RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

SE1L THRU SE6L

SURFACE MOUNT SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 400 Volts CURRENT 1.0 Ampere

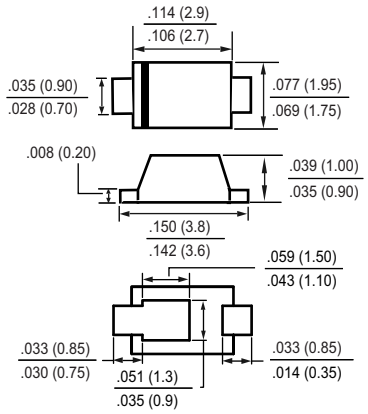
FEATURES

* High reliability
* Low leakage
* Low forward voltage
* High current capability
* Super fast switching speed
* High surge capability
* Good for switching mode circuit
* P/N suffix V means AEC-Q101 qualified, e.g:SE6LV
* P/N suffix V means Halogen-free

MECHANICAL DATA

* Case: Molded plastic
* Epoxy: Device has UL flammability classification 94V-O
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 0.015 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 (@ TA=25 °C unless otherwise noted)

RATINGS	SYMBOL	SE1L	SE2L	SE3L	SE4L	SE5L	SE6L	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}	40						Amps
Current Squarad Time	I^2t	6.6						A^2/Sec
Typical Thermal Resistance (Note 1)	$R\theta_{JA}$	85						°C/W
Typical Thermal Resistance (Note 1)	$R\theta_{JL}$	35						°C/W
Typical Junction Capacitance (Note 2)	C_J	15				10		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	SE1L	SE2L	SE3L	SE4L	SE5L	SE6L	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						uA
at Rated DC Blocking Voltage	@T_A = 150°C		20						mA
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. "ROHS compliant".
4. Test Conditions: I_F= 0.5A, I_R= -1.0A, I_{RR}= -0.25A.
5. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

2019-03
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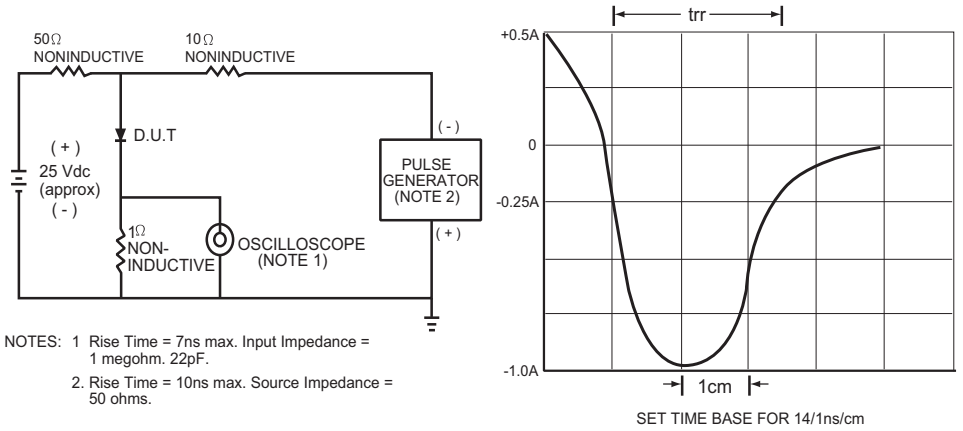
RATING AND CHARACTERISTICS CURVES (SE1L THRU SE6L)



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

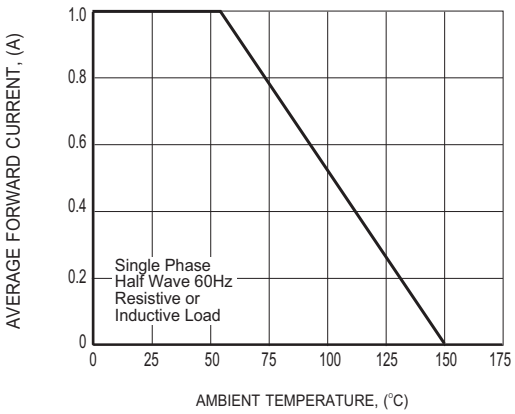


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

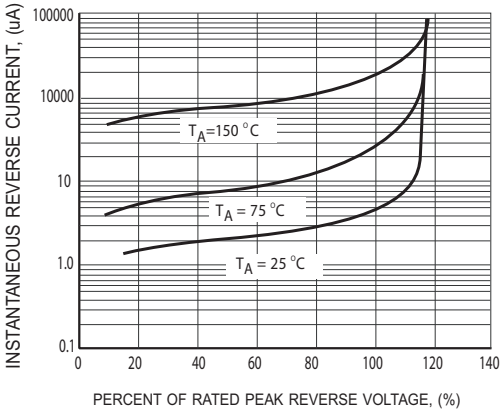


FIG.3 MAXIMUM REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (SE1L THRU SE6L)

