

## Electrostatic Discharged Protection Devices (ESD) Data Sheet

### Description

The LAD8C series 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).

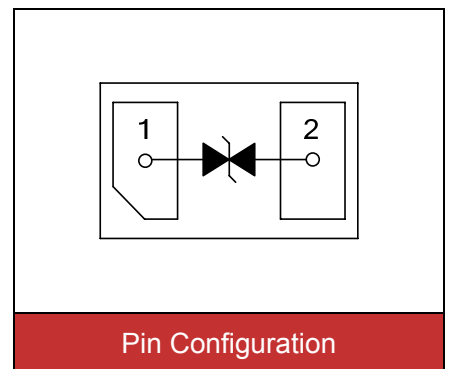


**Contact : ±8kV**  
**Air : ±15kV**



### Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- SOD882 surface mount package
- Working voltage: 5V
- Low leakage current
- Low operating and clamping voltages
- Solid-state silicon avalanche technology
- RoHS compliant
- Solder reflow temperature: Pure Tin-Sn, 260~270°C
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020
- Marking: BB



### Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 Players

### Maximum Ratings

Rating	Symbol	Value	Unit
ESD voltage (Contact discharge)	$V_{ESD}$	±8	kV
ESD voltage (Air discharge)		±15	
Lead soldering temperature	$T_L$	260	°C
Storage & operating temperature range	$T_{STG}, T_J$	-55~+150	°C

Electrical Characteristics ( $T_J=25^{\circ}\text{C}$ )

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	$V_{RWM}$				5	V
Reverse breakdown voltage	$V_{BR}$	$I_{BR}=1\text{mA}$	5.5			V
Reverse leakage current	$I_R$	$V_R=5\text{V}$			1	$\mu\text{A}$
Clamping voltage ( $t_p=8/20\mu\text{s}$ )	$V_C$	$I_{PP}=1\text{A}$			8.5	V
Clamping voltage ( $t_p=8/20\mu\text{s}$ )	$V_C$	$I_{PP}=4\text{A}$			12	V
Off state junction capacitance	$C_J$	$0\text{Vdc}, f=1\text{MHz}$		10		pF

Typical Characteristics Curves

Figure 1. Pulse Waveforms

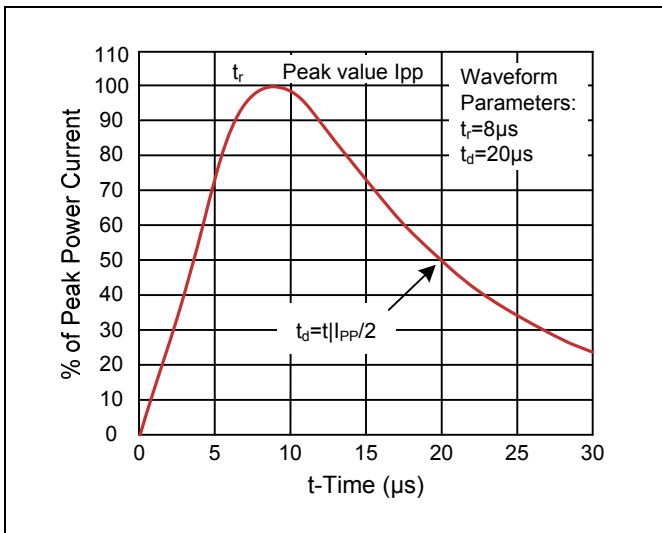


Figure 2. Clamping Voltage vs. Peak Pulse Current

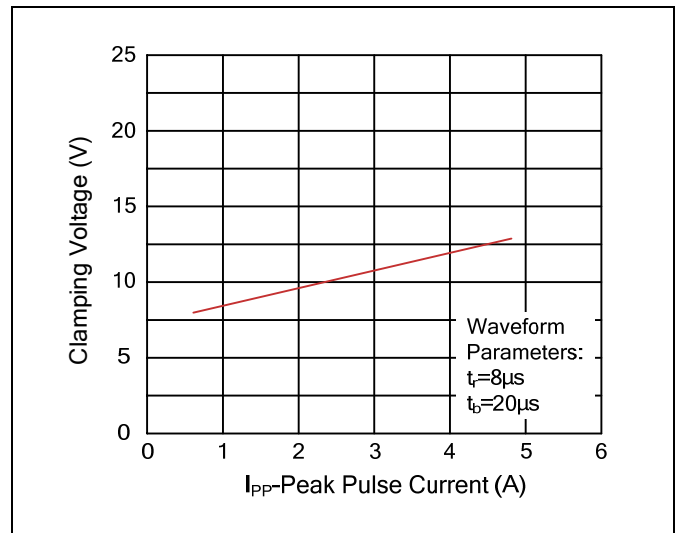
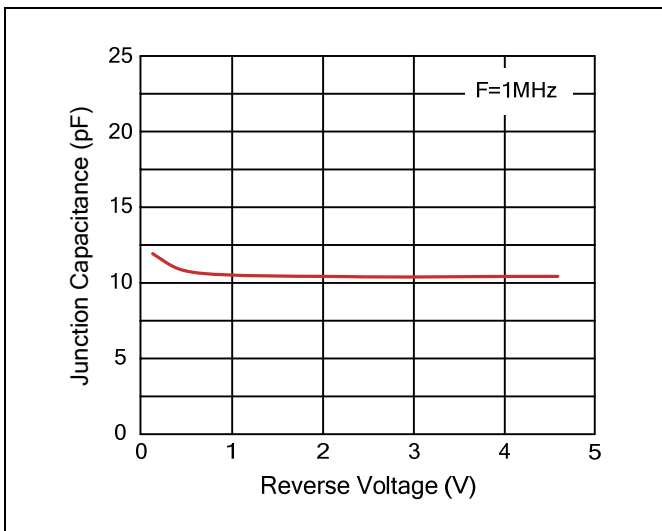


Figure 3. Capacitance vs. Reverse Voltage



**Dimensions (SOD882)**

	Dimension (mm)				
	Symbol	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**

<p><b>Tape</b></p>	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
<p><b>Reel</b></p>	D	Φ328.0±2.0
	D2	Φ14.4
	W1	10.0
	Quantity: 40000PCS	