RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

05A1L THRU 05A7L

SURFACE MOUNT SILICON RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts CURRENT 0.5 Ampere

NEW RELEASE

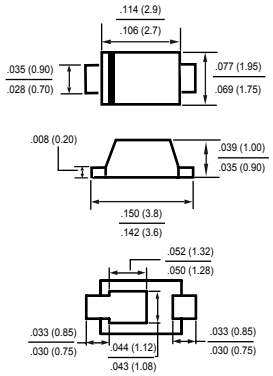
FEATURES

* Ideal for surface mounted applications
* Low leakage current
* Metallurgically bonded construction
* Mounting position: Any
* Weight: 0.016 gram

MECHANICAL DATA

* Epoxy : Device has UL flammability classification 94V-0

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 (@ T_A=25 °C unless otherwise noted)

RATINGS	SYMBOL	05A1L	05A2L	05A3L	05A4L	05A5L	05A6L	05A7L	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at T_A = 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 Thermal Resistance (Note 3)	$R_{\theta JA}$	85							°C/W
	$R_{\theta JL}$	25					30		
Typical Junction Capacitance (Note 1)	C_J	8							pF
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150							°C

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

CHARACTERISTICS		SYMBOL	05A1L	05A2L	05A3L	05A4L	05A5L	05A6L	05A7L	UNITS
Maximum Forward Voltage at 0.5A DC		V_F	1.1							Volts
Maximum Full Load Reverse Current, Full cycle Average at T_A=55°C		I_R	30							μAmps
Maximum DC Average Reverse Current at Rated DC Blocking Voltage	@T_A = 25°C		2.0							μAmps
	@T_A = 100°C		50							μAmps

NOTES : 1. Measured at 1.0 MHz and applied average voltage of 4.0VDC
2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".
3. Thernal Resistance: Mounted on PCB.

2006-12

RATING AND CHARACTERISTICS CURVES (05A1L THRU 05A7L)

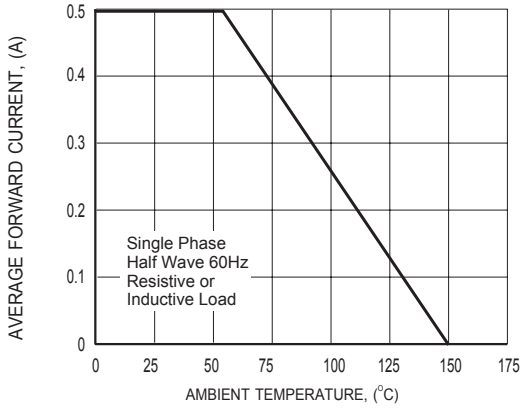


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

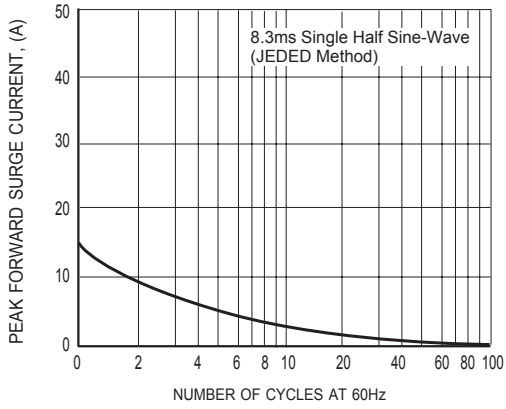


FIG.2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

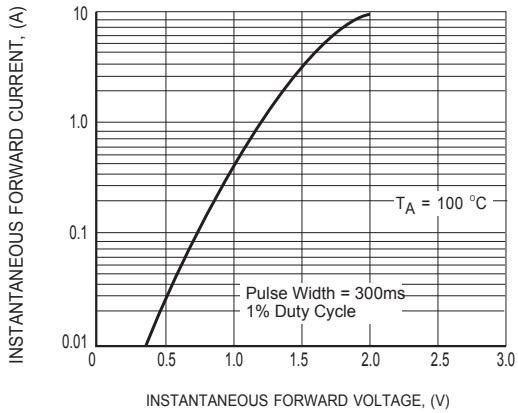


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

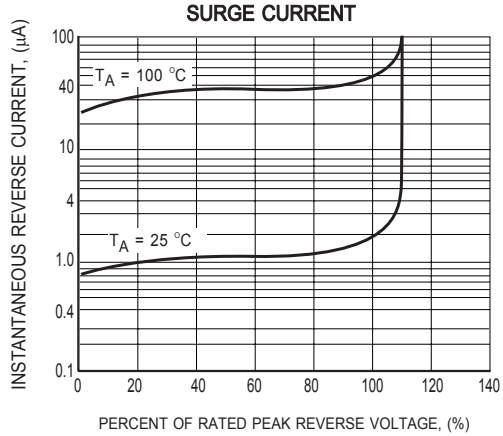


FIG.4 TYPICAL REVERSE CHARACTERISTICS

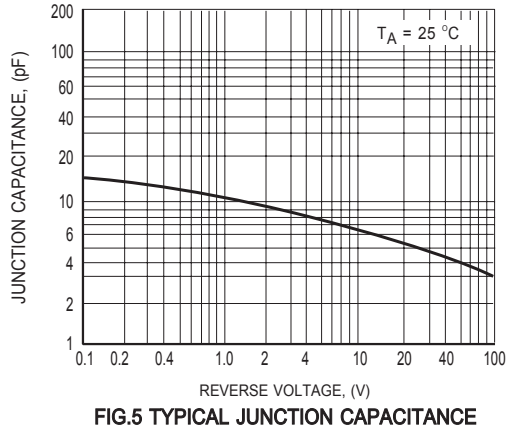
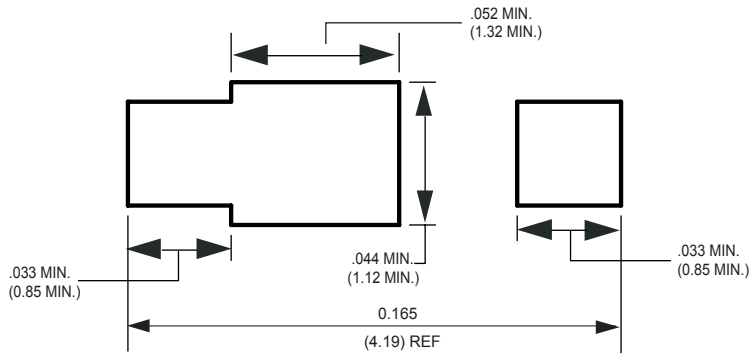


FIG.5 TYPICAL JUNCTION CAPACITANCE

Mounting Pad Layout



Dimensions in inches and (millimeters)

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