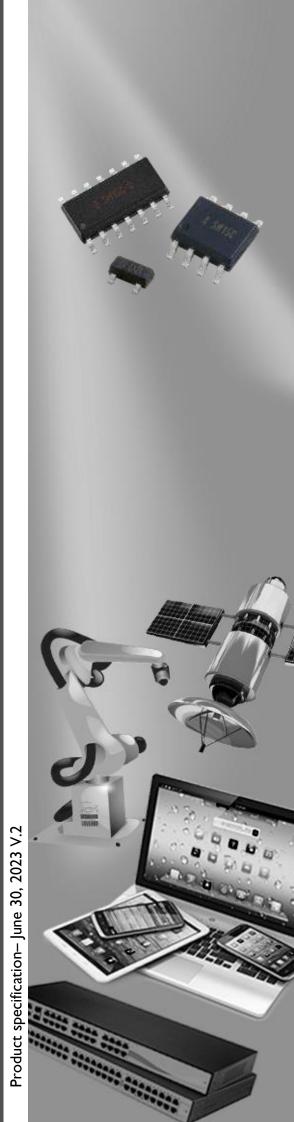


DATA SHEET

ELECTROSTATIC DISCHARGE PROTECTION DEVICES INDUSTRIAL / CONSUMER LAD8C05L01

RoHS compliant & Halogen free





Electrostatic Discharged Protection Devices (ESD) Data Sheet

Description

The LAD8C05L01 of Transient Voltage Suppressors is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computer, and PDAs.

It offer superior electrical characteristics such as lower clamping voltage and no device degradation when compared to MLVs. It is 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: 5V
- Low leakage current
- Low operating and clamping voltages
- Solid-state silicon avalanche technology
- RoHS compliant
- Solder reflow temperature: Pure Tin-Sn, 260~270℃
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020
- Marking: BB

Pin Configuration

Applications

- Cellular Handsets & Accessories
- Notebooks & Handhelds
- Digital Cameras

- Personal Digital Assistants (PDAs)
- Portable Instrumentation

Maximum Ratings

Rating	Symbol	Value	Unit	
ESD voltage (Contact discharge)	V	±8	147	
ESD voltage (Air discharge)	V_{ESD}	±15	kV	
Storage & operating temperature range	T _{STG} ,T _J	-55~+150	$^{\circ}$	

Electrical Characteristics (TJ=25°C)

Parameter	Symbol	Condition	Min.	Тур.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				5	V
Reverse breakdown voltage	V_{BR}	I _{BR} =1mA	5.5			V
Reverse leakage current	I _R	V _R =5V			1	μA
Clamping voltage (tp=8/20µs)	Vc	I _{PP} =1A			8.5	V
Clamping voltage (tp=8/20µs)	V _C	I _{PP} =4A			12	V
Peak Pulse Current(tp=8/20µs)	I _{PP}				4	Α
Off state junction capacitance	CJ	0Vdc,f=1MHz		10		pF

