

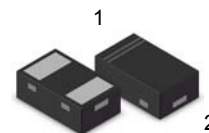
ESD Protection Diodes with Ultra-Low Capacitance
DESCRIPTION

- The SESD8L is designed to protect voltage sensitive components that require ultra-low capacitance from ESD and transient voltage events.
- Excellent clamping capability, low capacitance, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its low capacitance, it is suited for use in high frequency designs such as USB 2.0 high speed and antenna line applications.

PRIMARY CHARACTERISTICS	
P_D	150mW
V_{RWM}	5V
C	0.3pF
$T_{J,Max}$	150°C

SOD-882 PACKAGE

Marking : P


FEATURES

- Ultra Low Capacitance 0.25 Pf
- Low Clamping Voltage
- Low Leakage
- Response Time is Typically < 1.0 ns
- IEC61000-4-2 Level 4 ESD Protection
- Moisture Sensitivity Level 1

MECHANICAL DATA

- Case : Molded plastic, SOD-882
- Polarity : Shown above
- Terminals : Plated terminals, solderable per MIL-STD-750, Method 2026
- Epoxy : UL94-V0 rated flame retardant

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Contact Air		± 8 ± 15	kV
Total Power Dissipation on FR-5 Board (Note 1) @ $T_A = 25^\circ\text{C}$	P_D	150	mW
Storage Temperature Range	T_{stg}	-55 to +150	°C
Junction Temperature Range	T_J	-55 to +125	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260	°C

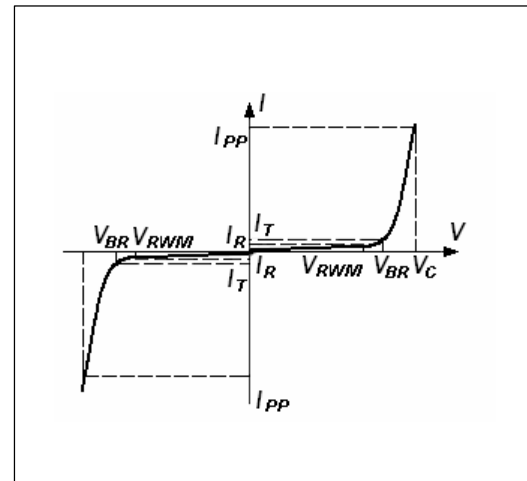
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. FR-5 = 1.0 x 0.75 x 0.62 in.

ESD Protection Diodes with Ultra-Low Capacitance
ELECTRICAL CHARACTERISTICS

(T_A = 25°C unless otherwise noted)

Symbol	Parameter
I _{PP}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
V _{RWM}	Working Peak Reverse Voltage
I _R	Maximum Reverse Leakage Current @ V _{RWM}
I _T	Test Current
V _{BR}	Breakdown Voltage @ I _T

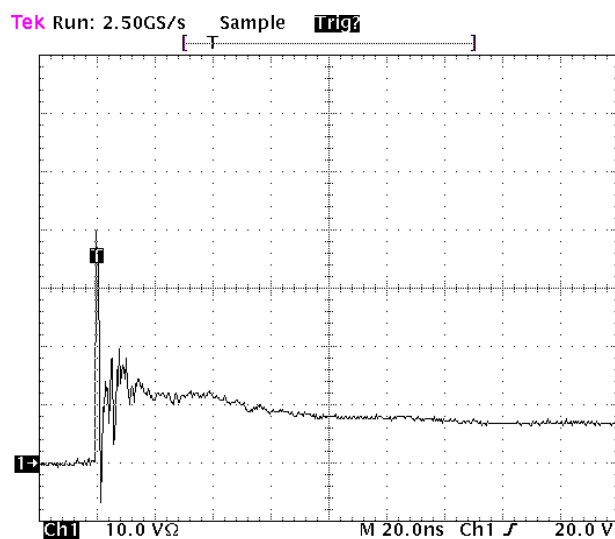

ELECTRICAL CHARACTERISTICS

Device	Device Marking	V _{RWM} (V)	I _R (μA) @ V _{RWM}	V _{BR} (V) @ I _T (Note 2)	I _T	C (pF)	V _C (V) @ I _{PPMAX} =2.5A (Note 3)	V _C
		Max	Max	Min	mA	Max	Max	Per IEC61000-4-2 (Note 4)
SESD8LS5.0CT5	P	5.0	1.0	6	1.0	0.3	18.4	Figures 1 and 2 See Below

