UCLAMP1201H.TCT
ESD PROTECTION DIODE

Discription

The UCLAMP1201H.TCT 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 unidirectional line in applications where arrays are not practical.



SOD-523

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: 174W (8/20us)
- ★ Working voltages : 5V
- ★ Protects one Vcc or data line
- ★ Low clamping voltage
- ★ Low leakage current



Circuit Diagram

Ordering information

Product ID	Pack	Qty(PCS)
UCLAMP1201H.TCT	SOD-523	3000

Absolute Ratings(Tamb = 25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20 μ s)	174	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	14.1			V
I_R	Reverse Leakage Current	V_{RWM} = 12V			0.02	μA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20μs			23	V
		I_{PP} = 6A, t_p = 8/20μs			29	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		35		pF

Typical Characteristics

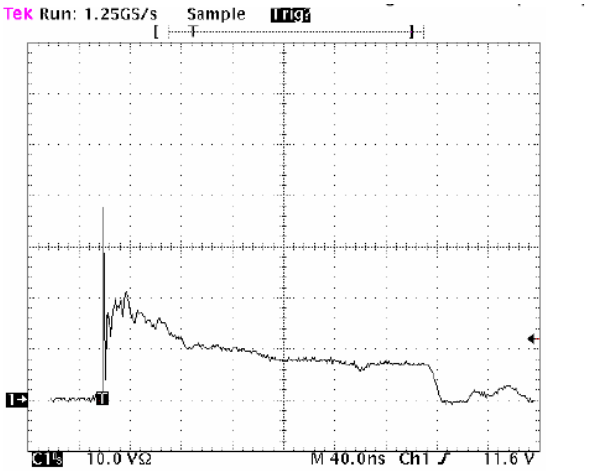


Figure 1. ESD Clamping Voltage Screenshot
Positive 8 kV contact per IEC 61000-4-2

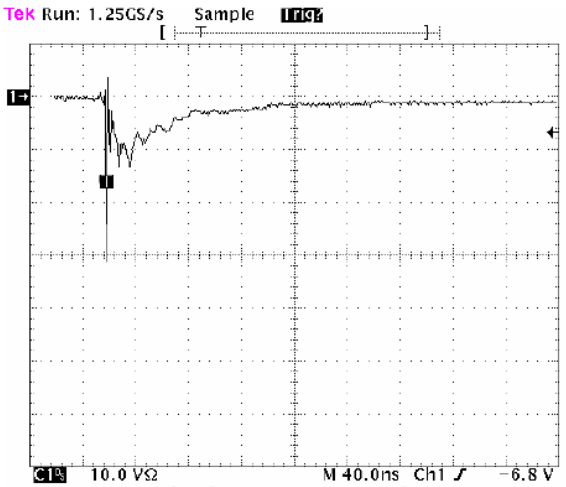
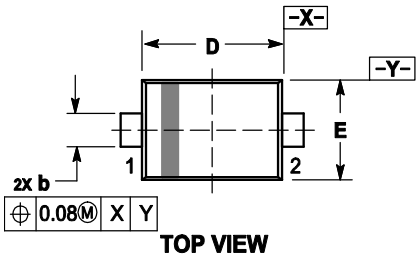
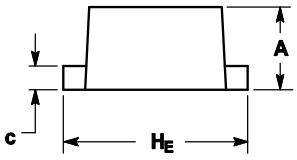


Figure 2. ESD Clamping Voltage Screenshot
Negative 8 kV contact per IEC 61000-4-2

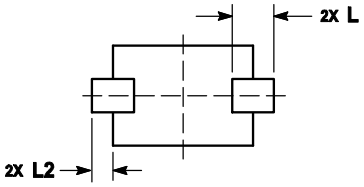
Outline And Dimensions



TOP VIEW



SIDE VIEW



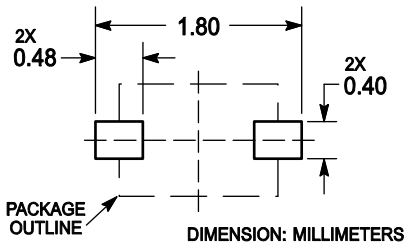
BOTTOM VIEW

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	0.50	0.60	0.70	0.020	0.024	0.028
b	0.25	0.30	0.35	0.010	0.012	0.014
c	0.07	0.14	0.20	0.003	0.006	0.008
D	1.10	1.20	1.30	0.043	0.047	0.051
E	0.70	0.80	0.90	0.028	0.031	0.035
H_E	1.50	1.60	1.70	0.059	0.063	0.067
L	0.30 REF			0.012 REF		
L_2	0.15	0.20	0.25	0.006	0.008	0.010

Soledering Footprint



DIMENSION: MILLIMETERS

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