Description

The SLVU2.8-4S is designed to protect low voltage, CMOS semiconductors from transients caused by electrostatic discharge (ESD), cable discharge events (CDE), lightning and other induced voltage surges. Low capacitance com-pensation diode is integrated into the TVS to lower the typical capacitance to 1pf per line. The SLVU2.8-4S com-plies with the IEC 61000-4-2 (ESD) standard with ±30kV air and ±30kV contact discharge. The SLVU2.8-4S is as-sembled into a 8-pin lead-free SO-8 package, The combi-nation of low leakage, signal integrity and flow through design makes the SLVU2.8-4S an ideal application such as 10/100/1000 Ethernet.

Features

- 400W peak pulse power(8/20μs)
- Protects two line pairs(four lines)
- Ultra low leakage：nA level
- Low operating voltage：2.8V
- Low capacitance
- Ultra low clamping voltage
- JEDEC SO-8 package
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - – IEC61000-4-4 (EFT) 40A (5/50ns)
  - – IEC61000-4-5 (Lightning) 30A (8/20μs)
- RoHS Compliant

Mechanical Characteristics

- Package: SO-8
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below

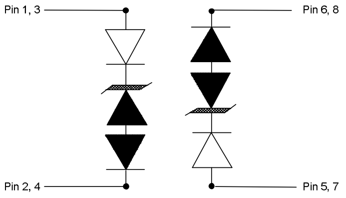
Applications

Caution:

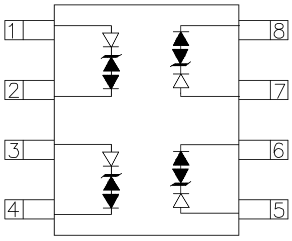
This Device is designed for signal line protection only.

Not intended to be used under bias, not for application with a power line.

Dimensions and Pin Configuration

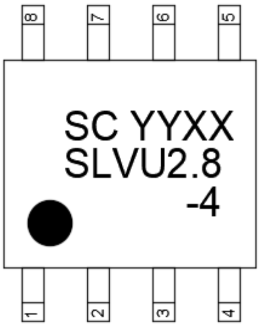


Circuit and Pin Schematic



SO-8 outline

Marking Information



YYXX= Date Code
Dot denotes Pin1

Ordering Information

Part Number	Marking	Packaging	Reel Size
SLVU2.8-4S	SLVU2.8-4	2500/Tape & Reel	13 inch

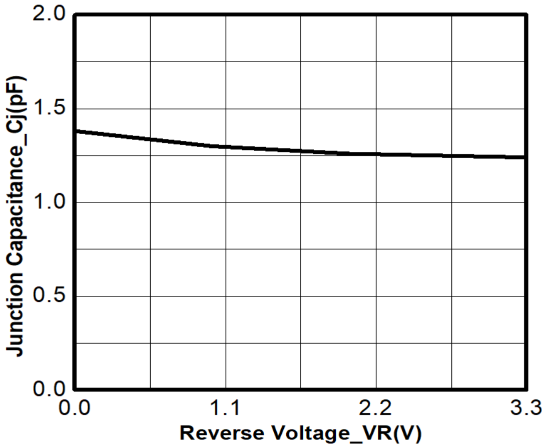
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	**Symbol**	**Value**	**Unit**
Peak Pulse Power(8/20μs)	Ppk	300	W
Peak Pulse Current(8/20μs)	I_{PP}	30	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±30 ±30	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

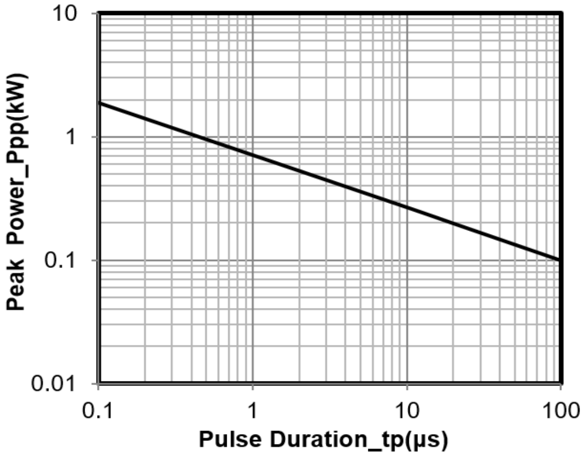
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	**Symbol**	**Min**	**Typ**	**Max**	**Unit**	**Test Condition**
Reverse Working Voltage	V_{RWM}			2.8	V	
Pouch-Through Voltage	V_{PT}	3.0			V	I_{PT} = 2μA
Snap-Back Voltage	V_{SB}	2.8			V	I_{SB} = 50mA
Reverse Leakage Current	I_R			0.5	μA	V_{RWM} = 2.8V(Each Line)
Clamping Voltage	V_C		4		V	I_{PP} = 10A (8 x 20μs pulse) (Each Line)
Clamping Voltage	V_C		9		V	I_{PP} = 30A (8 x 20μs pulse) (Each Line)
Junction Capacitance	C_J		1.4		pF	VR = 0V, f = 1MHz(Each Line)

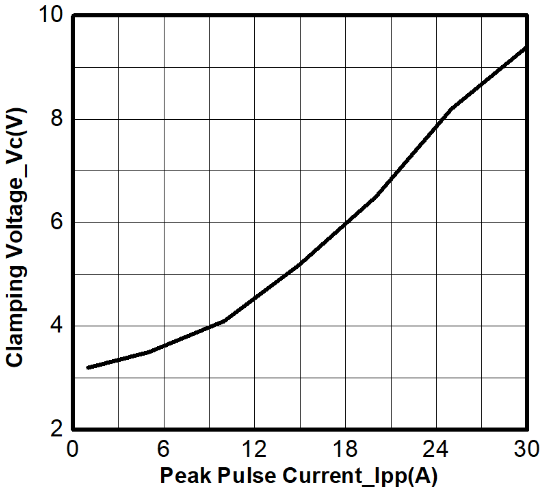
Typical Performance Characteristics(T_A=25°C unless otherwise Specified)



