Bi-Directional TVS Diode

1 Features

- Working voltage: 5V
- SOD-323 Package
- 80 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

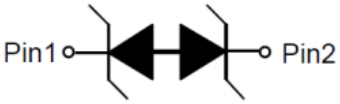
2 Applications

- 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 SLVD35NCB 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)
SLVD35NCB	SOD-323	2.50 mm x 1.30mm

6 Absolute maximum Ratings @25℃

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20 μ s)	P_{PP}	80	W
Operating Temperature	T_J	-55 to 125	℃
Lead Soldering Temperature	T_L	260 (10 s)	℃
Storage Temperature	T_{STG}	-55 to 150	℃
ESD Protection-Contact Discharge	V_{ESD}	±30	kV
ESD Protection-Air Discharge	V_{ESD}	±30	kV

7 Electrical characteristics (@25℃ unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Peak Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_t = 1mA	6			V
Reverse Leakage Current	I_R	V_{RWM} = 5V, T=25℃			1	μA
Clamping Voltage	V_C	I_{PP} = 5A, t_P = 8/20μs		8	9	V
Clamping Voltage	V_C	I_{PP} = 8A, t_P = 8/20μs		9.5	10	V
Junction Capacitance	C_j	V_R=0V, f = 1MHz		14		pF

8 Typical Characteristics

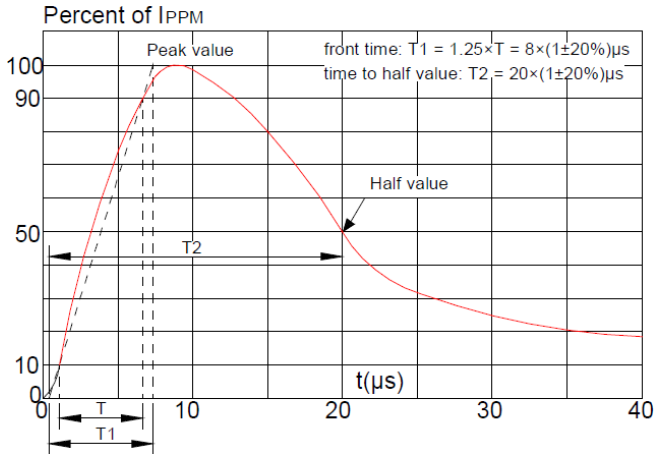


Fig1. Pulse Waveform (8/20us)

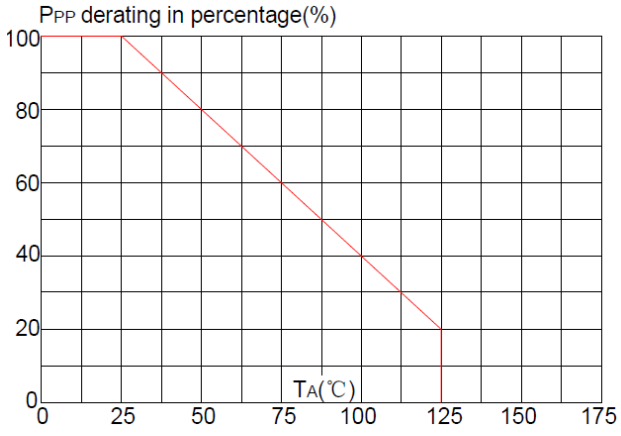


Fig2. Pulse Derating Curve

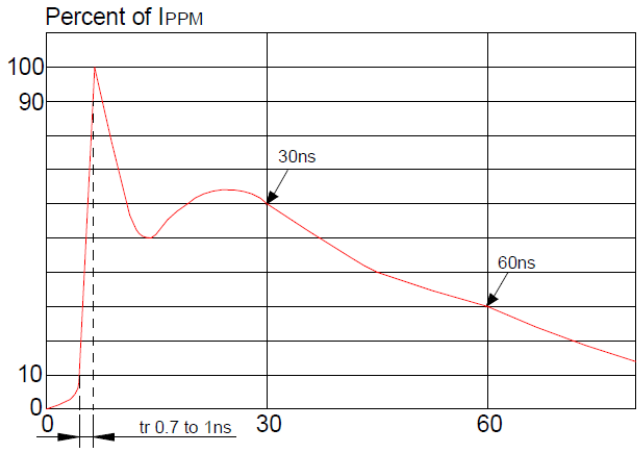
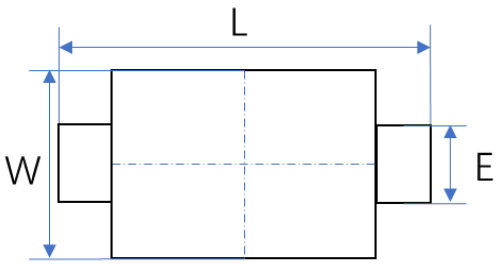
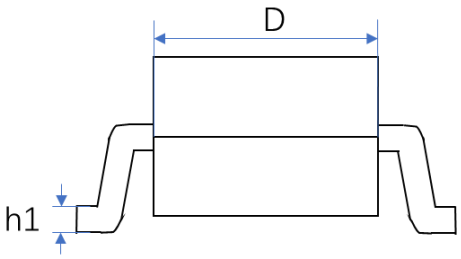
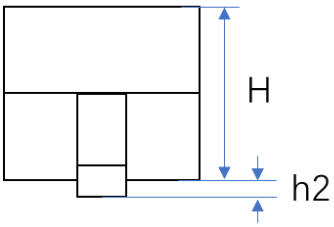


Fig3. ESD Clamping(8kV Contact Discharge)

9 Product dimension

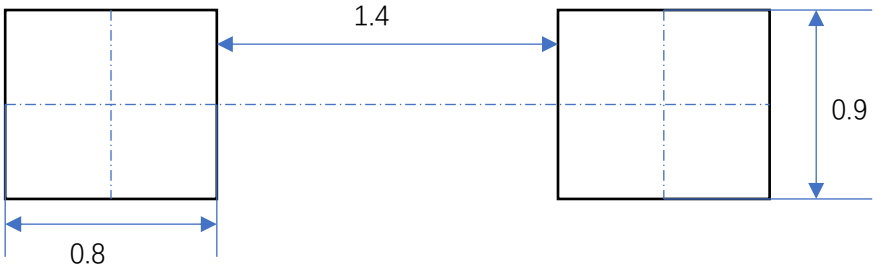






DIM	UNITS (mm)		
	MIN.	TYP.	MAX.
L	2.30		2.70
W	1.15		1.45
E	0.25		0.40
D	1.60		1.90
h1	0.09		0.18
H	0.80		1.00
h2	0.00		0.10

10 PCB Layout Footprints (Units: mm)



11 Ordering Information

Part Number	Packaging	Reel Size
SLVD35NCB	3000/Tape & Reel	7 inch