Leiditech

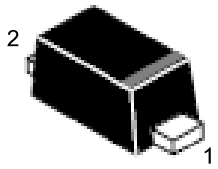
ULC9L5V

1-Line Uni-directional TVS Diode

Features

- Ultra low capacitance: 0.6pF typical
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±20kV
    Contact discharge: ±20kV
  – IEC61000-4-5 (Lightning) 4.5A (8/20μs)
- RoHS Compliant

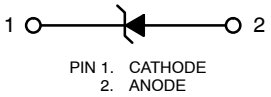
Dimensions SOD-923



Applications

- Serial ATA
- USB Ports
- MDDI Ports
- Display Port
- PCI Express
- Digital Visual Interface (DVI)
- Cellular Handsets and Accessories

Pin Configuration



Mechanical Characteristics

- Package: SOD-923
- Lead Finish: Matte Tin
- Quantity Per Reel:8,000pcs
- Reel Size:7 inch
- Device Marking:D

Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	70	W
ESD per IEC 61000−4−2 (Air)	V_{ESD}	± 20	Kv
ESD per IEC 61000−4−2 (Contact)		± 20	
Operating Temperature Range	T_J	-55 to +125	℃
Storage Temperature Range	T_{STJ}	-55 to +150	℃

Electrical Characteristics(TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_T = 1mA	6			V
Reverse Leakage Current	I_R	V_{RWM} = 5V			1	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20 μs pulse)			9	V
Clamping Voltage	V_C	I_{PP} = 4.5A (8 x 20 μs pulse)			15	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz			0.9	pF

Typical Performance Characteristics (TA=25°C unless otherwise Specified)

