

SuperESD – SLVU2.8-4BTG-ES

1. Description

The SLVU2.8-4BTG-ES 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.

2. Features

- IEC 61000-4-2 Level 4 ESD Protection
 - $\pm 30\text{kV}$ Contact Discharge
 - $\pm 30\text{kV}$ Air Discharge
- 600W Peak pulse Power (8/20us)
- Low clamping voltage
- Working voltage: 2.8V
- Low leakage current
- Low capacitance: $C_j = 1.2\text{pF}$ typ.
- RoHS compliant
- Unidirectional configuration

3. Applications

- 10/100/1000 Ethernet
- WAN/LAN Equipment
- Desktops, Servers, and Notebooks
- Analog Inputs
- Base Station
- Switch Systems

4. Ordering Information

Part Number	Packag e	Marking	Material	Packin g	Quantit y per reel	Flammabilit y Rating	Reel Size
SLVU2.8-4BTG-E S	SOP-8	SLVU2.8-4/LO T	Haloge n free	Tape & Reel	2,500 PCS	UL 94V-0	13 inche s

Table-1 Ordering information

5. Pin Configuration and Functions

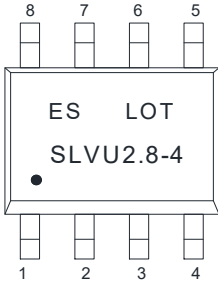
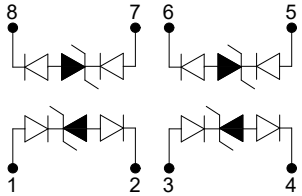
Pin	Name	Description	Outline	Circuit Diagram
1	IO	Connect to IO		
2	GND	Connect to GND		
3	IO	Connect to IO		
4	GND	Connect to GND		
5	IO	Connect to IO		
6	GND	Connect to GND		
7	IO	Connect to IO		
8	GND	Connect to GND		

Table-2 Pin configuration

6. Specification

6.1. Absolute Maximum rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25°C	P _{pk}	-	600	W
Peak pulse current (tp=8/20us)@25°C	I _{PP}		30	A
ESD (IEC61000-4-2 air discharge) @25°C	V _{ESD}	-	±30	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V _{ESD}	-	±30	kV
Junction temperature	T _J	-	150	°C
Operating temperature	T _{OP}	-40	125	°C
Storage temperature	T _{STG}	-55	150	°C
Lead temperature	T _L	-	260	°C

