

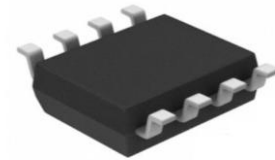
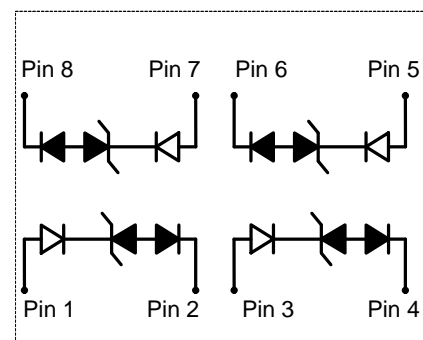
SLVU2.8-4
**4 Lines, Uni-directional, low Capacitance
Transient Voltage Suppressors**
<http://www.sh-willsemi.com>
Descriptions

The SLVU2.8-4 is a low capacitance TVS (Transient Voltage Suppressor) array designed to protect high speed data interfaces. It has been specifically designed to protect sensitive electronic components which are connected to data and transmission lines from over-stress caused by Electrostatic Discharge (ESD), cable discharge events (CDE), lightning and other induced voltage surges.

The SLVU2.8-4 incorporates low capacitance steering diodes that reduce the typical capacitance to 5pF per line.

The SLVU2.8-4 may be used to provide ESD protection up to $\pm 27\text{kV}$ (contact discharge) according to IEC61000-4-2, and withstand peak pulse current up to 30A (8/20 μs) according to IEC61000-4-5.

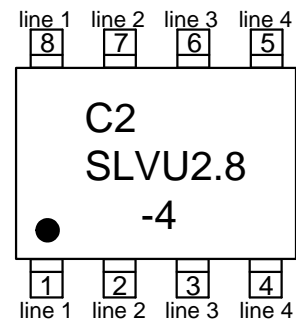
The SLVU2.8-4 is available in SO-8 package. Standard products are Pb-free and Halogen-free.


SOP-8P (Bottom View)

Circuit diagram
Features

- Stand-off voltage: 2.8V Max.
- Transient protection for each line according to IEC61000-4-2 (ESD): $\pm 27\text{kV}$ (contact discharge)
IEC61000-4-5 (surge): 30A (8/20 μs).
- Low capacitance: $C_J = 5\text{pF}$ typ.
- Ultra-low leakage current: $I_R = 0.2\text{nA}$ typ.
- Low clamping voltage.
- Solid-state silicon technology

