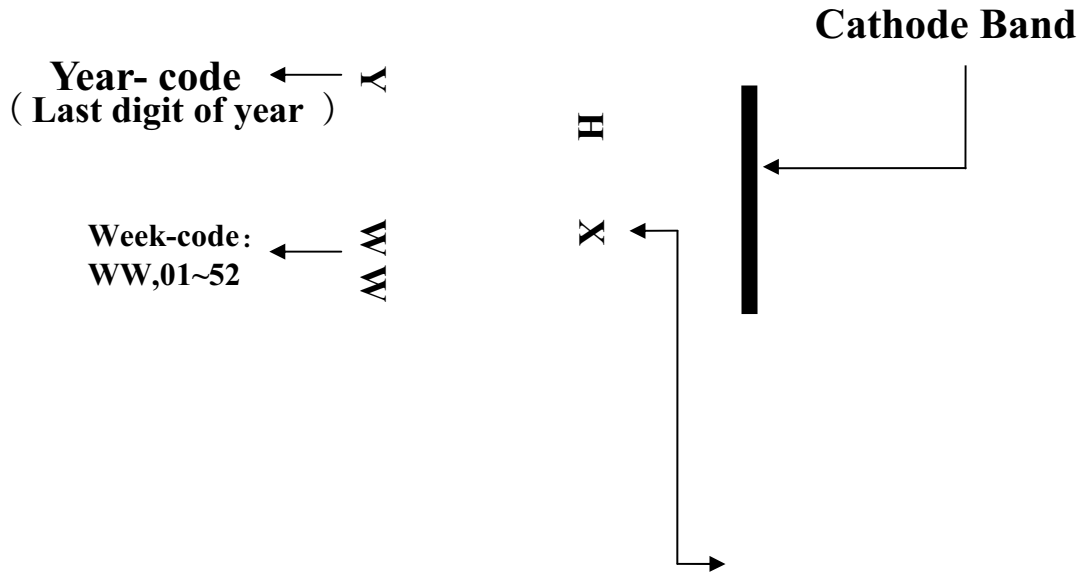
FIG.6 TYPICAL JUNCTION CAPACITANCE

Mounting Pad Layout



Dimensions in inches and (millimeters)

Marking Description



Voltage code

1----------50V
2----------100V
3----------200V
4----------300V
5----------400V
6----------600V

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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