Table-3 Absolute Maximum rating

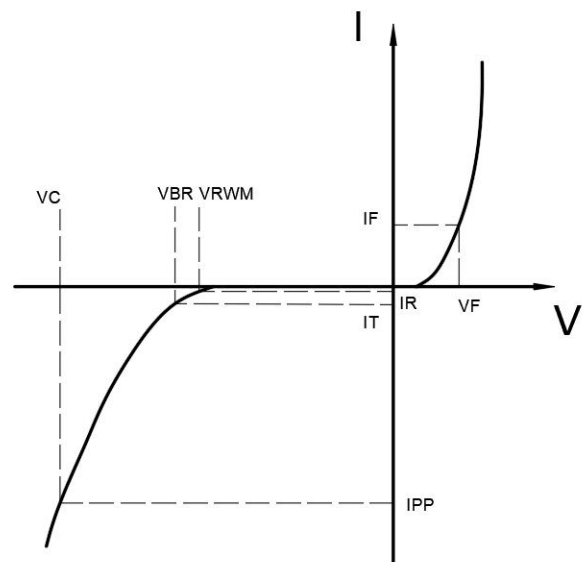
6.2. Electrical Characteristics

At TA = 25°C unless otherwise noted

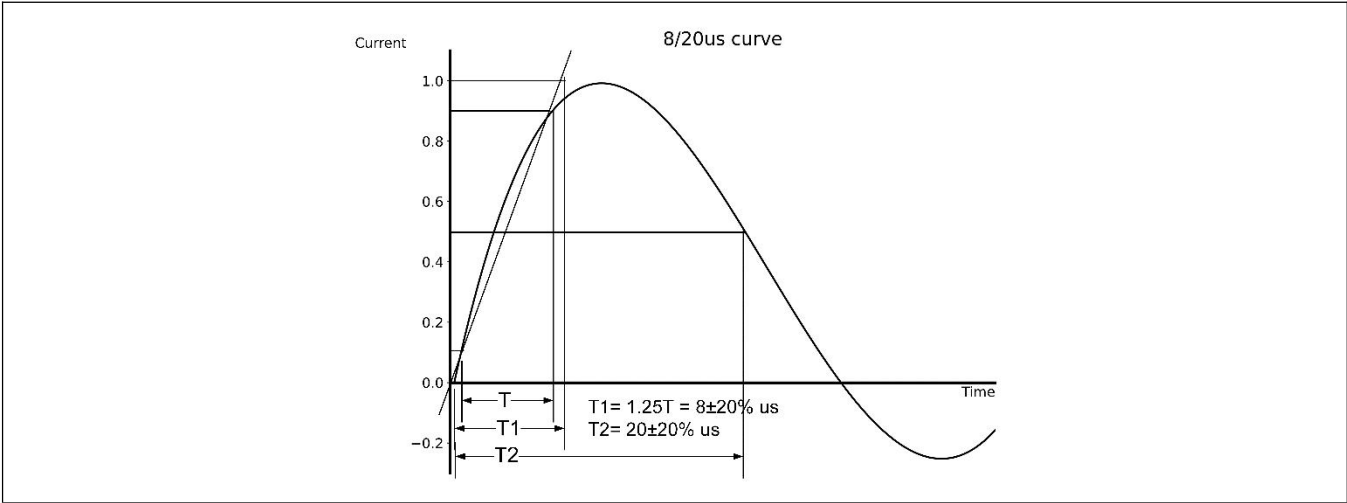
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				2.8	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	3.0			V
Reverse Leakage Current	I_R	$V_{RWM}=2.8V$			1.0	μA
