

Uni-Directional 7V High Capacitance TVS

1 Features

- Working voltage: 7V
- SOD-323 Package
- 2500 Watts peak pulse power ($t_p=8/20\mu s$)
- Transient protection for data lines to
 - IEC 61000-4-2 (ESD) $\pm 30kV$ (air)
 - $\pm 30kV$ (contact)
 - IEC 61000-4-5 (Surge) 105A (8/20 μs)
 - IEC61000-4-4(EFT)40A(5/50ns)
- Low leakage current
- Low clamping voltage
- Solid-state silicon-avalanche technology

2 Applications

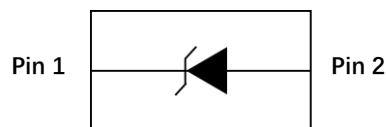
- End Equipment
 - Power lines
 - Personal digital assistants (PDA's)
 - Microprocessors based equipment
 - Notebooks, Desktops, and Servers
 - Cell phone Handsets and Accessories
 - Portable Electronics
 - Peripheral

3 Description

The SLVD37HCU TVS diode is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebooks, and PDA's. It offers superior electrical characteristics such as low clamping voltage, low leakage current and high surge capability. It is designed to protect sensitive electronic components which are connected to power lines, from over-stress caused by ESD (Electrostatic Discharge), EFT (Electrical Fast Transients) and Lightning.

The SLVD37HCU is in a SOD-323 package and will protect one bidirectional line. It may be used to provide ESD protection up to $\pm 30kV$ (Contact and air discharge) according to IEC61000-4-2 , and withstand peak pulse current up to 105A (8/20 μs) according to IEC61000-4-5.

4 Pin Configuration and Bottom View

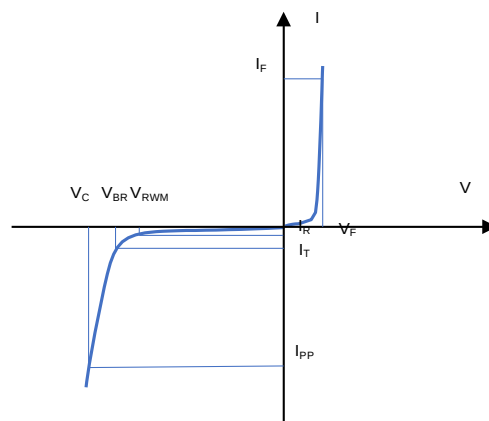


5 Device Information

PART NUMBER	PACKAGE	BODY SIZE (NOM)
SLVD37HCU	SOD-323	2.50 mm x 1.30mm

6 Electronics Parameter

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Maximum Reverse Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_F	Forward Voltage @ I_F
I_F	Forward Current



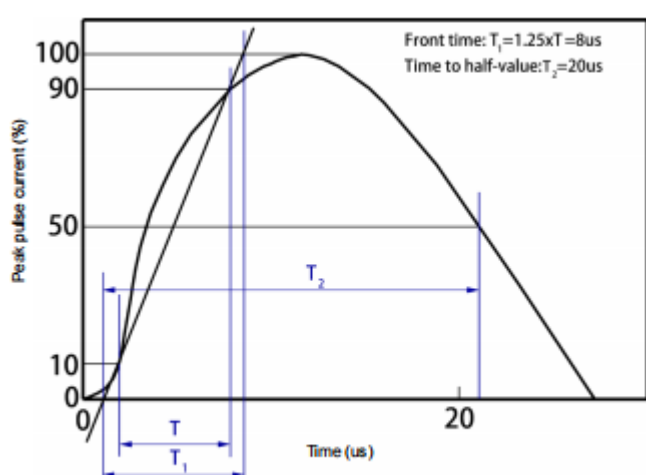
7 Absolute maximum Ratings @25°C

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20 μ s)	P _{PP}	2500	W
Peak Pulse Current (tp=8/20 μ s)	I _{PP}	105	A
Lead Soldering Temperature	T _L	260 (10 sec)	°C
Operating Temperature	T _J	-55 to 125	°C
Storage Temperature	T _{STG}	-55 to 150	°C
ESD Protection-Contact Discharge	V _{ESD}	±30	kV
ESD Protection-Air Discharge	V _{ESD}	±30	kV