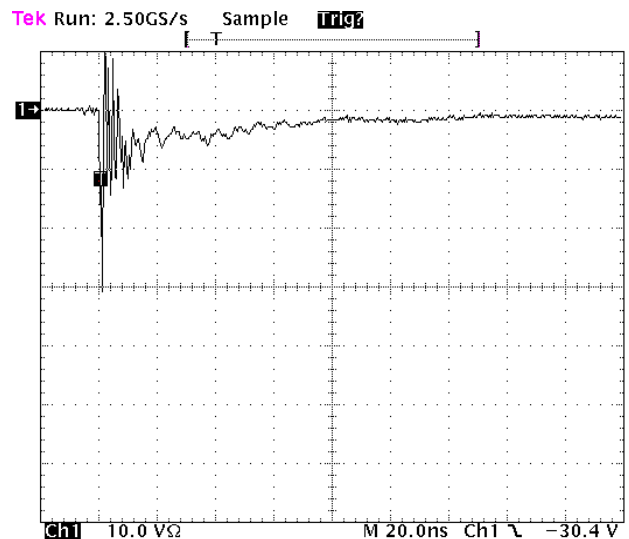
2. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C.

3. Surge current waveform per Figure 5.

4. For test procedure see Figures 3 and 4



**Figure 1. ESD Clamping Voltage Screenshot
Positive 8 kV Contact per IEC61000-4-2**



**Figure 2. ESD Clamping Voltage Screenshot
Negative 8 kV Contact per IEC61000-4-2**

ESD Protection Diodes with Ultra-Low Capacitance

IEC 61000-4-2 Spec.

Level	Test Voltage (kV)	First Peak Current (A)	Current at 30 ns (A)	Current at 60 ns (A)
1	2	7.5	4	2
2	4	15	8	4
3	6	22.5	12	6
4	8	30	16	8

