Electrostatic Discharged Protection Devices (ESD) Data Sheet

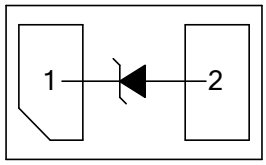
Description

The LBD8A24L01 of Transient Voltage Suppressors are designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computer, and PDAs.
They offer superior electrical characteristics such as lower clamping voltage and no device degradation when compared to MLVs. They are designed to protect sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD), lightning, electrical fast transients (EFT), and cable discharge events (CDE).

Contact : ±8kV
Air : ±15kV

Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- SOD882 surface mount package
- Working voltage: 24V
- Low leakage current
- Low operating and clamping voltages
- Solid-state silicon avalanche technology
- Lead Free/RoHS compliant
- Solder reflow temperature: Pure Tin-Sn, 260~270℃
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020
- Marking: L4



Pin Configuration

Maximum Ratings

Rating	Symbol	Value	Unit
Peak Pulse Current(tp=8/20μs waveform)	I_{PP}	3	A
ESD voltage (Contact discharge)	V_{ESD}	±8	kV
ESD voltage (Air discharge)		±15	
Storage & operating temperature range	T_{STG} ,T_J	-55~+150	℃

Electrical Characteristics (T_J=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				24	V
Reverse breakdown voltage	V_{BR}	I_{BR}=1mA	26			V
Reverse leakage current	I_R	V_R=24V			1	μA
Clamping voltage (tp=8/20μs)	V_C	I_{PP}=1A			45	V
Clamping voltage (tp=8/20μs)	V_C	I_{PP}=3A			56	V
Off state junction capacitance	C_J	0Vdc,f=1MHz		30		pF

