RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

SE1 THRU SE6

SURFACE MOUNT SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 400 Volts CURRENT 1.0 Ampere

NEW RELEASE

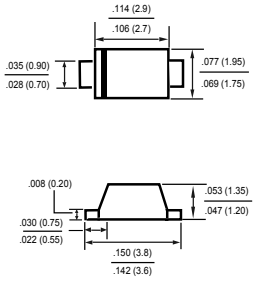
FEATURES

* 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-O
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 0.016 gram

SOD-123F



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 (@ TA=25 °C unless otherwise noted)

RATINGS	SYMBOL	SE1	SE2	SE3	SE4	SE5	SE6	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	1.0						Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	15						Amps
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				10		pF
Operating Temperature Range	T_J	150						°C
Storage Temperature Range	T_{STG}	-55 to + 150						°C

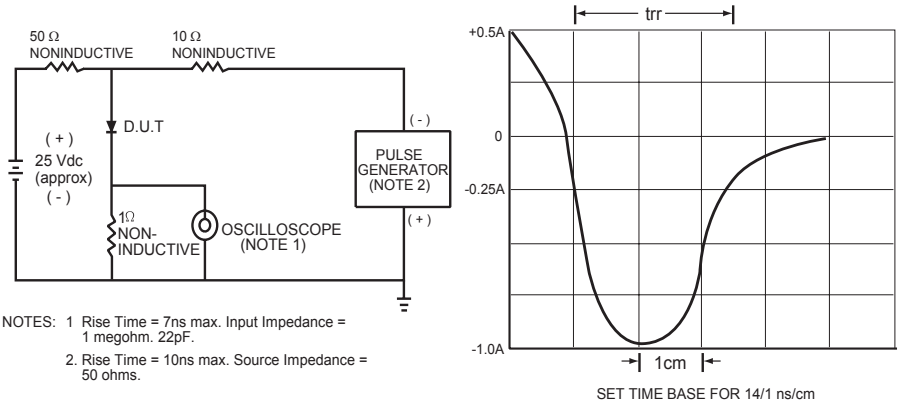
ELECTRICAL CHARACTERISTICS(@TA=25 °C unless otherwise noted)

CHARACTERISTICS		SYMBOL	SE1	SE2	SE3	SE4	SE5	SE6	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC		V_F	0.95				1.25		Volts
Maximum Average Reverse Current	@T_A = 25°C	I_R	5						µA
at Rated DC Blocking Voltage	@T_A = 100°C		350						µA
Maximum Reverse Recovery Time (Note 4)		trr	35						nSec

NOTES : 1. Thermal Resistance :Mounted on PCB.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. "Fully ROHS compliant","100% Sn plating (Pb-free)".
4. Test Conditions: I_F= 0.5A, I_R= -1.0A, I_{RR}= -0.25A.

2006-12

RATING AND CHARACTERISTICS CURVES (SE1 THRU SE6)



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

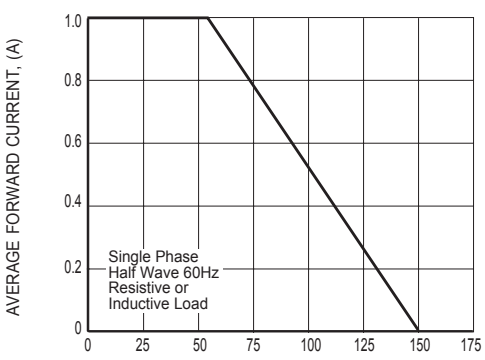


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

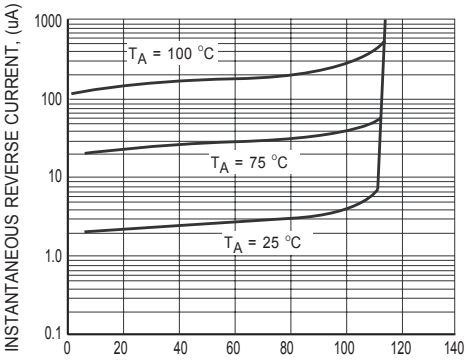


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (SE1 THRU SE6)

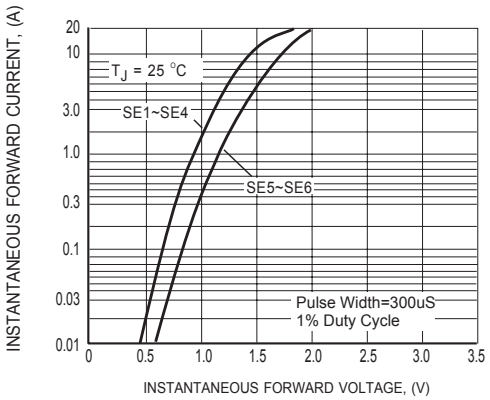


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

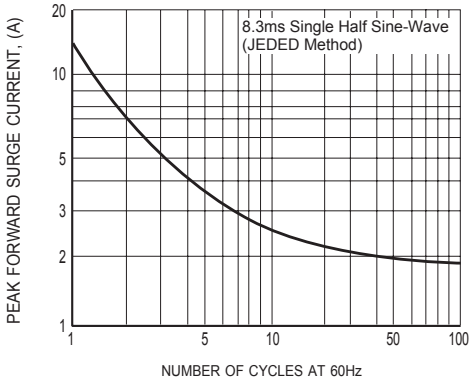


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

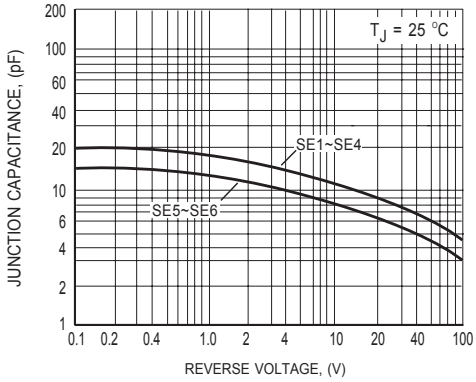
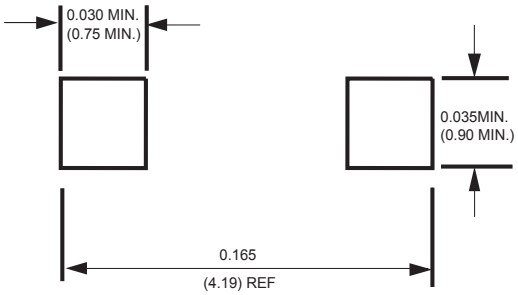


FIG.6 TYPICAL JUNCTION CAPACITANCE

Mounting Pad Layout



Dimensions in inches and (millimeters)

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