

SLVU2.8-4 Low Voltage TVS Diode Array

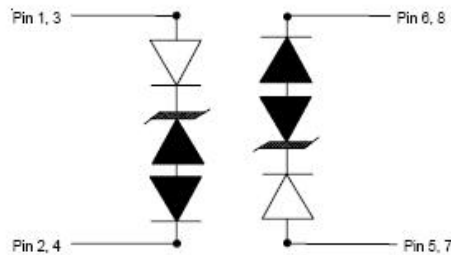


Description

The SLVU2.8-4 TVS diode is a low capacitance TVS(Transient Voltage Suppressor) device designed to protect low voltage components such as Ethernet transceivers, laser diodes, ASICs, and high-speed RAM from transients caused by electrostatic discharge(ESD), cable discharge events(CDE), lightning and other induced voltage surges.

The SLVU2.8-4 is in an SO-8 package and can be used to protect two high-speed line pair. The "flow-thru" design minimizes trace inductance and reduces voltage overshoot associated with ESD events. The low clamping voltage of the SLVU2.8-4 minimizes the stress on the protected IC.

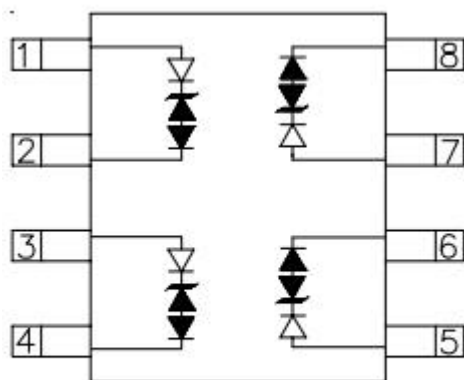
Circuit Diagram



Features

- 600 Watts peak pulse power(tp=8/20us)
- Transient protection for high speed data lines
IEC 61000-4-2(ESD)±15KV(air),±8KV(contact)
IEC 61000-4-4(EFT) 40A (5/50ns)
IEC 61000-4-5(Lightning) 30A (8/20us)
- Low capacitance
- Low leakage current
- Low operating and clamping voltages
- Protects two line pairs(four lines)

Schematic and Pin Configuration



SO-8 (Top View)

Applications

- 10/100 Ethernet
- WAN/LAN Equipment
- Switching Systems
- Desktops, Servers and Notebooks
- Instrumentation
- Analog Inputs
- Base Stations

Mechanical Characteristics

- SO-8 package
- Marking: Part number, date code
- Packaging: Tape and Reel
- Molding compound flammability rating: UL 94V-0

Ordering Information:

Device	Package	Shipping
SLVU2.8-4	SO-8(Pb-Free)	2500pcs/ reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Maximum Ratings

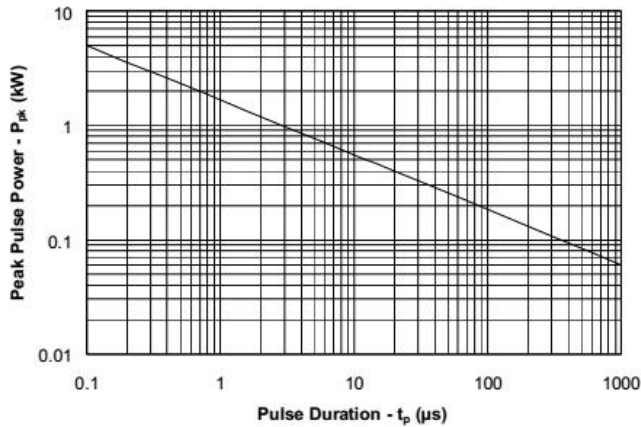
Characteristics	Symbol	Max.	Units
Peak Pulse Power (tp=8/20us)	P _{PK}	600	Watts
Peak Pulse Current (tp=8/20us)	I _{PP}	30	A
ESD per IEC61000-4-2 (air)	V _{ESD}	25	KV
ESD per IEC61000-4-2 (contact)		15	
Lead Soldering Temperature	T _L	260(10 seconds)	°C
Operating Temperature	T _J	-55 to +125	°C
Storage Temperature	T _{STG}	-55 to +150	°C