Typical Characteristics Curves

Figure 1. Pulse Waveforms

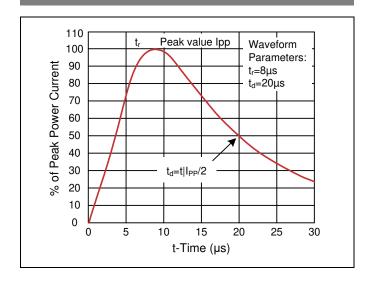


Figure 2. Clamping Voltage vs. Peak Pulse Current

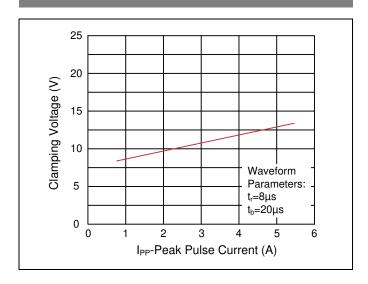
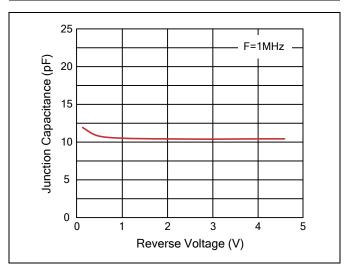
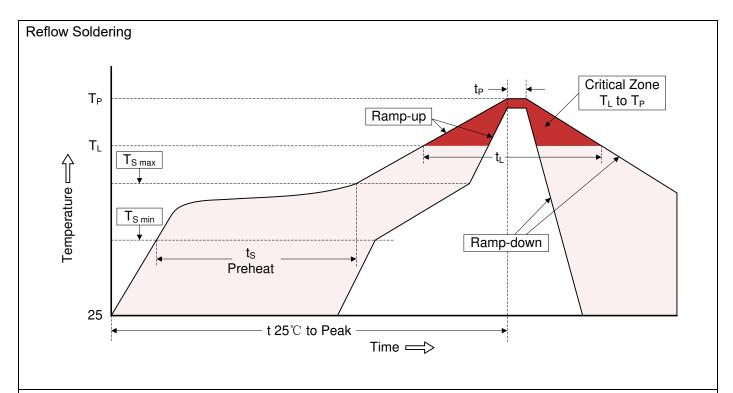


Figure 3. Capacitance vs. Reverse Voltage





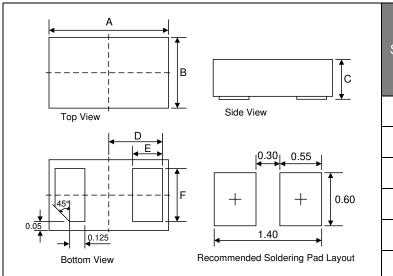
Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate $(T_L \text{ to } T_P)$	3℃/second max.
Preheat	
-Temperature Min (T _{S min})	150℃
-Temperature Max (T _{S max})	200℃
-Time (min to max) (ts)	60-180 seconds
T _{S max} to T _L	
-Ramp-up Rate	3°ℂ/second max.
Time maintained above:	
-Temperature (T _L)	217℃
-Time (t∟)	60-150 seconds
Peak Temperature (T _P)	260℃
Time within 5°C of actual Peak Temperature (t _P)	20-40 seconds
Ramp-down Rate	6°ℂ/second max.
Time 25°C to Peak Temperature	8 minutes max.



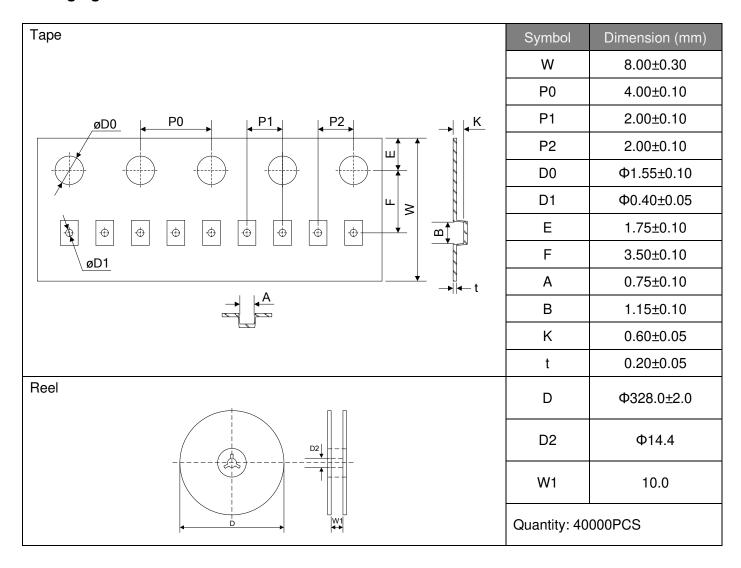
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Dimensions (SOD882)



	Dimension (mm)				
Symbol	Millimeters		Inches		
	Min.	Max.	Min.	Max.	
Α	0.95	1.05	0.037	0.041	
В	0.55	0.65	0.022	0.026	
С	0.32	0.55	0.013	0.022	
D	0.45		0.018		
Е	0.20	0.30	0.008	0.012	
F	0.45	0.55	0.018	0.022	

Packaging





Circuit Protection Components

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