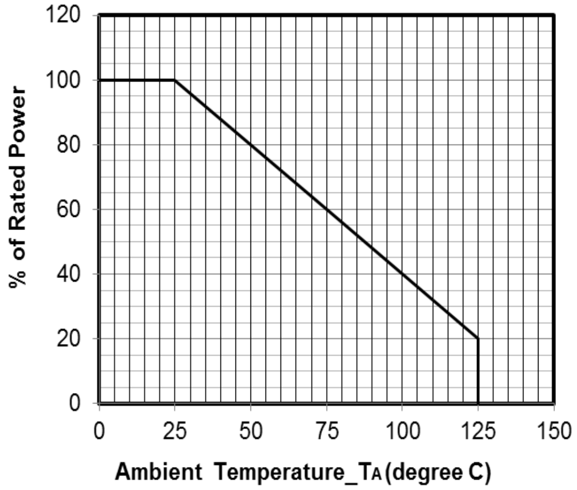
Junction Capacitance vs. Reverse Voltage



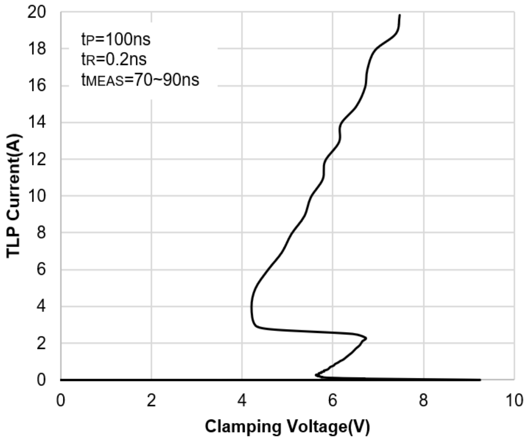
Peak Pulse Power vs. Pulse Time



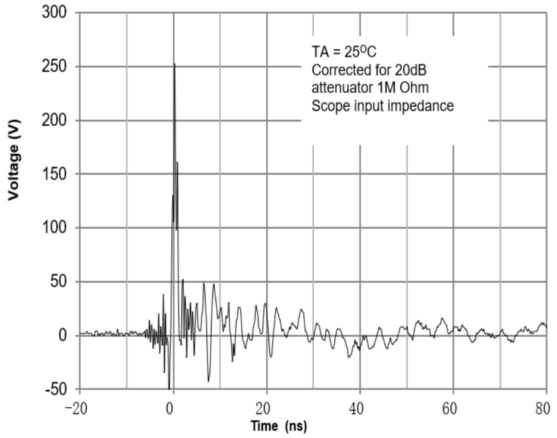
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



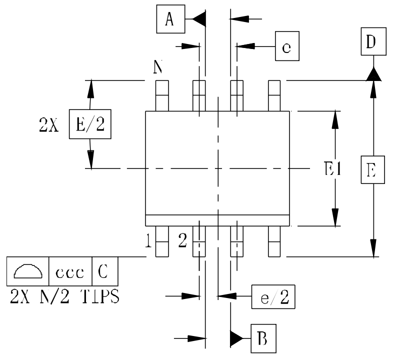
TLP I/V Curve

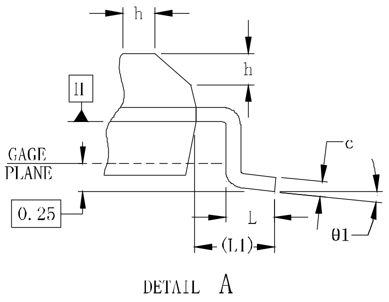


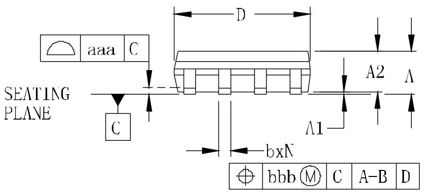
ESD Clamping Voltage

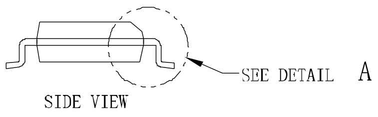
8 kV Contact per IEC61000−4−2

SO-8 Package Outline Drawing



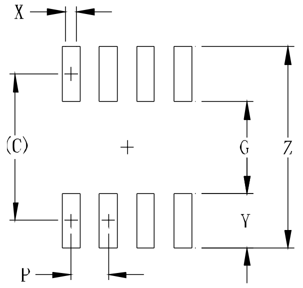






SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.35		1.75	0.053		0.069
A1	0.10		0.25	0.004		0.010
A2	1.25		1.65	0.049		0.065
b	0.31		0.51	0.012		0.020
c	0.17		0.25	0.007		0.010
D	4.80	4.90	5.00	0.189	0.193	0.197
E1	3.80	3.90	4.00	0.150	0.154	0.157
E	6.00 BSC			0.236 BSC		
e	1.27 BSC			0.050 BSC		
h	0.25		0.50	0.010		0.020
L	0.40	0.72	1.04	0.016	0.028	0.041
L1	(1.04)			(0.041)		
N	8			8		
θ1	0°		8°	0°		8°
aaa	0.10			0.004		
bbb	0.25			0.010		
ccc	0.20			0.008		

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	(5.20)	0.205
G	3.00	0.118
P	1.27	0.050
X	0.60	0.024
Y	2.20	0.087
Z	7.40	0.291

Contact Information

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