



Discription

Low capacitance bidirectional ElectroStatic Discharge (ESD) protection diode in a ultra-small and flat lead SOD-323 plastic package designed to protect one signal line from the damage caused by ESD and other transients.



SOD-323

Features

- ★ Bidirectional ESD protection of one line
- ★ Reverse stand-off voltage: 12.0V Max
- ★ Low leakage current: nA Level
- ★ Response time is typically < 1 ns
- ★ Low clamping voltage: $V_C < 18\text{ V}$ @ $I_{PP} = 18\text{A}$
- ★ ESD Protection: 30kV(air)/ 30kV(contact) (IEC61000-4-2)
- ★ RoHS compliant



Applications

- ★ Cell Phone Handsets and Accessories
- ★ Microprocessor based equipment
- ★ Personal Digital Assistants (PDA's)
- ★ Notebooks,Desktops,and Servers

Circuit Diagram

Ordering Information

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

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

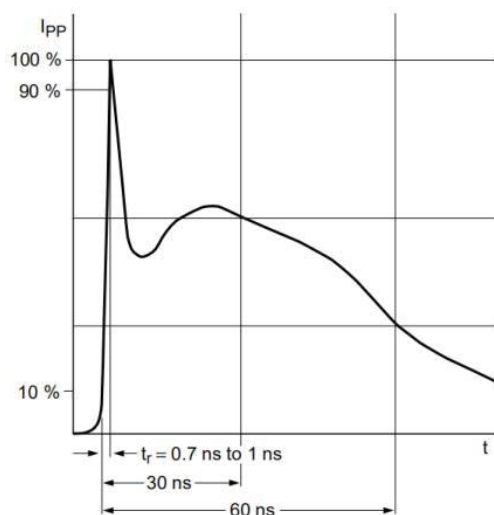
Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power ($t_p = 8/20\text{ }\mu\text{s}$)	340	W
T_L	Maximum lead temperature for soldering during 10s	260	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55 to +155	$^{\circ}\text{C}$
T_{op}	Operating Temperature Range	-40 to +125	$^{\circ}\text{C}$
T_j	Maximum junction temperature	150	$^{\circ}\text{C}$
	IEC61000-4-2 (ESD)	air discharge contact discharge	± 30 ± 30 KV



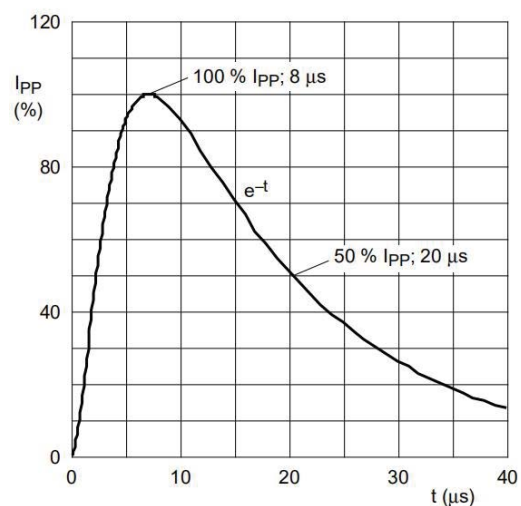
Electrical Characteristics

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				12.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1\text{mA}$	13.0		15.5	V
I_R	Reverse Leakage Current	$V_{RWM} = 12\text{V}$			100	nA
V_C	Clamping Voltage	$I_{PP} = 10\text{A}$, $t_p = 8/20\mu\text{s}$			14.0	V
		$I_{PP} = 18\text{A}$, $t_p = 8/20\mu\text{s}$			18.0	V
C_J	Junction Capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$		15.0	20.0	pF

Typical Characteristics



IEC61000-4-2 Waveform



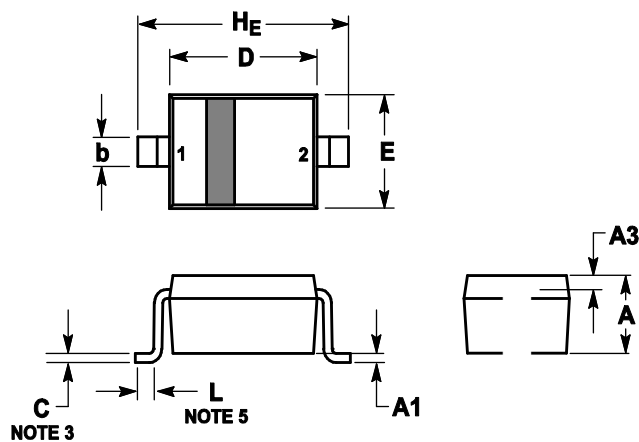
IEC 61000-4-5 Waveform(8/20 μs pulse)



Outline And Dimensions

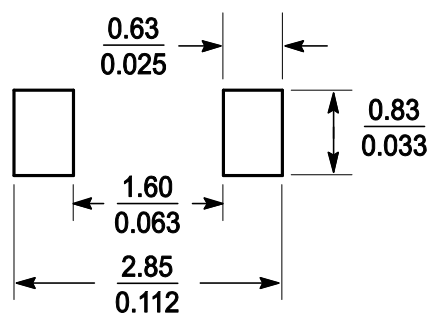
Notes:

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

Soledering Footprint





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