

Bi-Directional TVS Diode

1 Features

- Working voltage: 24V
- SOD-323 Package
- 300 Watts peak pulse power (tp=8/20us)
- Transient protection for data lines to
 - IEC 61000-4-2 (ESD) ±30kV (air)
±30kV (contact)
 - IEC61000-4-4(EFT) 40A(5/50ns)
- Low leakage current
- Low clamping voltage
- Solid-state silicon-avalanche technology

2 Applications

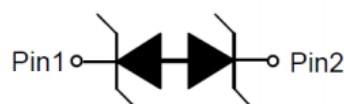
- End Equipment
 - Power lines
 - Personal digital assistants (PDA's)
 - Microprocessors based equipment
 - Notebooks, Desktops, and Servers
 - Cell phone Handsets and Accessories
 - Portable Electronics
 - Peripheral

3 Description

The SLVD324NCB 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.

4 Pin Configuration and Bottom View



SOD-323

5 Device Information

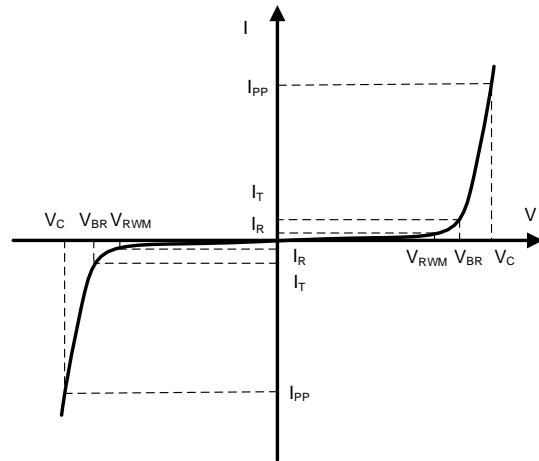
PART NUMBER	PACKAGE	BODY SIZE (NOM)
SLVD324NCB	SOD-323	2.50 mm x 1.30mm

6 Absolute maximum Ratings @25°C

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20µs)	P _{PP}	300	W
Operating Temperature	T _J	-55 to 125	°C
Lead Soldering Temperature	T _L	260 (10 s)	°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 Definitions

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



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

PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Peak Reverse Working Voltage	V_{RWM}				24	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	26		30	V
Reverse Leakage Current	I_R	$V_{RWM} = 24\text{V}, T=25^\circ\text{C}$			0.2	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$		30	34	V
Clamping Voltage	V_C	$I_{PP} = 6\text{A}, t_p = 8/20\mu\text{s}$		46	50	V
Junction Capacitance	C_j	$V_R=0\text{V}, f = 1\text{MHz}$			35	pF

