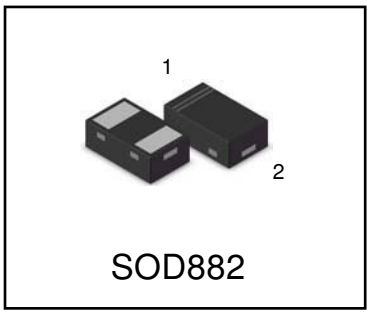
Transient Voltage Suppressors for ESD Protection

General Description

The LESD8D3.3CBT5G is desined to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of it's small size, it is suit for using in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium.

LESD8D3.3CBT5G



Applications

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

Features

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 105 Watts @ 8 x 20μs Pulse
- Low Leakage current
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 per Human Body Model

Ordering information

Device	Marking	Shipping
LESD8D3.3CBT5G	DA	10000/Tape&Reel

Absolute Ratings (T_{amb}=25°C)

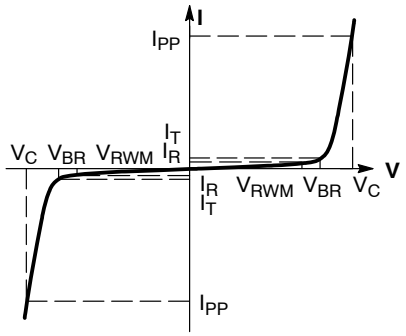
Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20 μ s)	105	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_{op}	Operating Temperature Range	-55 to +150	°C
T_j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD) air discharge contact discharge	±30 ±30	KV
	IEC61000-4-4 (EFT)	40	A

LESD8D3.3CBT5G

Electrical Parameter

(T_A = 25°C unless otherwise noted)

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}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
P_{pk}	Peak Power Dissipation
C	Capacitance @ V_R = 0 and f = 1.0 MHz



Electrical Characteristics

Device	V_{RWM} (V)	I_R (μA) @ V_{RWM}	V_{BR} (V) @ I_T (Note 1)		I_T	V_C (V) @ I_{PP} = 1 A (Note 2)	V_C (V) @MAX I_{PP} (Note 2)	I_{PP}(A) (Note 2)	P_{PK}(W) (Note 2)	C (pF)	R_{DYN}(Ω) @t_p=100 ns(TLP)
	Max	Max	Min	Max	mA	Max	Max	Max	Max	Typ.	Typ.
LESD8D3.3CBT5G	3.3	0.05	5	6.5	1.0	7	9	10	105	20	0.2

1. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25℃.
2. Surge current waveform per Figure 1.