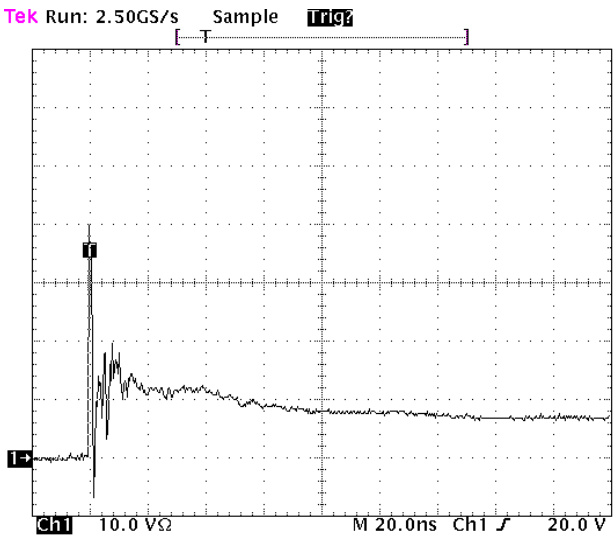


Figure 1. ESD Clamping Voltage Screenshot Positive 8 kV Contact per IEC61000−4−2

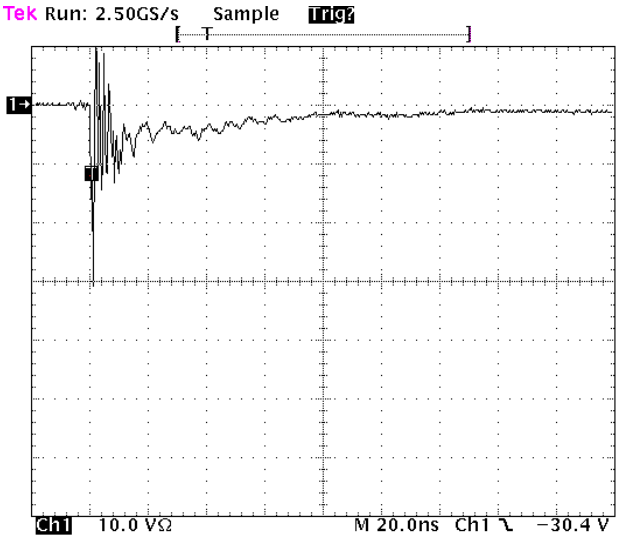
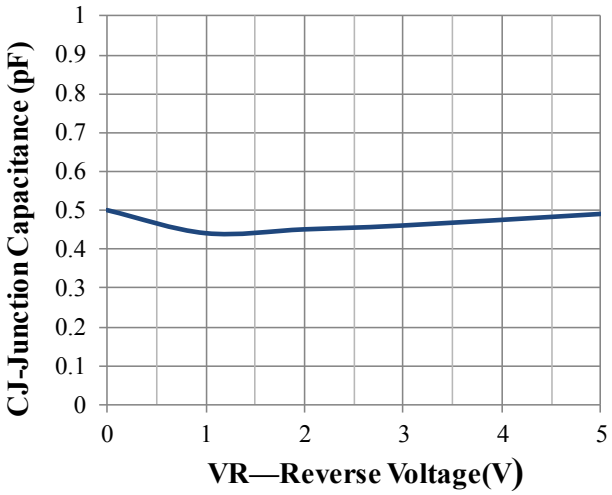
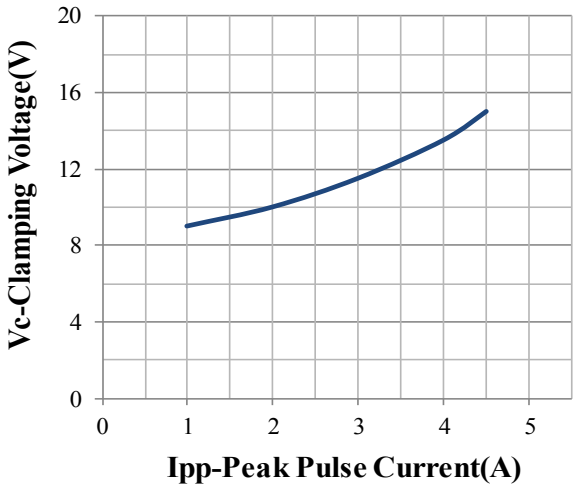


Figure 2. ESD Clamping Voltage Screenshot Negative 8 kV Contact per IEC61000−4−2

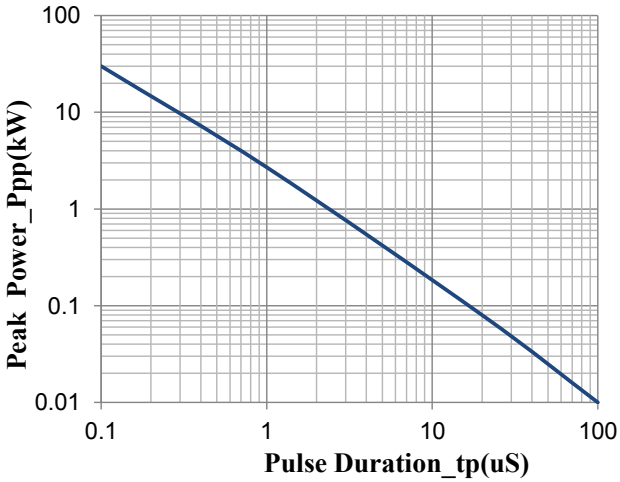
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



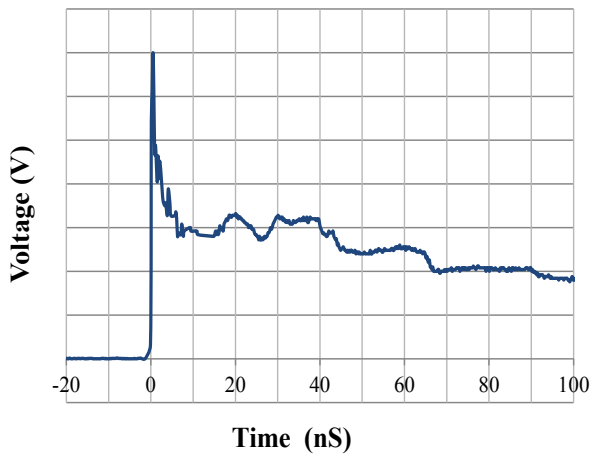
Junction Capacitance vs. Reverse Voltage