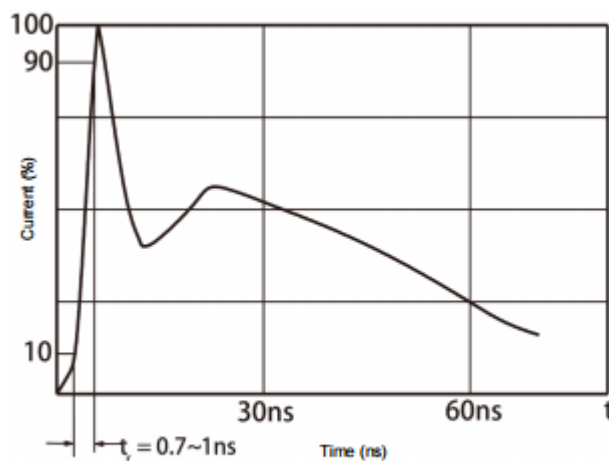
8 Electrical characteristics (@25°C unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Peak Reverse Working Voltage	V _{RWM}				7	V
Breakdown Voltage	V _{BR}	I _t = 1mA	7.5	8	9	V
Reverse Leakage Current	I _R	V _{RWM} = 7V, T=25°C			1	μA
Clamping Voltage	V _C	I _{PP} = 105A, t _p = 8/20μs		20	25	V
Junction Capacitance	C _j	V _R =0V, f = 1MHz	300	400	500	pF

9 Typical Characteristics

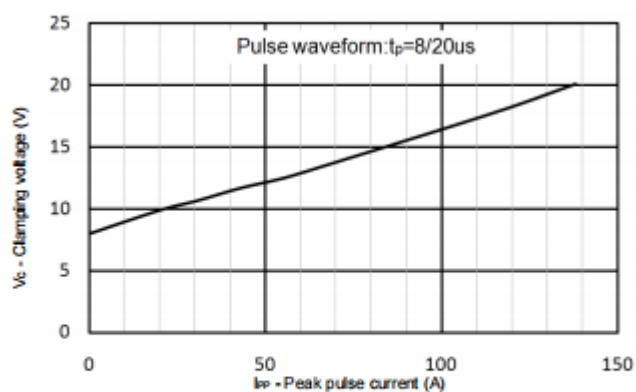


8/20 us waveform per IEC61000-4-5

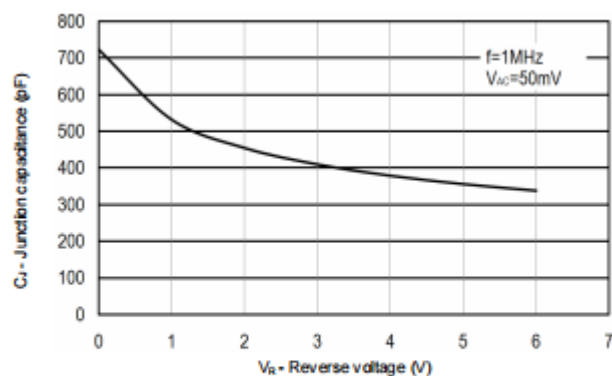


Contact discharge current waveform per IEC61000-4-2

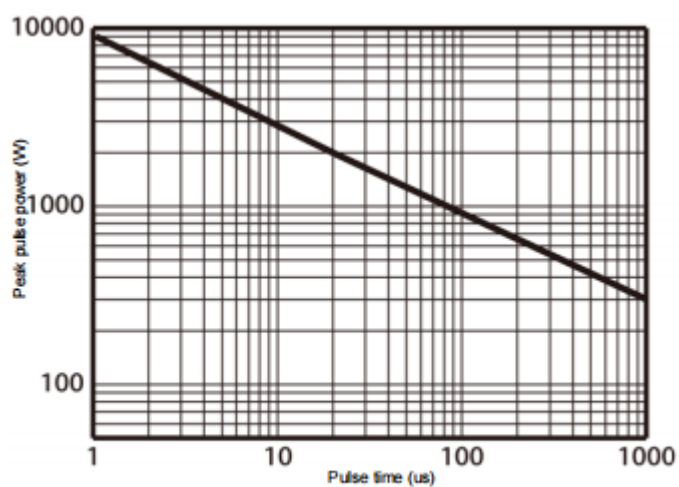
Pulse Waveform (8/20us)