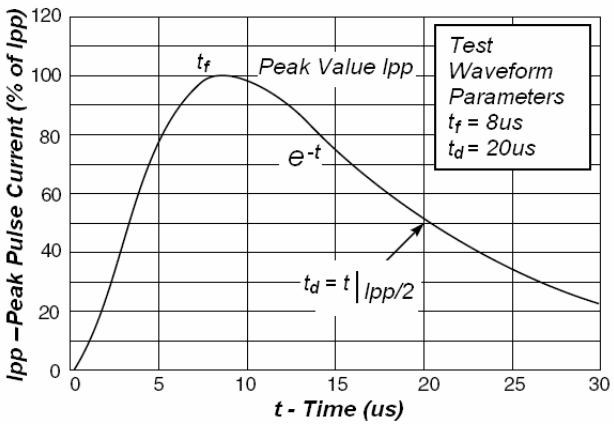


Fig1. Pulse Waveform

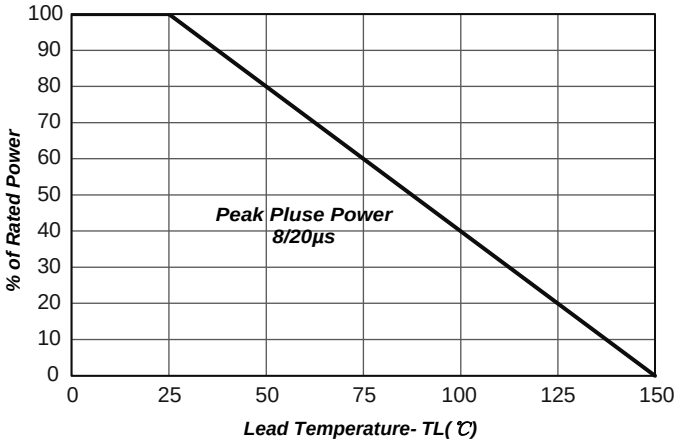


Fig2.Power Derating Curve

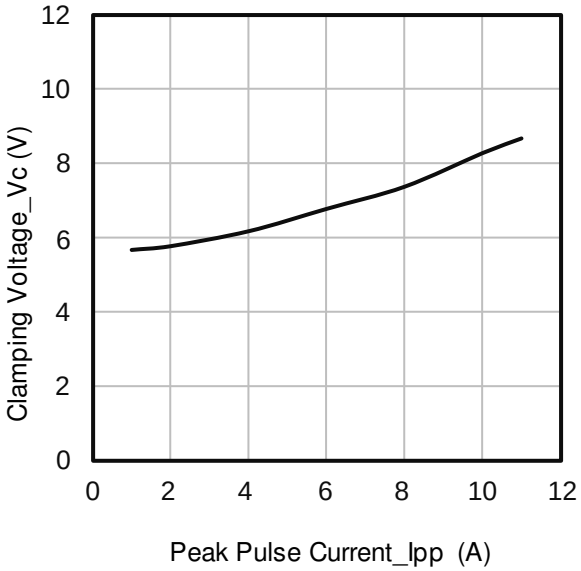


Fig3. Clamping Voltage vs. Peak Pulse Current

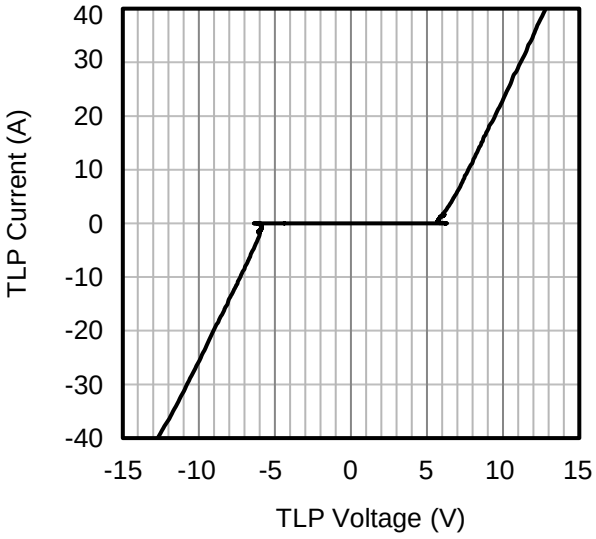
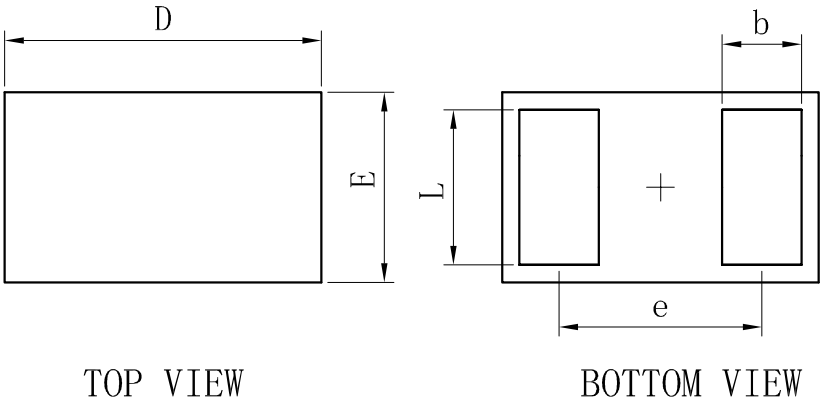


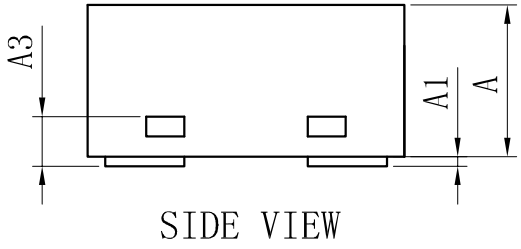
Fig4. TLP Measurement

OUTLINE AND DIMENSIONS

SOD882

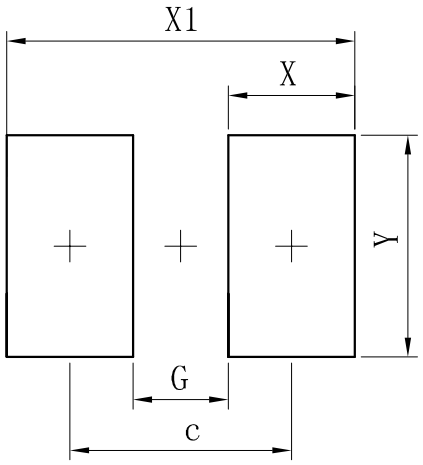


SOD882			
Dim	Min	Typ	Max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
e	–	0.64	–
L	0.44	0.49	0.54
b	0.20	0.25	0.30
A	0.43	0.48	0.53
A1	0	–	0.05
A3	0.127REF.		
All Dimensions in mm			



SOLDERING FOOTPRINT

SOD882



Dimensions	(mm)
c	0.70
G	0.30
X	0.40
X1	1.10
Y	0.70