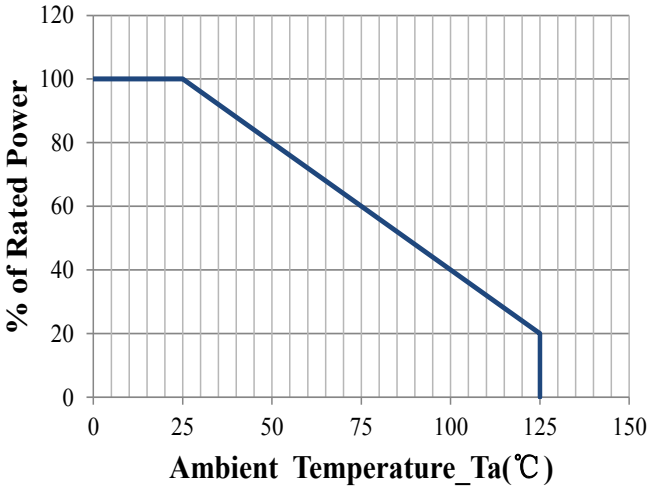
Clamping Voltage vs. Peak Pulse Current



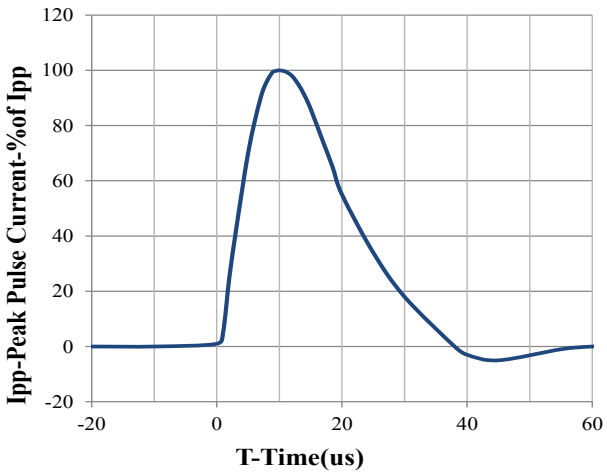
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

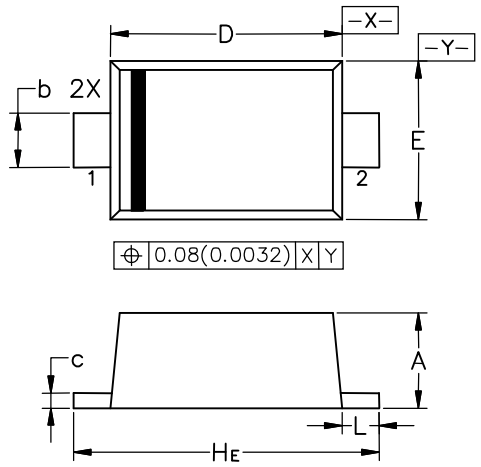


Power Derating Curve

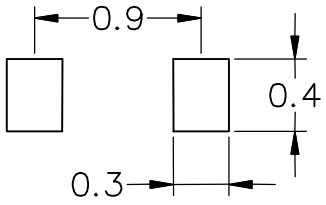


8 X 20us Pulse Waveform

SOD-923 Mechanical Data



Soldering Footprint



Dimensions: Millimeters

Dim	Millimeters			Inches		
	Min	Nom	Max	Min	Nom	Max
A	0.35	0.40	0.45	0.013	0.016	0.017
b	0.15	0.20	0.25	0.006	0.008	0.010
c	0.07	0.12	0.17	0.003	0.005	0.007
D	0.75	0.80	0.85	0.030	0.031	0.033
E	0.55	0.60	0.65	0.022	0.024	0.026
H_E	0.95	1.00	1.05	0.037	0.039	0.041
L	0.05	0.10	0.15	0.002	0.004	0.006

Shanghai Leiditech Electronic Co.,Ltd
Email: sale1@leiditech.com
Tel : +86- 021 50828806
Fax : +86- 021 50477059