Applications

- 10/100 Ethernet
- STB
- Router
- Networking
- Modem



C2 SLVU2.8-4 = Device code

Marking (Top View)
Order information

Device	Package	Shipping
SLVU2.8-4	SOP-8P	2500/Tape&Reel

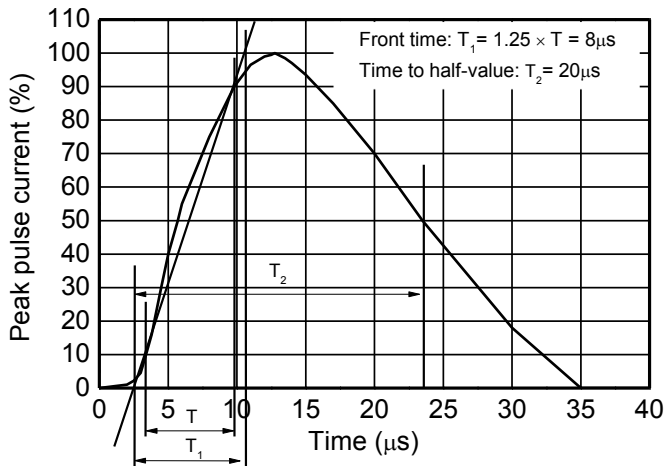
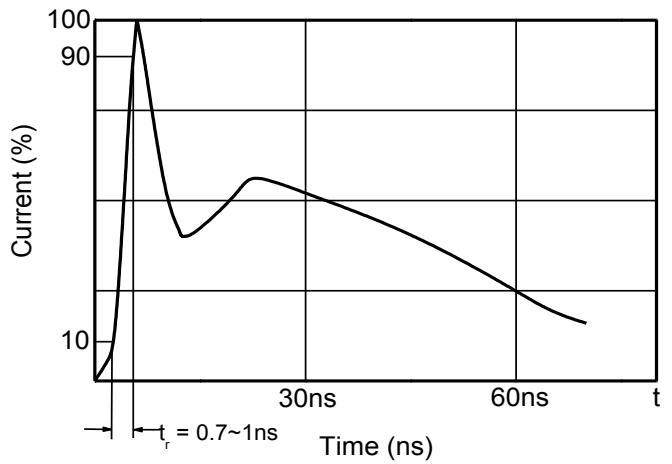
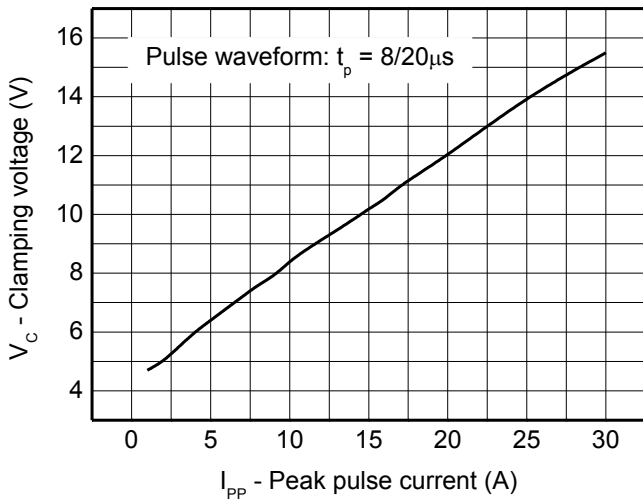
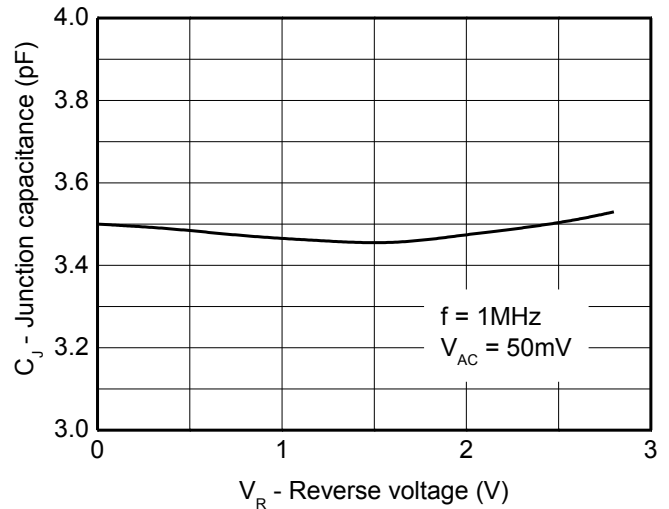
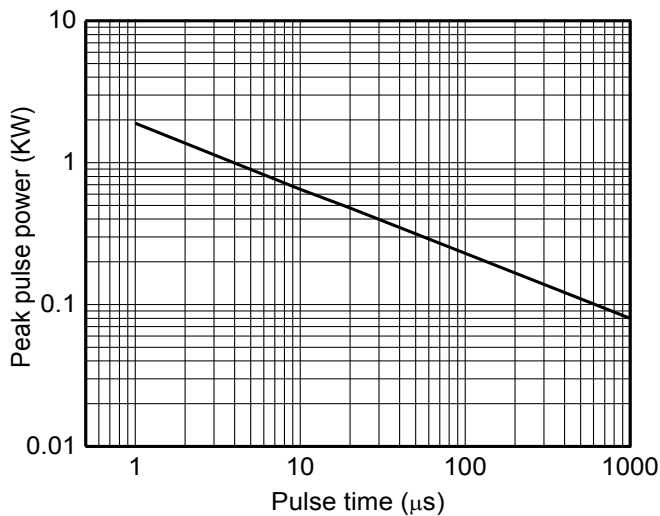
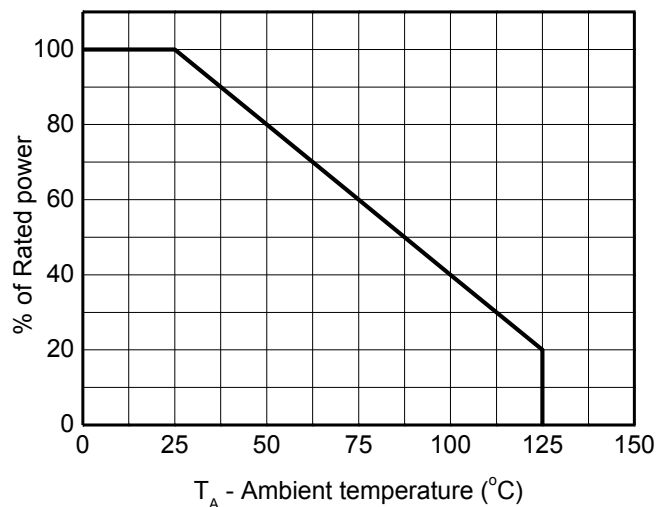
Absolute maximum ratings