Electrical Characteristics

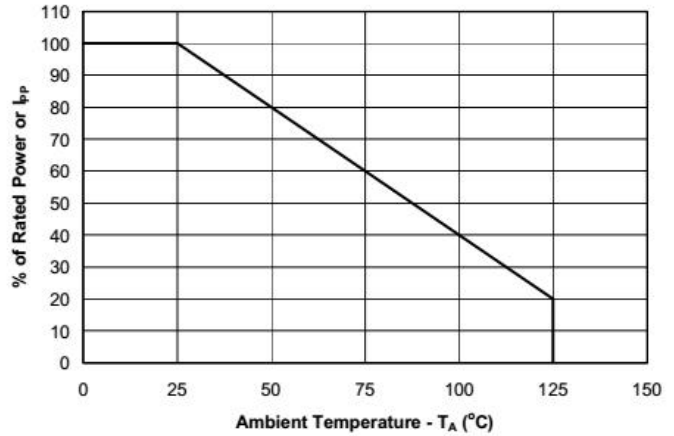
Characteristics	Symbol	Condition	Min.	Typ.	Max.	Units
Reverse Stand-Off Voltage	V _{RWM}				2.8	V
Punch-Through Voltage	V _{PT}	I _{PT} =2uA	3.0			V
Snap-Back Voltage	V _{SB}	I _{SB} =50mA	2.8			V
Reverse Leakage Current	I _R	V _{RWM} =2.8V, T=25°C (Each Line)		0.01	1	uA
Clamping Voltage	V _C	I _{PP} =5A, tp=8/20us (Each Line)			8.5	V
Clamping Voltage	V _C	I _{PP} =10A, tp=8/20us (Each Line)			12	V
Clamping Voltage	V _C	I _{PP} =30A, tp=8/20us (Each Line)			20	V
Junction Capacitance	C _j	V _R =0V, f=1MHz (Each Line)		5		pF

Ratings and Characteristics Curves

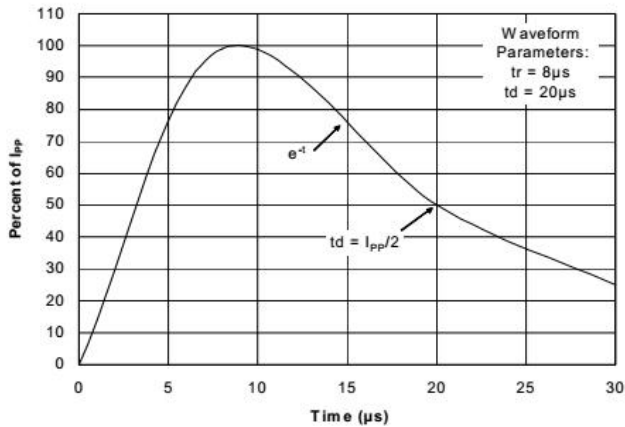
Non-Repetitive Peak Pulse Power vs. Pulse Time



