

Transient Voltage Suppressors

General Description

The ESD8D24CS protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for board level protection, such as fast response time, low operating voltage. It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.

Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

Features

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 300 Watts @ 8 x 20 μ s Pulse
- Low Leakage current
- Response Time is Typically < 1 ns



Pin Configuration

Ordering information

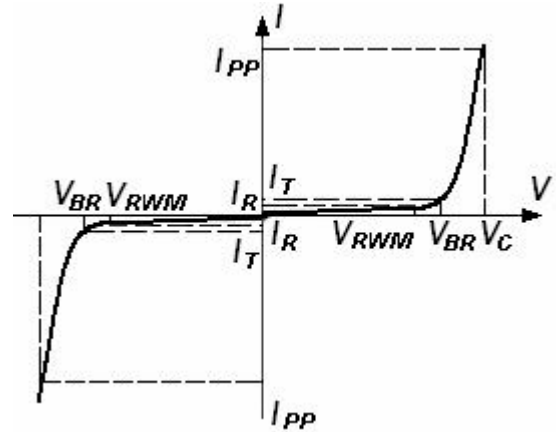
Device	Marking	Shipping
LESD8D24CS	CG4	10000/Tape&Reel

Absolute Ratings (T_{amb}=25°C)

Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (t _p = 8/20 μ s)	300	W
T _L	Maximum lead temperature for soldering during 10s	260	°C
T _{stg}	Storage Temperature Range	-55 to +150	°C
T _{op}	Operating Temperature Range	-40 to +125	°C
T _j	Maximum junction temperature	150	°C
I _{PPM}	IEC61000-4-2 (ESD)	air discharge	±20
		contact discharge	±15
I _{PPM}	IEC61000-4-5 (8/20 μ s)	4	A

Electrical Parameter

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 Ratings at 25°C ambient temperature unless otherwise specified.

Device	V_{RWM} (V)	I_{R1} (uA) @ V_{RWM}	V_{BR} (V) @ I_T (Note 1)	I_T	V_C (V) @ Max I_{PP}^*	I_{PP} (A)*	P_{PK} (W)*	C (pF)
	Max	Max	Min	mA	Max	Max	Max	Max
ESD8D24CS	24.0	0.1	26.5	1.0	60.0	4.0	300	10

*Surge current waveform per Figure 1.

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

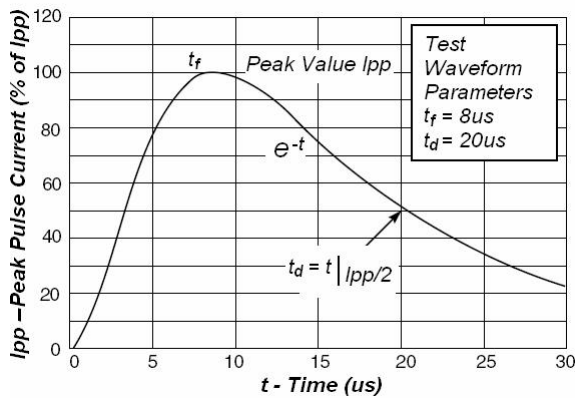


Fig1. IEC61000-4-5 Waveform

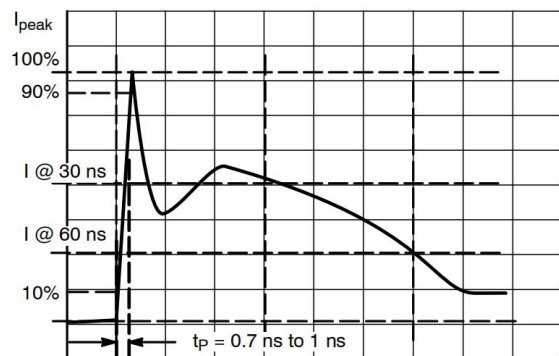
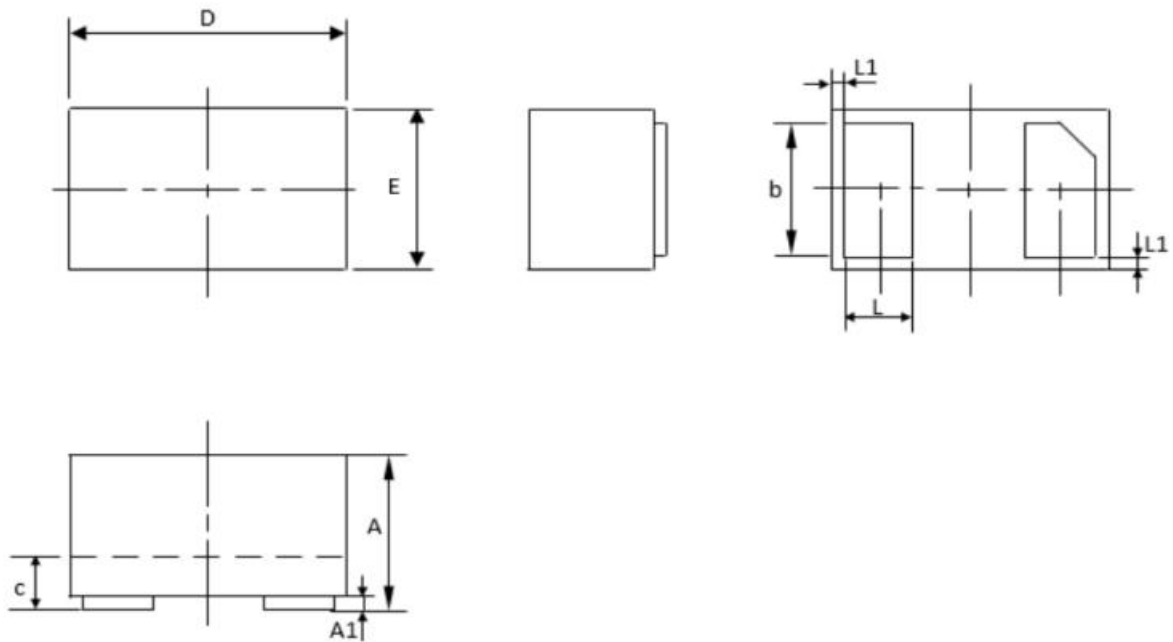


Fig2. IEC61000-4-2 Waveform

OUTLINE AND DIMENSIONS

1-Line bidirectional ESD Protection Diode

SOD882


SOD882 (mm)			
Dim	Min	Typ.	Max
A	0.46	0.48	0.50
A1	0	0.02	0.05
b	0.45	0.5	0.55
c	0.1	0.12	0.14
D	0.95	1.00	1.05
E	0.55	0.60	0.65
L	0.20	0.25	0.30
L1	0.035	0.05	0.065
h	0.07	0.12	0.17