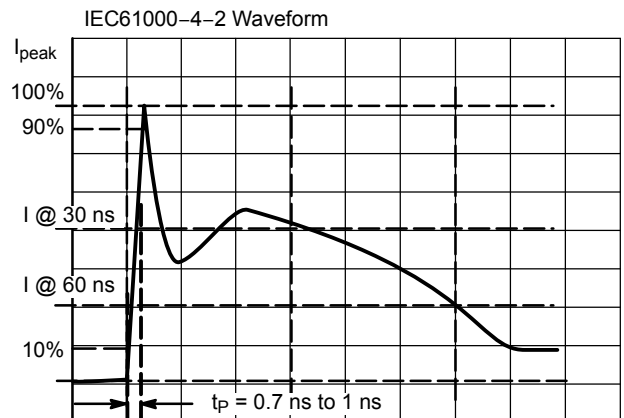


Figure 3. IEC61000-4-2 Spec

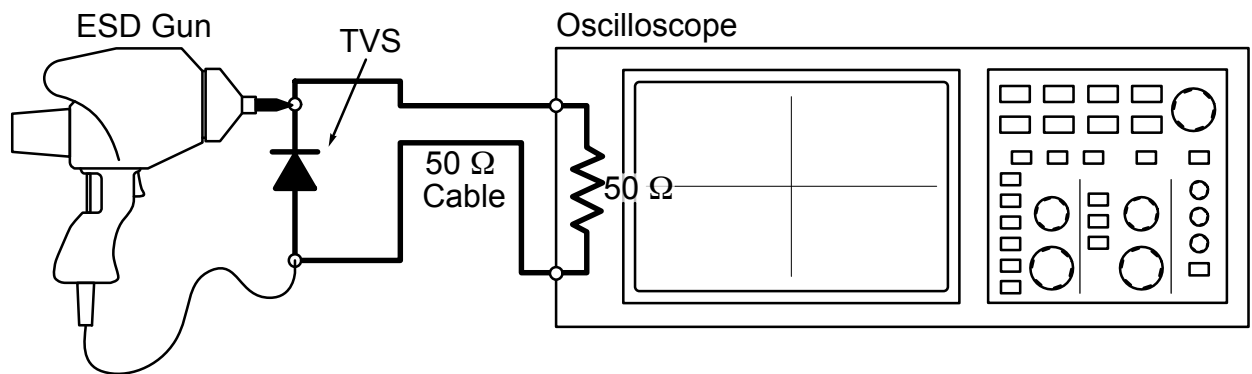


Figure 4. Diagram of ESD Test Setup

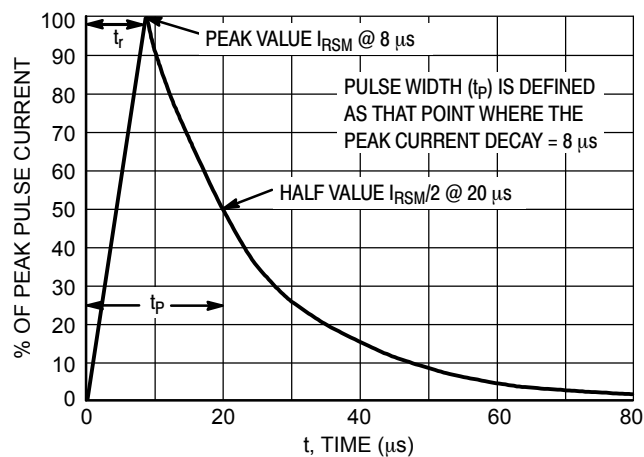
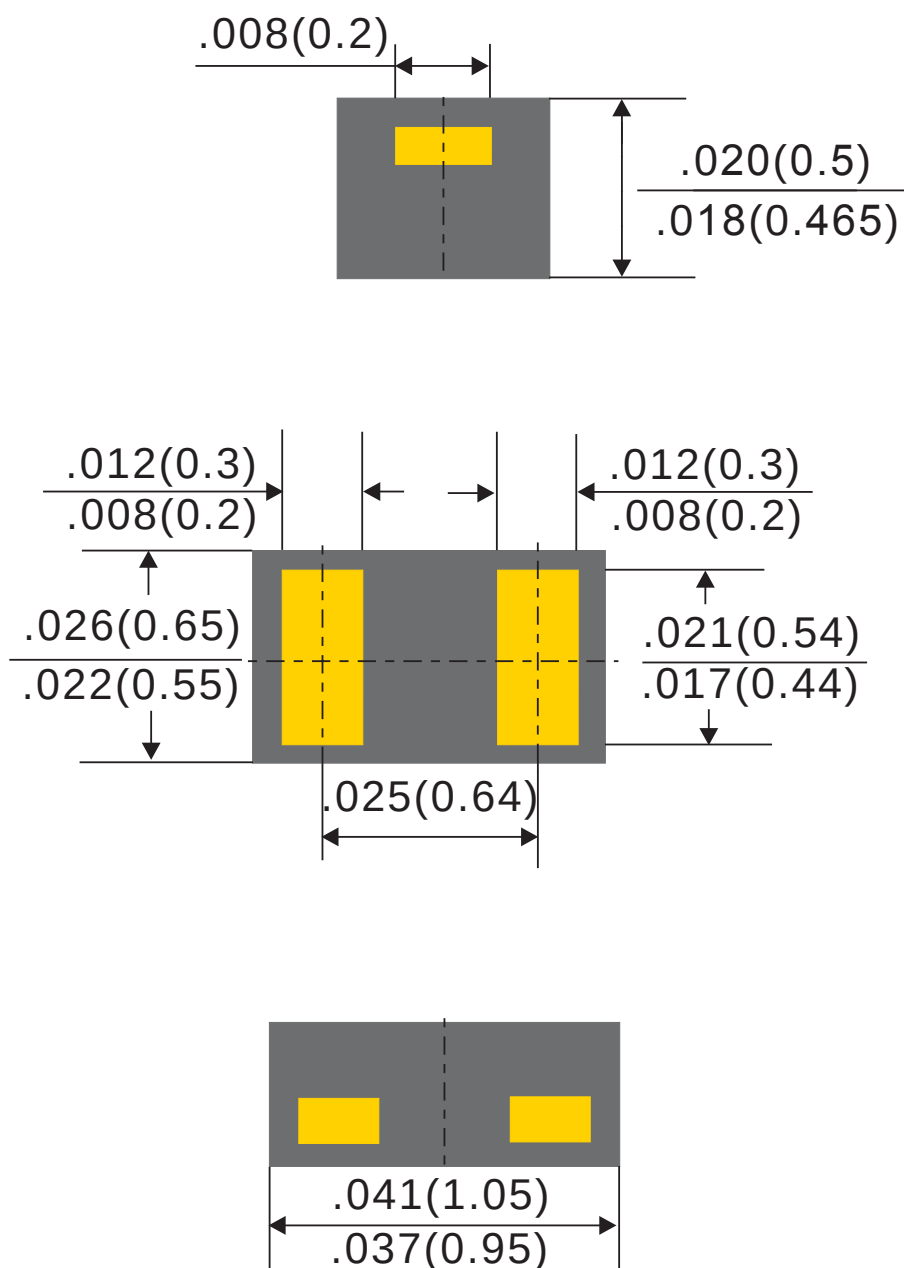


Figure 5. 8 X 20 μ s Pulse Waveform

Outline Drawing

SOD-882



Dimensions in inches and (millimeters)

Rev.B

Ordering Information:

Device PN	Packing
SESD8LS5.0CT5 ⁽¹⁾ H ⁽²⁾ -WS	Tape&Reel: 10 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) Halogen free product for packing code suffix "H"

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