

Uni-Directional 24V TVS Diode

1 Features

- Working voltage: 24V
- SOD-323 Package
- 2600 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) 80A (8/20 μs)
 - IEC 61000-4-4(EFT)40A(5/50ns)
- Low leakage current
- Low clamping voltage

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

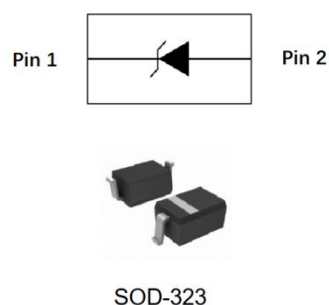
3 Description

The SLVD324HCU 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 SLVD324HCU is in a SOD-323 package and will protect one 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 80A (8/20 μs) according to IEC61000-4-5.

4 Pin Configuration and Top View



5 Device Information

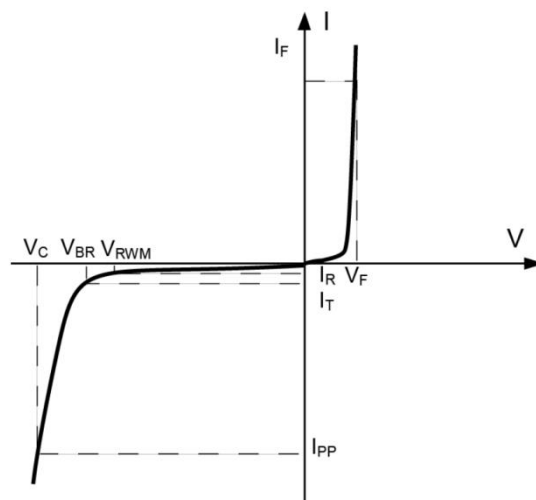
PART NUMBER	PACKAGE	BODY SIZE (NOM)
SLVD324HCU	SOD-323	2.50 mm x 1.30mm

6 Absolute maximum Ratings @25°C

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	2600	W
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	80	A
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

7 Electronics Parameter Definations

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



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

PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Peak Reverse Working Voltage	VRWM				24	V
Breakdown Voltage	VBR	$I_T = 1\text{mA}$	26	27	31.5	V
Reverse Leakage Current	IR	$VRWM = 24\text{V}$, $T = 25^\circ\text{C}$			1	μA
Forward Voltage	V_F	$I_F = 1\text{mA}$		0.75		V
Clamping Voltage	VC	$I_{PP} = 80\text{A}$, $T_P = 8/20\mu\text{s}$		30	35	V
Junction Capacitance	CJ	$V_R = 0\text{V}$, $f = 1\text{MHz}$		230	400	pF