Clamping Voltage	V_C	$I_{PP}=1A$; $t_p=8/20\mu s$		5.5	7.0	V
Clamping Voltage	V_C	$I_{PP}=30A$; $t_p=8/20\mu s$		16.0	22	V
Junction Capacitance	C_J	$V_R=0V$; $f=1MHz$		1.2	1.5	pF

Table-4 Electrical Characteristics

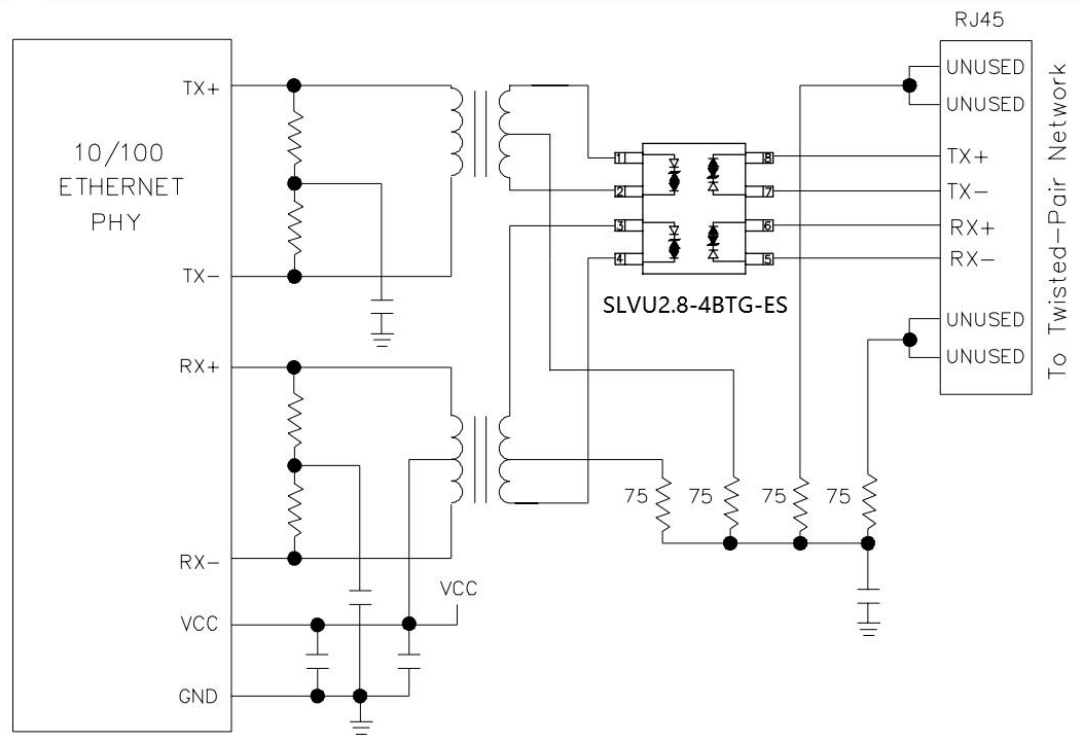
Symbol	Parameters
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
I_F	Forward Current
V_F	Forward Voltage @ I_F



