Discription

The SDD32C12L01 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

- ★ Transient protection for high-speed data lines
  IEC 61000-4-2(ESD) ±30kV (Contact)
  ±30kV (Air)
  IEC 61000-4-4(EFT) 40A (5/50 ns)
- ★ Peak power dissipation: 350W (8/20us)
- ★ Working voltages : 12V
- ★ Protects one Vcc or data line
- ★ Low clamping voltage
- ★ Low leakage current



Circuit Diagram

Ordering information

Product ID	Pack	Qty(PCS)
SDD32C12L01	SOD-323	3000

Absolute Ratings(Tamb = 25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20 μ s)	350	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +155	°C
T_{op}	Operating Temperature Range	-40 to +125	°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

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				12	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	13.3			V
I_R	Reverse Leakage Current	V_{RWM} = 12V			1	μA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20μs			19	V
		I_{PP} = 11A, t_p = 8/20μs			32	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		38	50	pF

Typical Characteristics

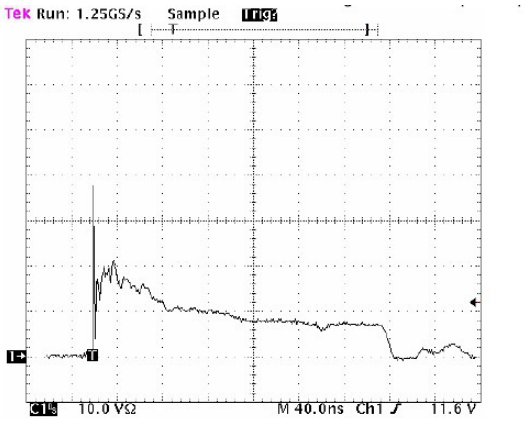


Figure 1. ESD Clamping Voltage Screenshot
Positive 8 kV contact per IEC 61000−4−2

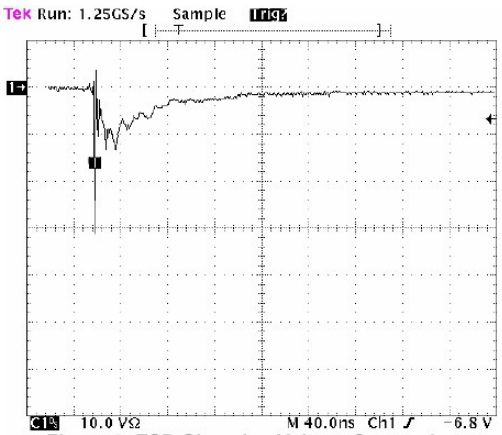
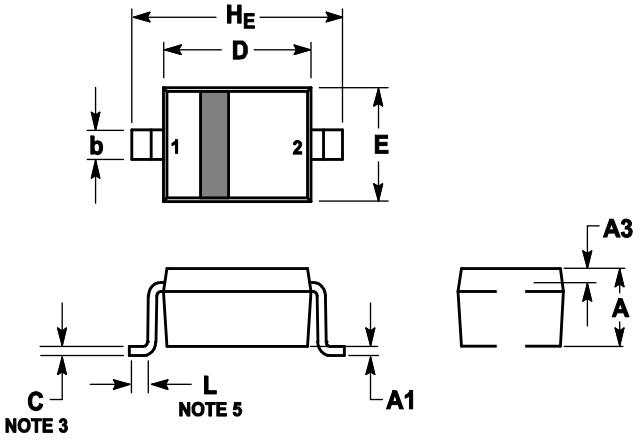


Figure 2. ESD Clamping Voltage Screenshot
Negative 8 kV contact per IEC 61000−4−2

Outline And Dimensions

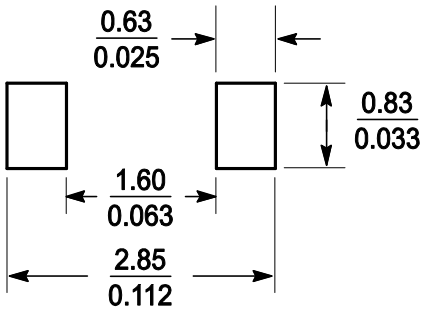


Notes:

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.

	MILLIMETERS			INCHES		
DIM	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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DSC06065 MJD127G TLV74318PDBVR-HXY 1SMB5930BT3G AOD403-HXY IDL10G65C5XUMA2 S3D08065E 2N7002-HXY C3M0040120D CH440G HBAS40-05LT1G ISL28233FUZ-T7 Si2323DS-T1-E3-HXY TPS7A0533PDBZR-HXY MUR1040FCT SG3525-HXY SGM3798YG/TR SS5150 C4D08120E-TR TPD1E0B04DPYR E4D10120A PTVSHC3D5VU S4D15120H IRLML2244TRPBF-HXY 1SMB5934B C6D06065Q-TR DMPH6250SQ-13 ISL28133FHZ-T7 MSC040SMA120B4 BD237STU