9 Typical Characteristics

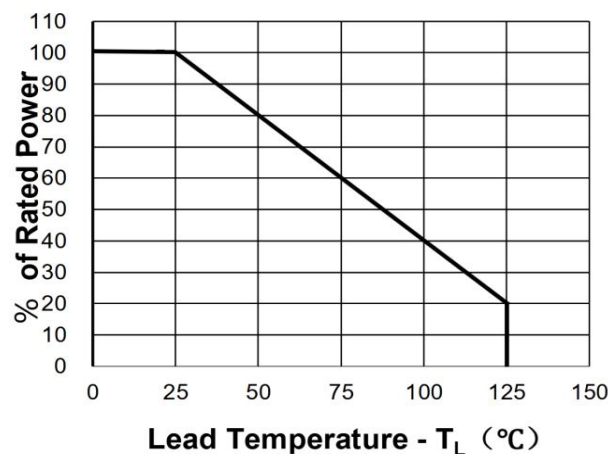


Fig 1. Power Derating Curve

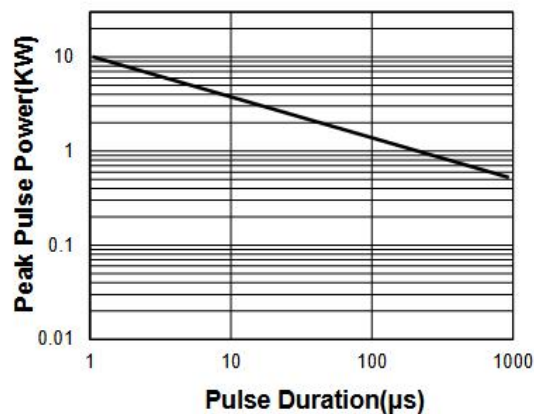


Fig 2. Peak Pulse Power vs. Pulse Time Current

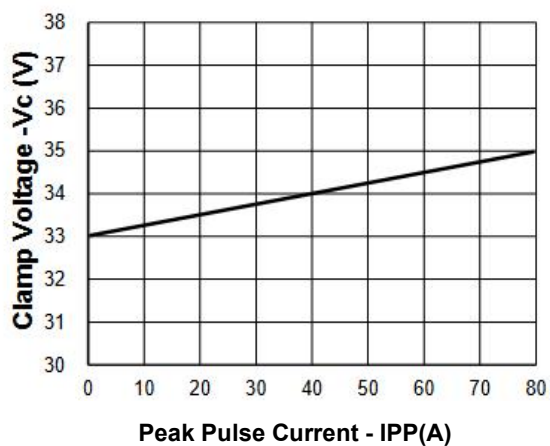


Fig 3. Peak Pulse Power vs. Pulse Time Current

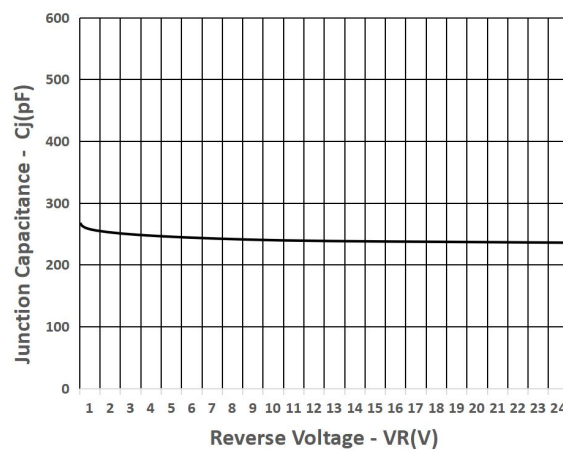
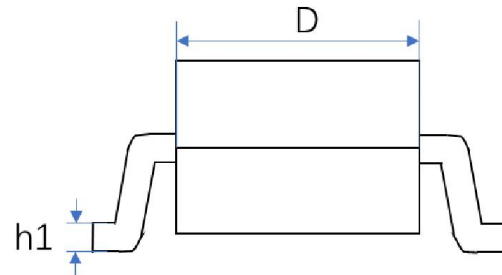
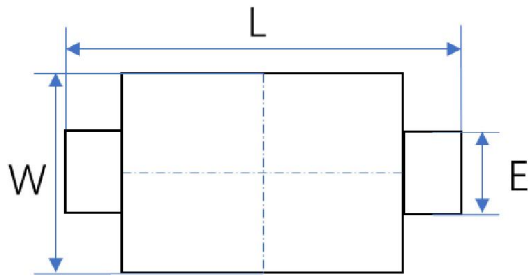


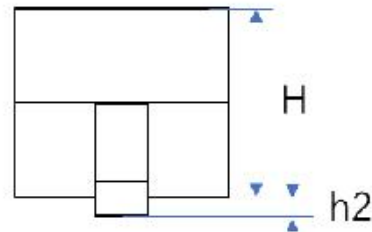
Fig 4. Junction Capacitance vs. Reverse

10 Product dimension

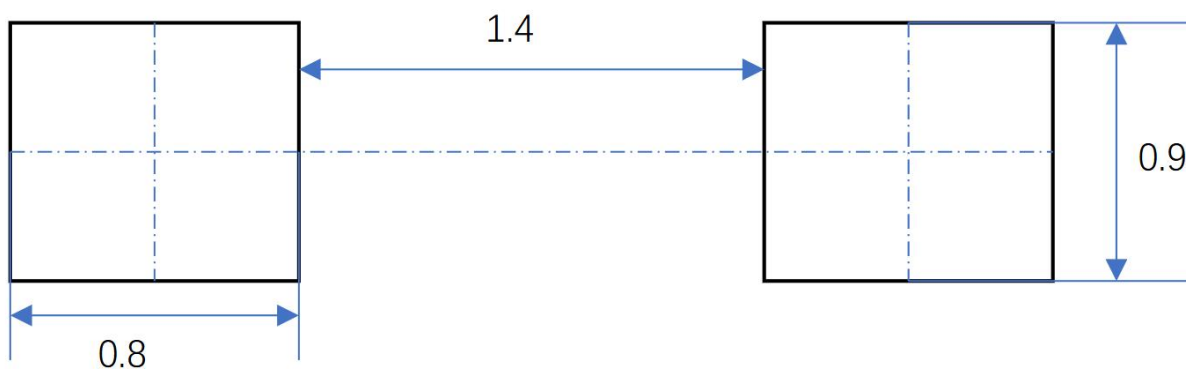
SOD-323



DIM	UNITS (mm)		
	MIN.	TYP.	MAX.
L	2.30	-	2.70
W	1.15	-	1.45
E	0.25	-	0.40
D	1.60	-	1.90
h1	0.09	-	0.18
H	0.80	-	1.00
h2	0.00	-	0.10



11 PCB Layout Footprints (Units: mm)



12 Ordering Information

Part Number	Packaging	Reel Size
SLVD324HCU	3000/Tape & Reel	7 inch