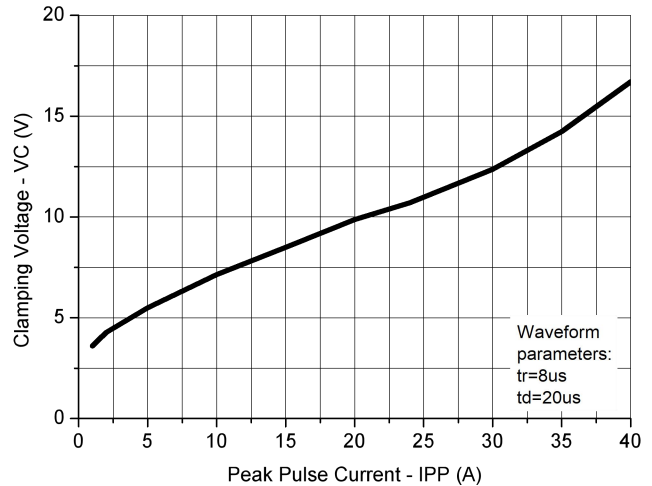
Power Derating Curve



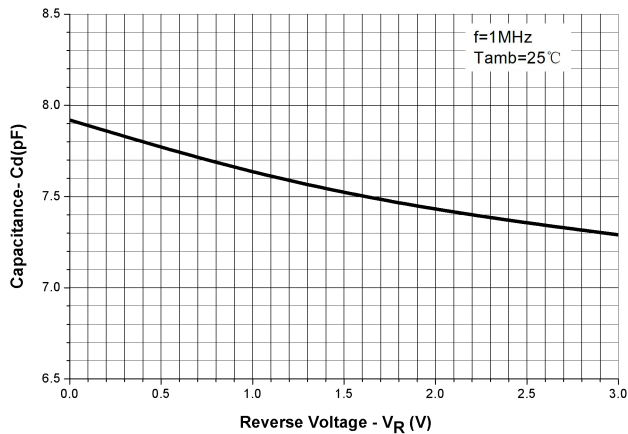
Pulse Waveform



Clamping Voltage vs. Peak Pulse Current



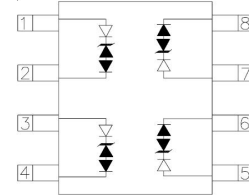
Capacitance vs. Reverse Voltage



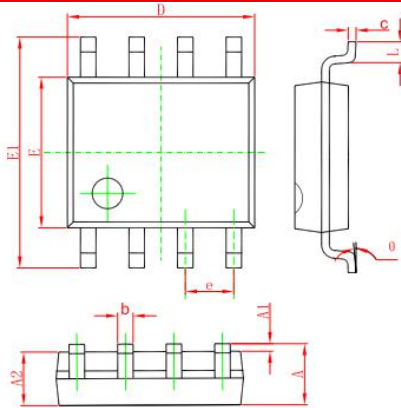
Circuit Diagram

The SLVU2.8-4 is designed to protect four data lines of sensitive components from damage and latch-up which may result from transients. Data line I/Os are connected at pin 1 and 2, 3 and 4, 5 and 6, 7 and 8.

The SLVU2.8-4 is also designed to protect two high-speed line pair. The line pairs enter at pins 1 and 2, pin 3 and 4, and exit at pin 8 and 7, pin 6 and 5.

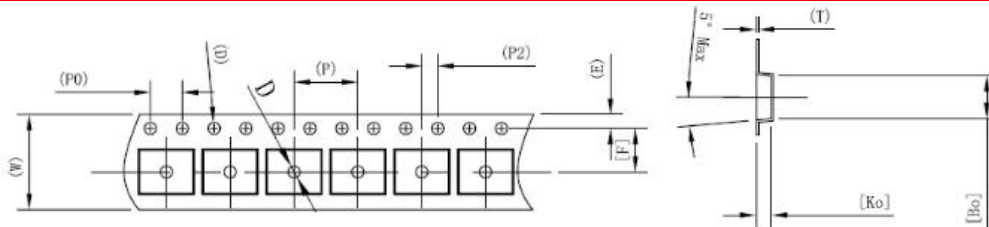


Mechanical Dimensions



字符	Dimension In Millimeters	
	Min	Max
A	1.500	1.700
A1	0.040	0.120
A2	1.350	1.550
b	0.300	0.500
c	0.190	0.250
D	4.800	5.000
E	3.840	4.040
E1	5.900	6.100
e	1.27 (BSC)	
L	0.520	0.720
θ	0°	8°

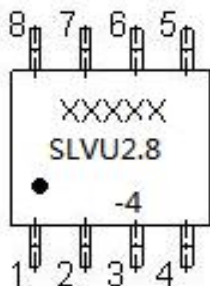
Carrier Tape Specification



ITEM	W	A0	A1	B0	B1	K0	K1	E	F	P	P0	P2	D0	D1	T
DIM	12.0	6.55	0.00	5.40	0.00	1.90	0.00	1.75	5.50	8.0	4.0	2.0	1.50	1.50	0.25
TOLE	+0.30 -0.30	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	+0.10 -0.00	+0.10 -0.00	±0.05

unit: mm

Marking Diagram



Where XXXXX is YYWWL

- SLVU2.8-4 = Part Number
- YY = Year
- WW = Week
- L = Lot Number

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