9 Typical Characteristics

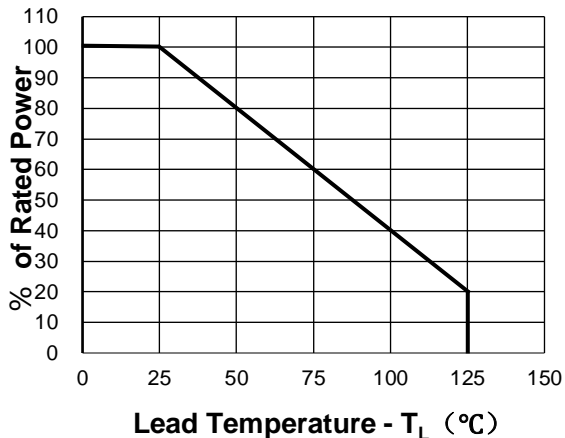


Fig 1. Power Derating Curve

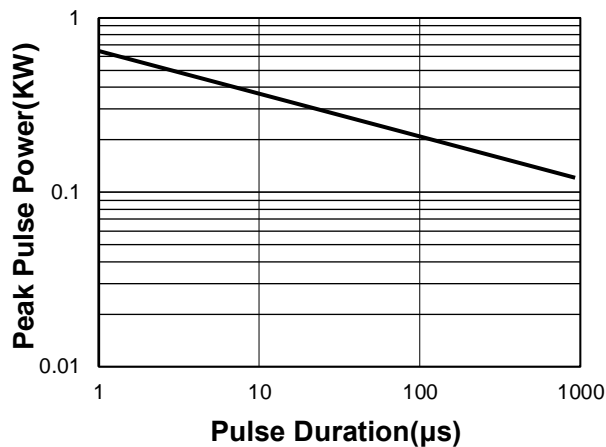


Fig 2. Peak Pulse Power vs. Pulse Time

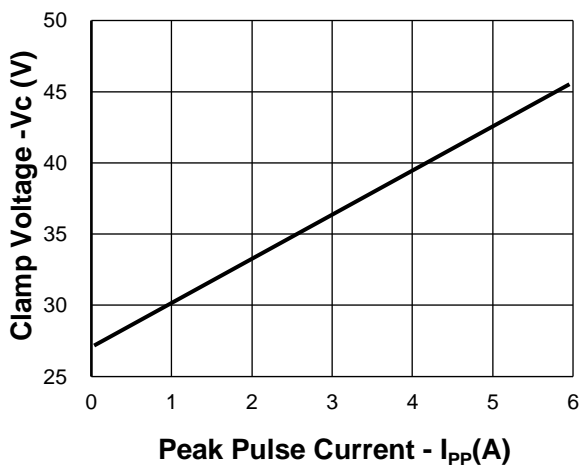


Fig 3. Clamping Voltage vs. Peak Pulse Current

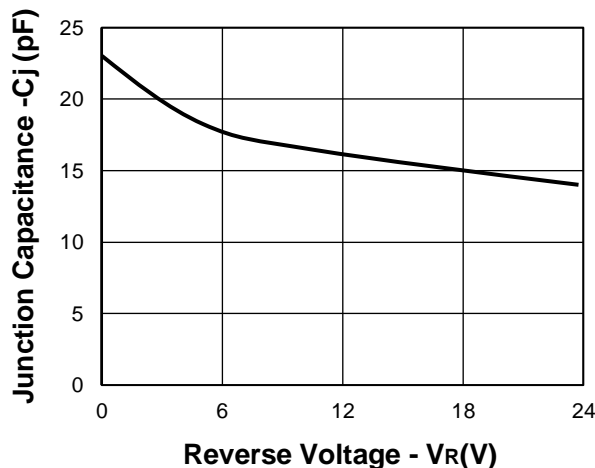
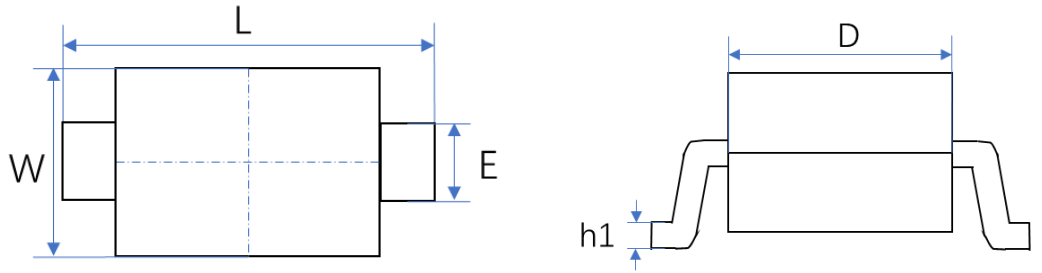


Fig 4. Junction Capacitance vs. Reverse Voltage

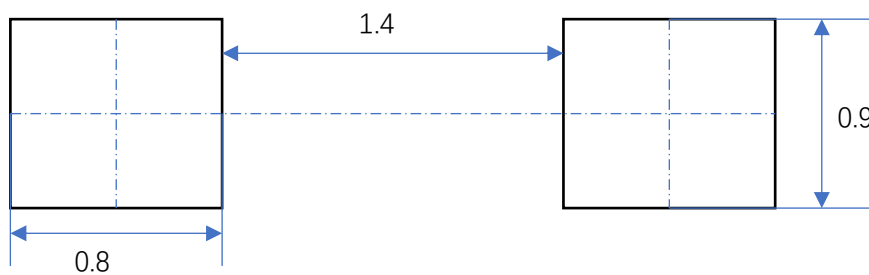
10 Product dimension

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
SLVD324NCB	3000/Tape & Reel	7 inch