7. Typical Characteristic



8. Typical Application



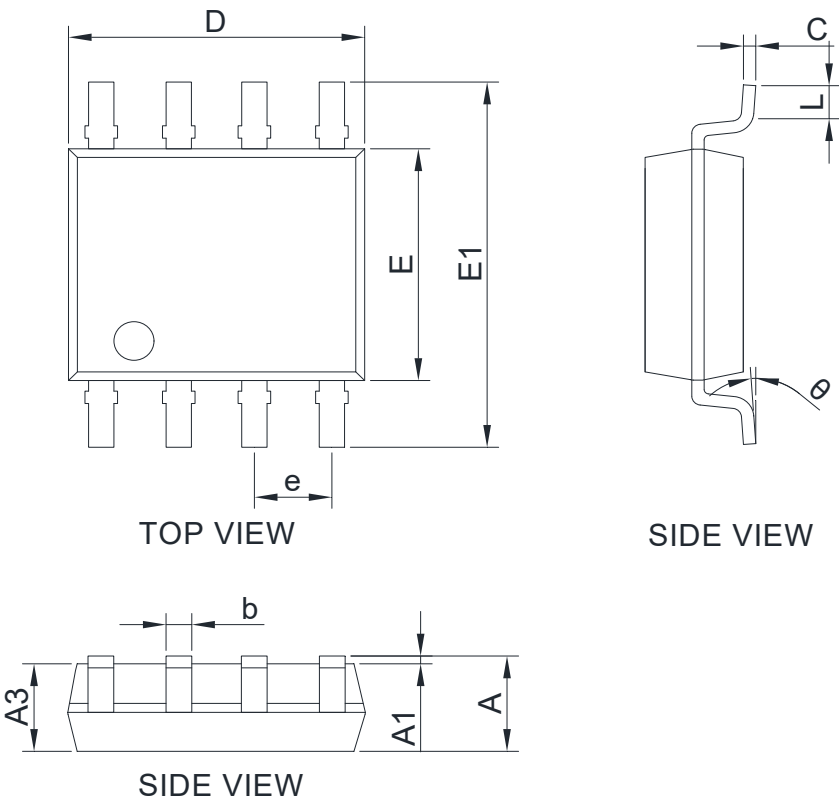
Typical Interface Application

SLVU2.8-4BTG-ES

Rev-1.8

9. Dimension (SOP8)

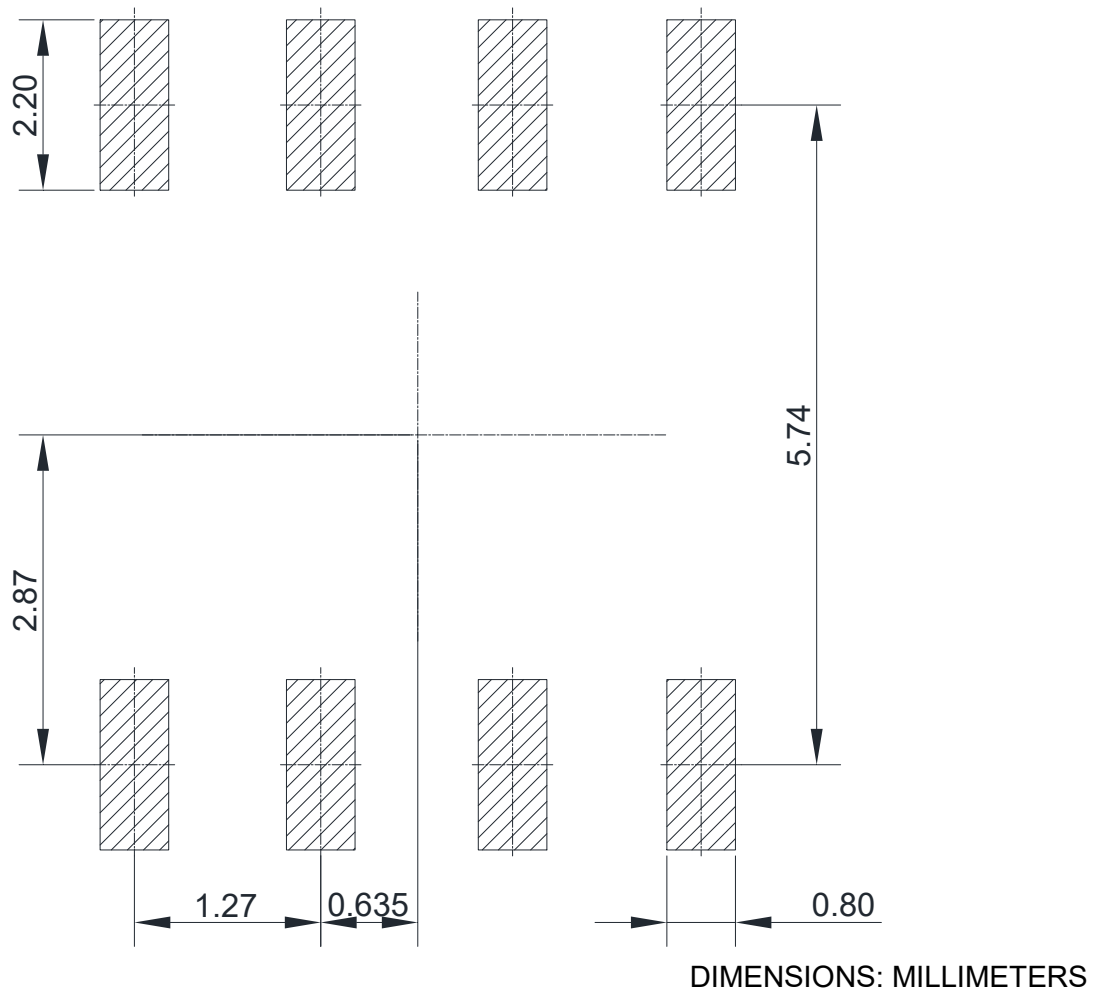
POD(J)



COMMON DIMENSIONS: UNITS OF MEASURE=MILLIMETER

Symbol	Dimensions			Symbol	Dimensions		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	1.350	1.550	1.750	e	1.270BSC		
A1	0.100	0.180	0.250	b	0.330	0.420	0.510
A3	1.300	1.400	1.500	L	0.400	0.600	0.800
D	4.800	5.000	5.200	C	0.170	0.210	0.250
E	3.900	4.000	4.100	θ	0°	--	8°
E1	5.800	6.000	6.200				

10. Recommended Soldering Footprint



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