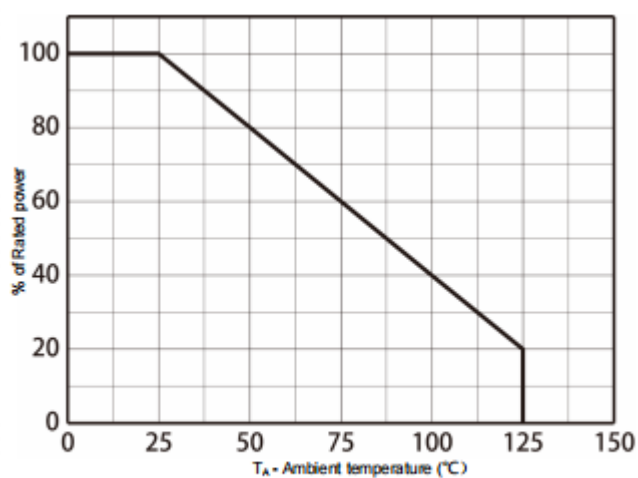
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage

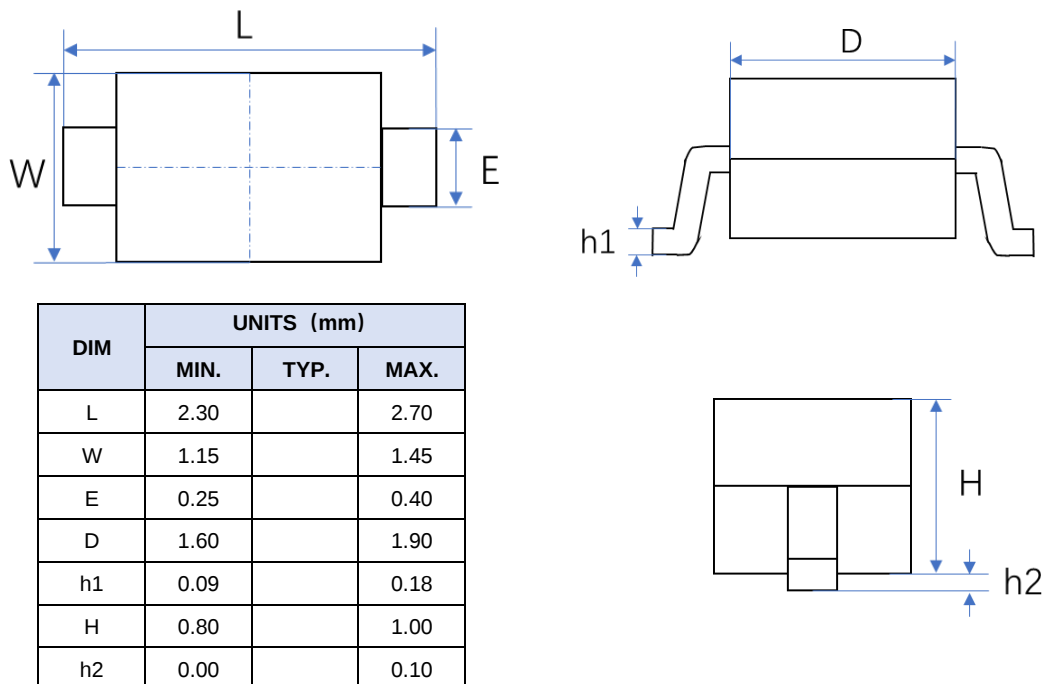


Non-repetitive peak pulse power vs. Pulse time

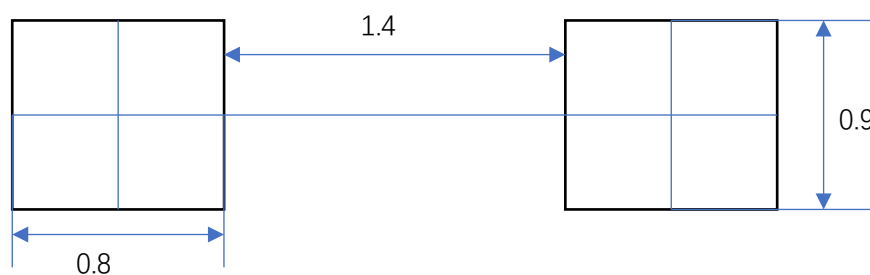


Power derating vs. Ambient temperature

10 Product dimension



11 PCB Layout Footprints (Units: mm)



12 Ordering Information

Part Number	Packaging	Reel Size
SLVD37HCU	3000/Tape & Reel	7 inch