HCESD1006NC3V3B
ESD PROTECTION DIODE

Discription

The HCESD1006NC3V3Bprotects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.

DFN1006-2L

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

Circuit Diagram

Ordering information

Product ID	Pack	Qty(PCS)
HCESD1006NC3V3B	DFN1006-2L	10000

Absolute Ratings(Tamb = 25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20μs)	100	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

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.
HCESD1006NC3V3B	3.3	0.05	5	6.5	1.0	7	11	9	100	15	0.2

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

Typical Characteristics

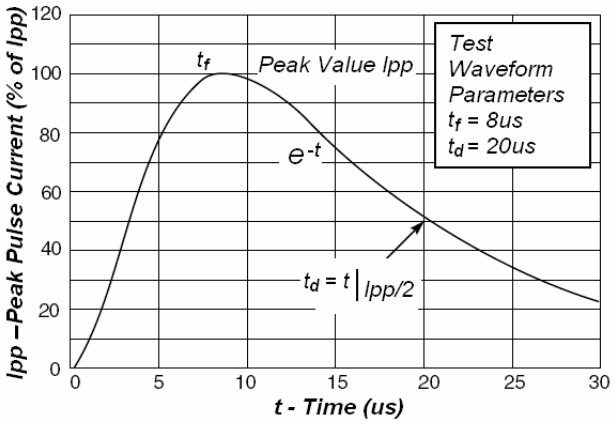


Fig1. Pulse Waveform

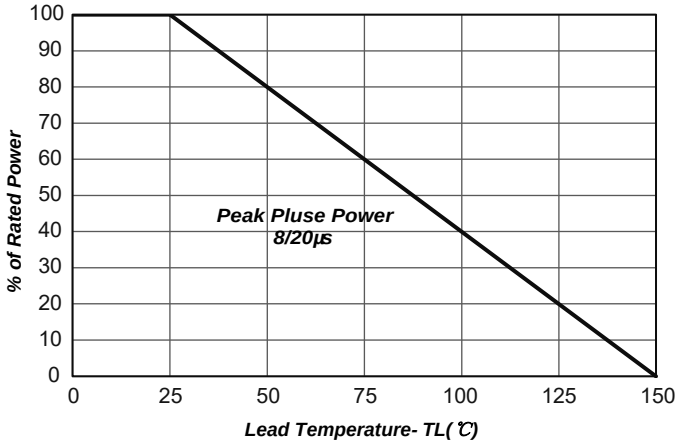


Fig2.Power Derating Curve

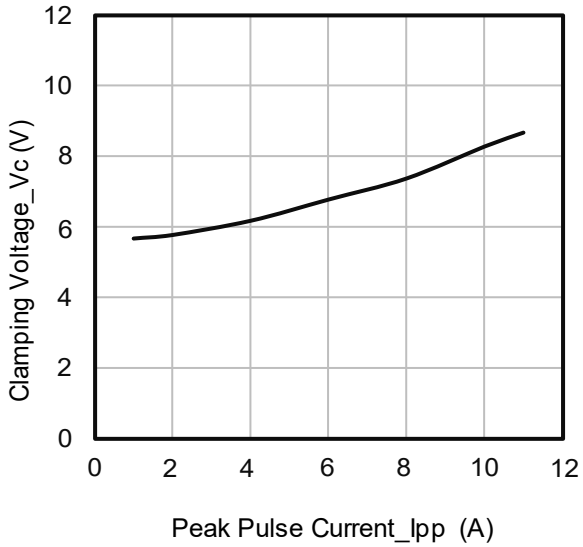


Fig3. Clamping Voltage vs. Peak Pulse Current

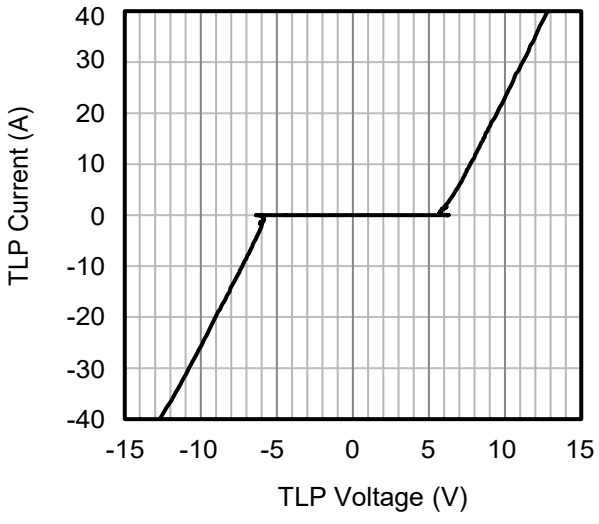
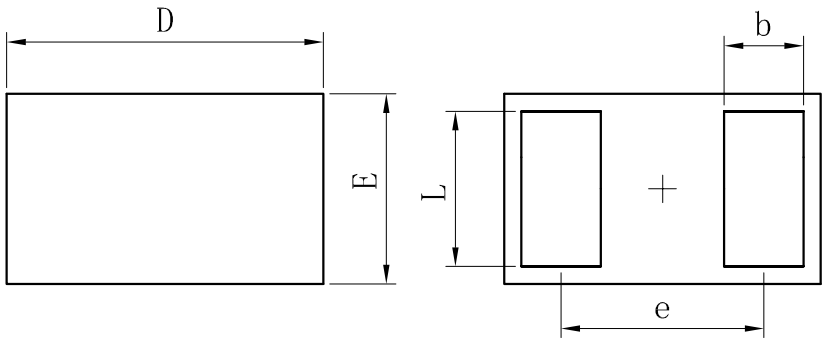
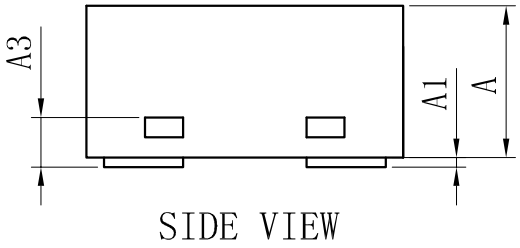


Fig4. TLP Measurement

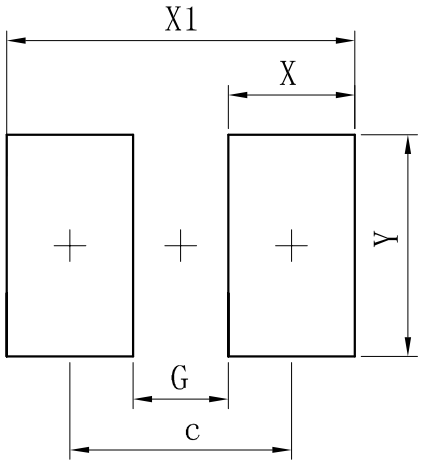
Outline And Dimensions



DFN1006-2L			
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			



Soledering Footprint



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

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