



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.

Features

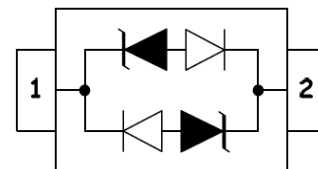
- ★ Ultra Low Capacitance 1.0 pF(Typ)
- ★ Reverse stand-off voltage: 12V Max
- ★ Low leakage current: nA Level
- ★ Response time is typically < 1 ns
- ★ IEC61000-4-2 Level 4 ESD Protection
- ★ RoHS compliant

Applications

- ★ High- speed data lines
- ★ Smart phones
- ★ Display Ports
- ★ MDDI Ports
- ★ USB Ports
- ★ Digital Video Interface (DVI)
- ★ PCI Express and Serial SATA Ports



SOD-323



Circuit Diagram

Ordering Information

Product ID	Pack	Qty(PCS)
ESDLC12VD3B-TP	SOD-323	3000

Absolute Ratings(Tamb = 25°C)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs)	PPPM	350	W
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	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C
Operating Temperature Range	T _{OP}	-40 to +125	°C



Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	12.0	V	
Breakdown Voltage	V_{BR}	13.3	--		V	$I_T=1mA$
Leakage Current I_{Leak}	I_R	--	--	1.0	μA	$V_{RWM}=5V$
Clamping Voltage	V_C	--	--	28.6	V	$I_{PP}=12A, T_p=8/20\mu s$
Junction Capacitance	C_J	--	1.0	1.2	pF	$V_R=0V, f=1MHz$

Typical Characteristics

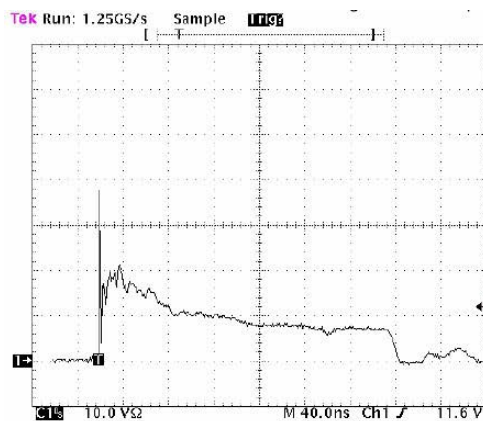


Figure 1. ESD Clamping Voltage Screenshot
Positive 8 kV contact per IEC 61000-4-2

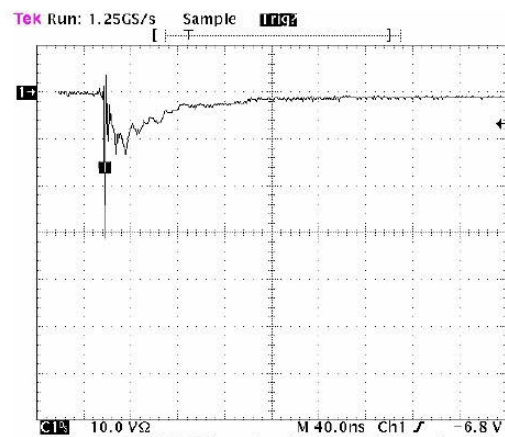


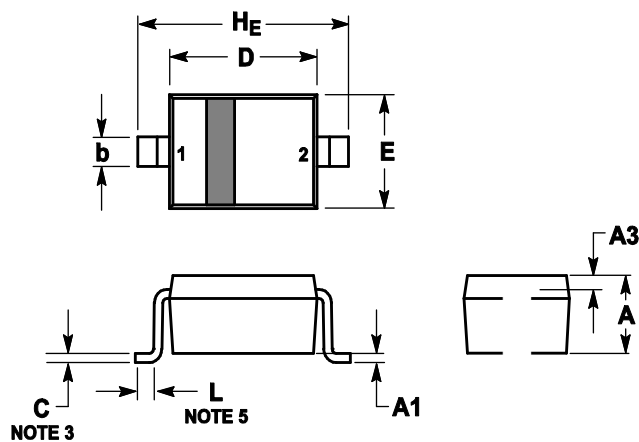
Figure 2. ESD Clamping Voltage Screenshot
Negative 8 kV contact per IEC 61000-4-2



Outline And Dimensions

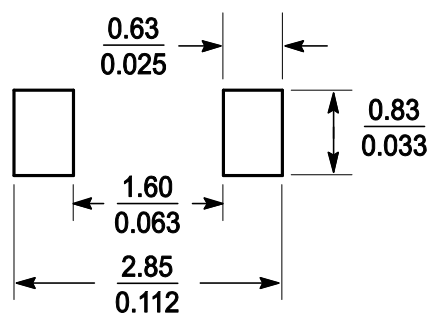
Notes:

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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