



Discription

The HESDNC12VB1EL-C protects 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.



SOD-323

Features

- ★ Bidirectional ESD protection of one line
- ★ Reverse stand-off voltage: 12.0V Max
- ★ Low leakage current: nA Leve
- ★ Response time is typically < 1 ns
- ★ Low clamping voltage: $V_c < 18\text{ V @ } I_{pp} = 19\text{ A}$
- ★ ESD Protection: 30kV(air)/ 30kV(contact)(IEC61000-4-2)
- ★ ROHS compliant
- ★ line in applications where arrays are not practical.



Circuit Diagram

Ordering Information

Product ID	Pack	Qty(PCS)
HESDNC12VB1EL-C	SOD-323	3000

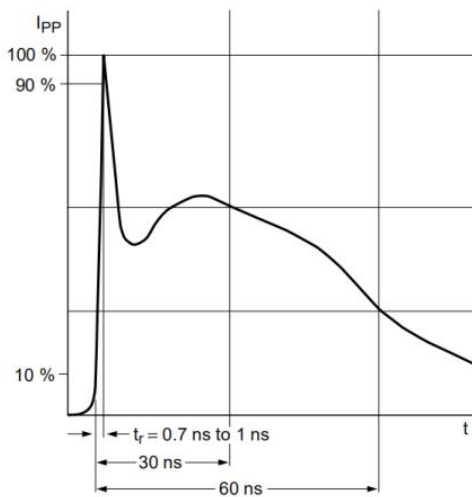
Absolute Ratings ($T_{amb}=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PPM}	340	W
Peak Pulse Current($t_p = 8/20\mu\text{s}$)	I_{PPM}	19	A
ESD voltage IEC 61000-4-2 (air discharge)	V_{ESD}	30	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	30	kV
Maximum lead temperature for soldering during 10s	T_L	260	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^{\circ}\text{C}$
Operating Temperature Range	T_{OP}	-40 to +125	$^{\circ}\text{C}$

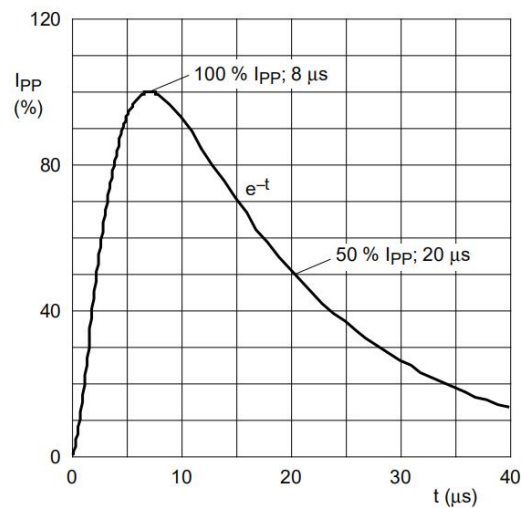


Electrical Characteristics ($T_{OP} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	12.0	V	
Breakdown Voltage	V_{BR}	13.0	--	15.5	V	$I_T=1\text{mA}$
Leakage Current I_{Leak}	I_R	--	--	100	nA	$V_{RWM}=12\text{V}$
Clamping Voltage	V_C	--	--	14.0	V	$I_{PP}=10\text{A}, T_p=8/20\mu\text{s}$
		--	--	18.0		$I_{PP}=19\text{A}, T_p=8/20\mu\text{s}$
Junction Capacitance	C_J	--	18.5	20	pF	$V_R=0\text{V}, f=1\text{MHz}$



IEC61000-4-2 Waveform



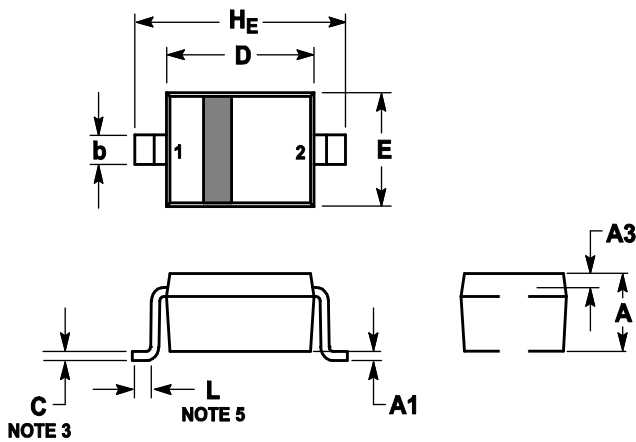
IEC 61000-4-5 Waveform(8/20 μs pulse)



Outline And Dimensions

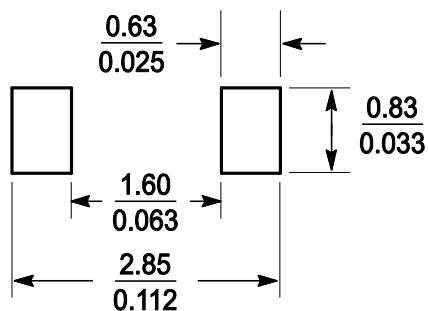
Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.8	0.9	1	0.031	0.035	0.04
A1	0	0.05	0.1	0	0.002	0.004
A3	0.15REF			0.006REF		
b	0.25	0.32	0.4	0.01	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.6	1.7	1.8	0.062	0.066	0.07
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
H _E	2.3	2.5	2.7	0.09	0.098	0.105

Soldering Footprint





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