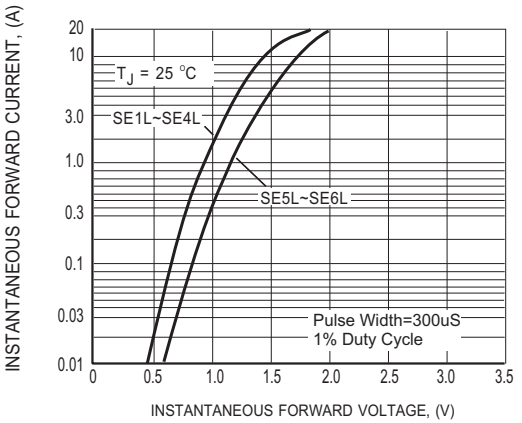


FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

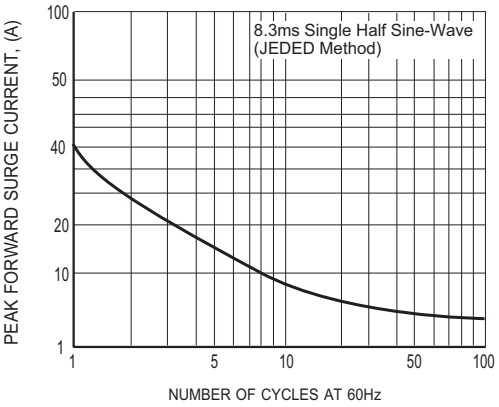


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

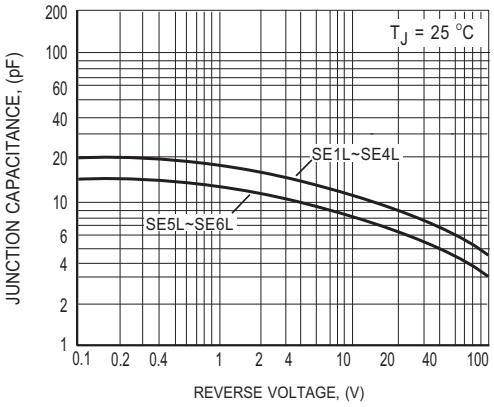
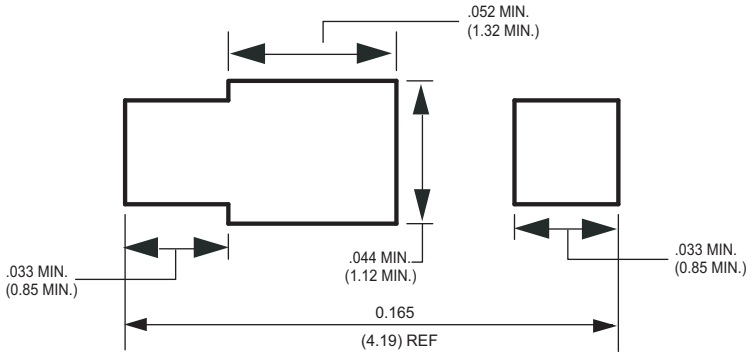


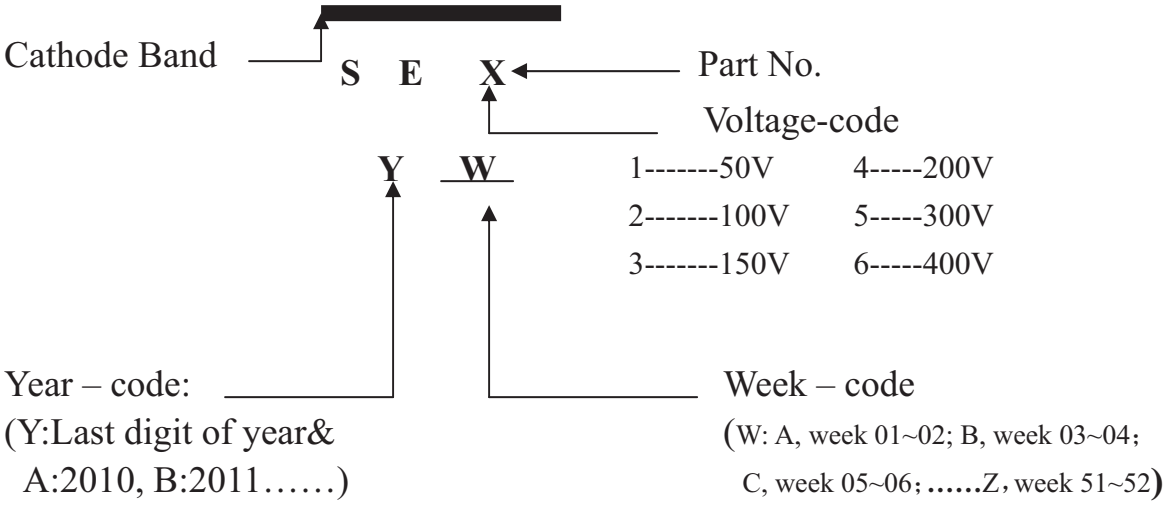
FIG.6 TYPICAL JUNCTION CAPACITANCE

Mounting Pad Layout



Dimensions in inches and (millimeters)

Marking Description



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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