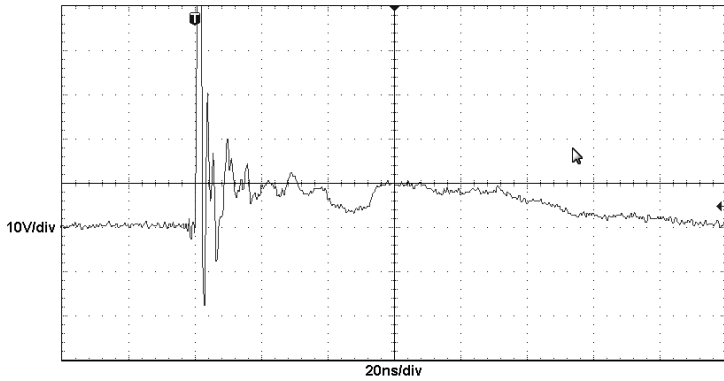
Parameter	Symbol	Rating	Unit
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	480	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	30	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 27	kV
ESD according to IEC61000-4-2 contact discharge		± 27	
Operation junction temperature	T_J	125	$^{\circ}C$
Lead temperature	T_L	260	$^{\circ}C$
Storage temperature	T_{STG}	-55~150	$^{\circ}C$

Electrical characteristics ($T_A = 25^{\circ}C$, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse maximum working voltage	V_{RWM}				2.8	V
Reverse leakage current	I_R	$V_{RWM} = 2.8V$		0.2	100	nA
Reverse breakdown voltage	V_{BR}	$I_T = 1mA$	3	3.7	4.4	V
Clamping voltage ¹⁾	V_{CL}	$I_{PP} = 1A, t_p = 8/20\mu s$			5	V
		$I_{PP} = 5A, t_p = 8/20\mu s$			8	V
		$I_{PP} = 30A, t_p = 8/20\mu s$			16	V
Junction capacitance	C_J	$V_R = 0V, f = 1MHz$ I/O to GND (Each Line)			5	pF

1) According to IEC61000-4-5.

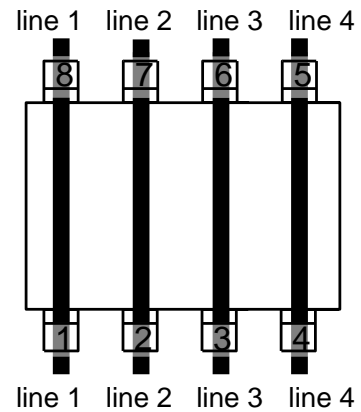
Typical characteristics ($T_A = 25^\circ\text{C}$, unless otherwise noted)

8/20 μs waveform per IEC61000-4-5

Contact discharge current waveform per IEC61000-4-2

Clamping voltage vs. Peak pulse current

Capacitance vs. Reverses voltage

Non-repetitive peak pulse power vs. Pulse time

Power derating vs. Ambient temperature

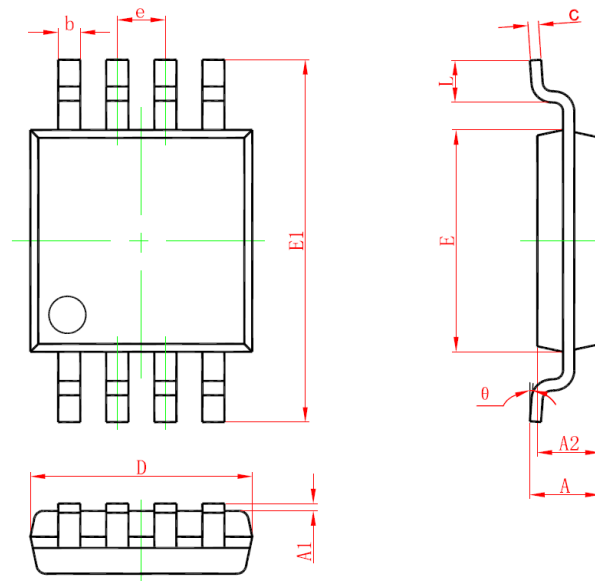


ESD clamping
(+8kV contact discharge per IEC61000-4-2)

Applications Information

The SLVU2.8-4 is designed to protect sensitive components from damage and latch-up which may result from such transient events. The SLVU2.8-4 can be configured to protect two high-speed line pairs. The device is connected as follows: The first line pair enters at pins 1 and 2 and exit at pins 8 and 7 respectively. The second line pair enters at pins 3 and 4 and exits at pins 6 and 5. The traces must be connected at the bottom of the device as shown.



Package outline dimensions
SO-8


Symbol	Dimensions in millimeters		Dimensions in Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
e	1.270 (BSC)		0.050 (BSC)	
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°