UCLAMP0501H.TCT
ESD PROTECTION DIODE

Discription

The UCLAMP0501H.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

- ★ Small Body Outline Dimensions
- ★ Low Body Height
- ★ Stand−off Voltage: 5V
- ★ Peak Power up to 250 Watts @ 8 x 20 us Pulse
- ★ Low Leakage
- ★ Response Time is Typically < 1 ns
- ★ ESD Rating of Class 3 per Human Body Model
- ★ IEC61000−4−2 Level 4 ESD Protection
- ★ IEC61000−4−4 Level 4 EFT Protection
- ★ We declare that the material of product compliance with RoHS requirements.



Circuit Diagram

Ordering Information

Product ID	Pack	Qty(PCS)
UCLAMP0501H.TCT	SOD-523	3000

Absolute Ratings (T_{amb}=25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20μs)	250	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +150	°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

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.VF = 0.9V at IF = 10mA

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	6.5			V
I_R	Reverse Leakage Current	V_{RWM} = 5.0V			1.0	uA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20μs		9.5		V
		I_{PP} =15A,t_p = 8/20μs		20		V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		180		pF

Typical Characteristics

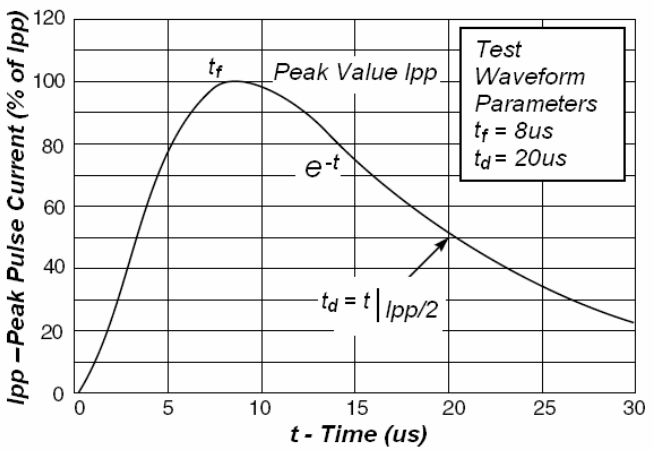


Fig1. Pulse Waveform

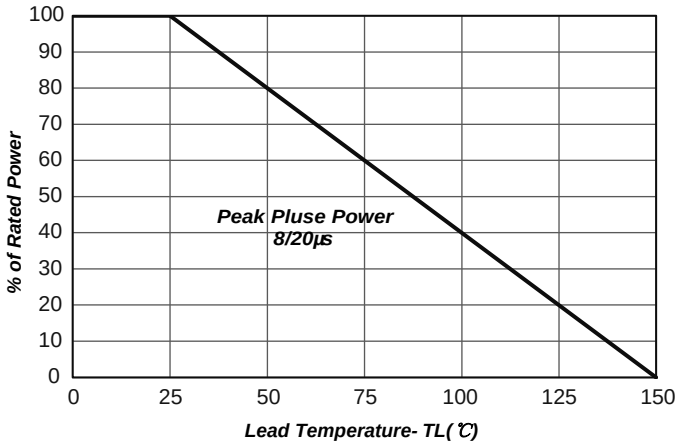
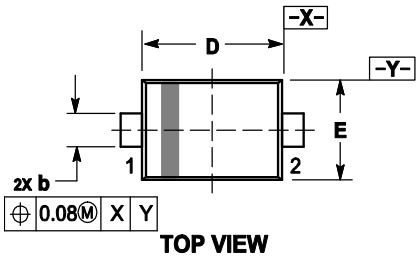
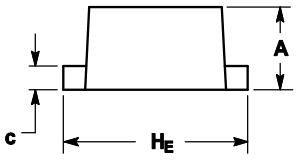


Fig2.Power Derating

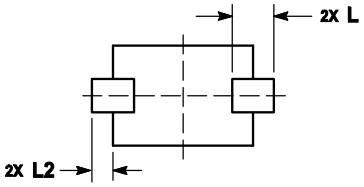
Outline And Dimensions



TOP VIEW



SIDE VIEW



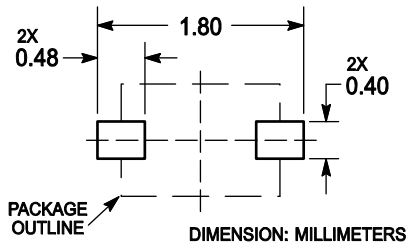
BOTTOM VIEW

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

Soldering Footprint



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