Typical Characteristics Curves

Figure 1. Pulse Waveforms

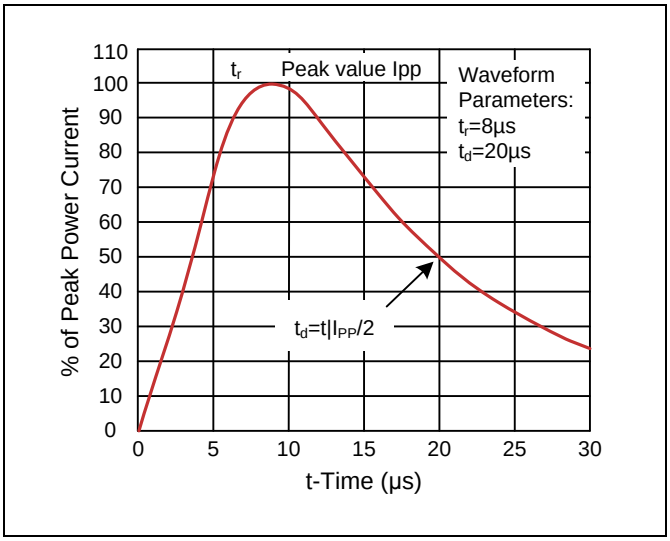


Figure 2. Clamping Voltage vs. Peak Pulse Current

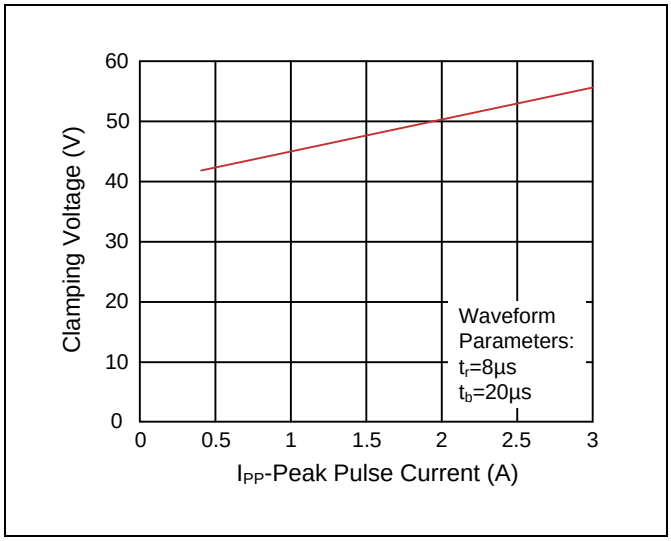


Figure 3. Capacitance vs. Reverse Voltage

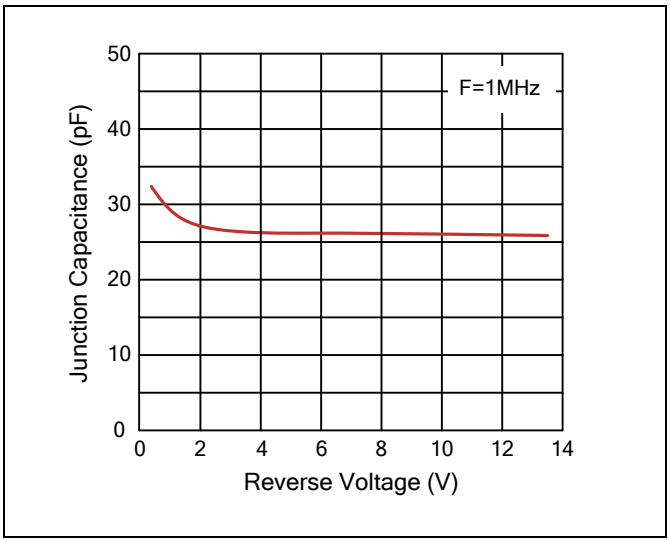
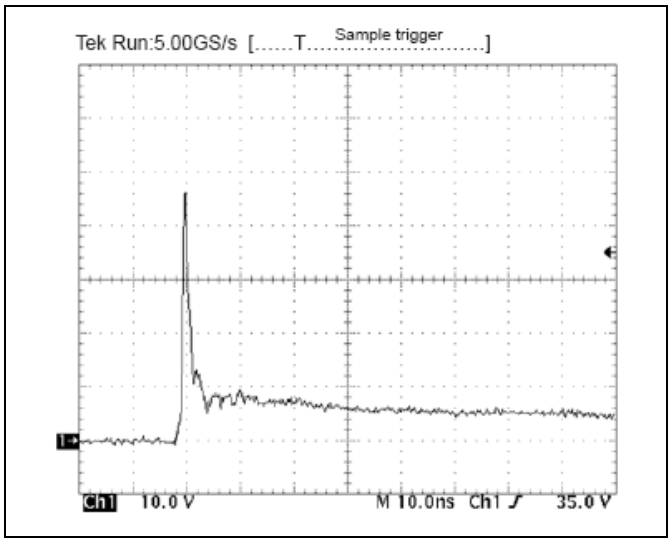
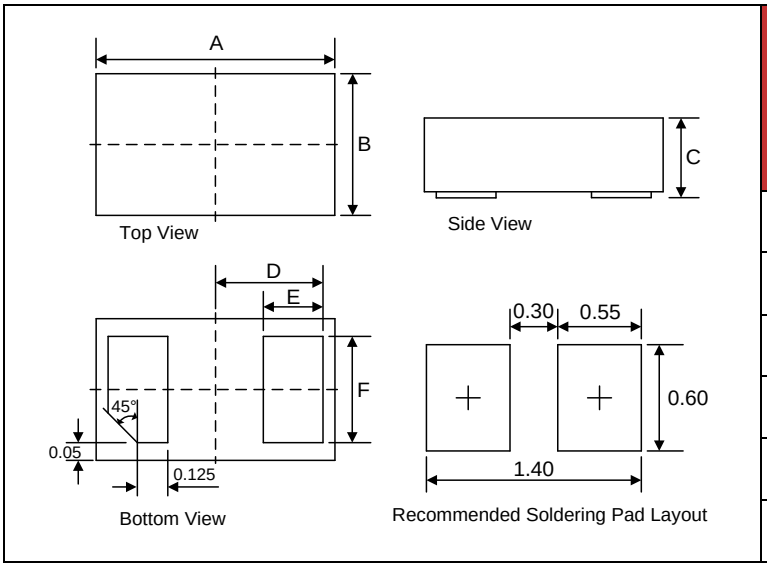


Figure 4. ESD Clamping(8kV Contact IEC61000-4-2)



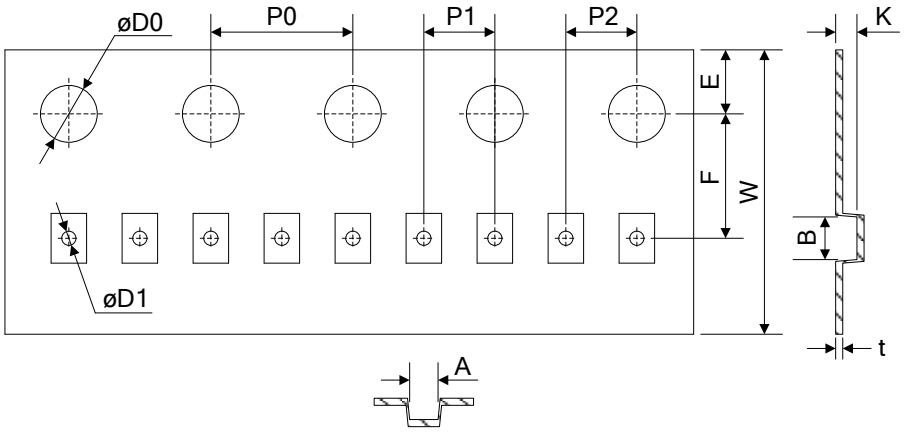
Dimensions (SOD882)



Symbol	Dimension (mm)			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.95	1.05	0.037	0.041
B	0.55	0.65	0.022	0.026
C	0.32	0.55	0.013	0.022
D	0.45		0.018	
E	0.20	0.30	0.008	0.012
F	0.45	0.55	0.018	0.022

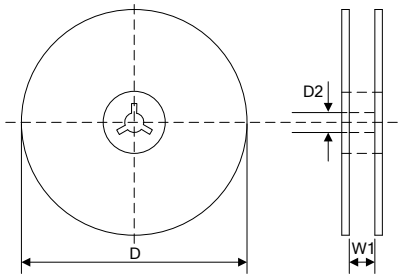
Packaging

Tape



Symbol	Dimension (mm)
W	8.00±0.30
P0	4.00±0.10
P1	2.00±0.10
P2	2.00±0.10
D0	Φ1.55±0.10
D1	Φ0.40±0.05
E	1.75±0.10
F	3.50±0.10
A	0.75±0.10
B	1.15±0.10
K	0.60±0.05
t	0.20±0.05

Reel



D	Φ178.0±2.0
D2	Φ13.00.
W1	9.50
Quantity: 10000PCS	