SLVU2.8-4

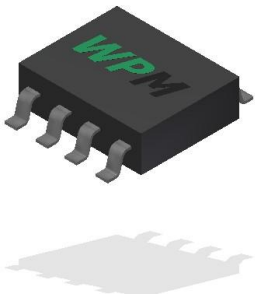
Low Capacitance TVS Array for Surge & ESD Protection

The SLVU2.8-4 has a low typical capacitance of 1.5pF and operates with virtually no insertion loss to 1GHz. The SLVU2.8-4 is in an SOP-8 package and may be used to protect two high-speed line pairs. This makes the device ideal for protection of data lines such as 10/100M Ethernet, gigabit Ethernet interfaces. It may be used to meet the ESD immunity requirements of IEC61000-4-2, Level 4 (±15kV air, ±8kV contact discharge).

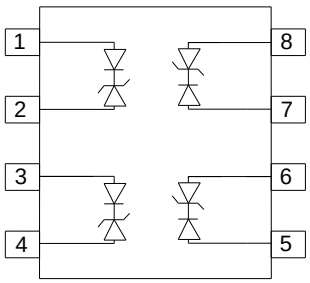
It has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events),and lightning.

Features

- 600 Watts peak pulse power (tp = 8/20μs)
- Protects two line pairs (four lines)
- Low capacitance
- Working voltages : 2.8V
- Low leakage current
- Response Time is < 1 ns
- Low capacitance (<3.0pF) for high-speed interfaces
- Meets MSL 1 Requirements
- Solid-state silicon avalanche technology
- ROHS compliant
- WeiPan technology



SOP-8



Main applications

- 10/100/1000 Ethernet
- WAN/LAN Equipment
- Switching Systems
- Instrumentation
- Base Stations
- Analog Inputs

Protection solution to meet

- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 25A (8/20μs)

Ordering Information

Device	Qty per Reel	Reel Size
SLVU2.8-4	2500	13 Inch

Maximum ratings (Tamb=25℃ Unless Otherwise Specified)			
Parameter	**Symbol**	**Value**	**Unit**
Peak Pulse Power (tp=8/20μs waveform)	P_{PPP}	600	Watts
Peak Pulse Current(tp=8/20μs waveform)	I_{PP}	25	A
ESD Rating per IEC61000-4-2： Contact Air		8 15	KV
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Operating Temperature Range	T_J	-55 ~ 150	℃
Storage Temperature Range	T_{STG}	-55 ~ 150	℃

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

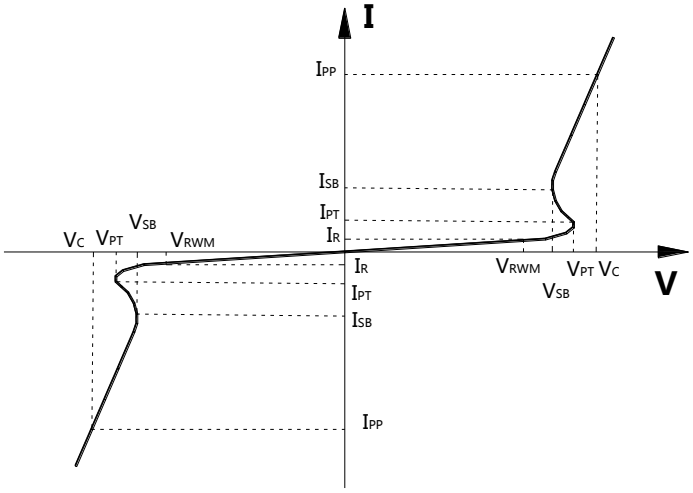
**Other voltages may be available upon request.*

1. Non-repetitive current pulse, per Figure 1.

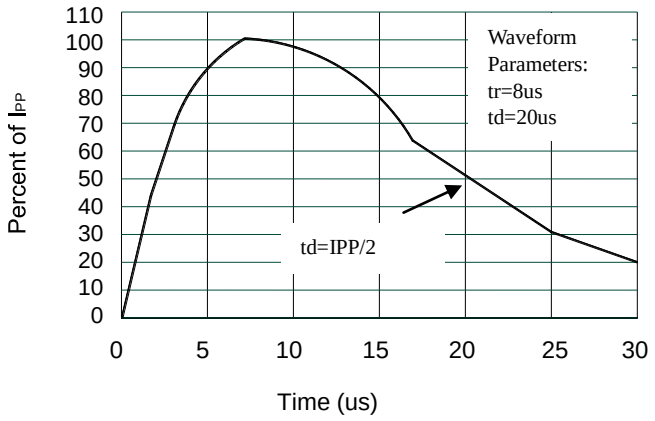
Electrical characteristics (Tamb=25℃ Unless Otherwise Specified)						
Symbol	**Parameter**	**Conditions**	**Min.**	**Typ.**	**Max.**	**Units**
V_{RWM}	Reverse Working Voltage				2.8	V
V_{PT}	Punch-Through Voltage	I_{PT} = 2μA, (Each Line)	3.0			V
V_{SB}	Snap-Back Voltage	I_{SB} = 50mA, (Each Line)	2.8			
I_R	Reverse Leakage Current	V_{RWM} =2.8V, (Each Line)			1	μA
V_C	Clamping Voltage	I_{PP} = 1A, tp =8/20μs, (Each Line)			7.6	V
		I_{PP} = 24A, tp =8/20μs, (Each Line)			25	V
I_{PP}	Peak Pulse Current	tp =8/20μs(Each Line)			25	A
C_J	Junction Capacitance	V_R = 0V, f = 1MHz, (Each Line)		1.5	3.0.	pF

Junction capacitance is measured in VR=0V,F=1MHz

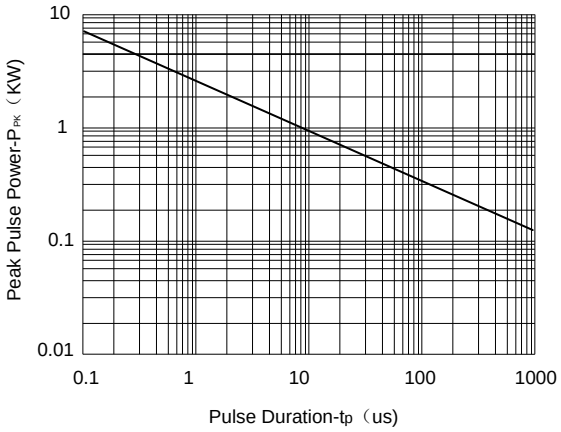
Symbol	Parameter
V_{RWM}	Working Peak Reverse Voltage
V_{PT}	Punch-Through Voltage@ I_{PT}
V_{SB}	Snap-Back Voltage@ I_{SB}
V_C	Clamping Voltage @ I_{PP}
I_T	Test Current
I_{RM}	Leakage current at V_{RWM}
I_{PP}	Peak pulse current
C_O	Off-state Capacitance
C_J	Junction Capacitance



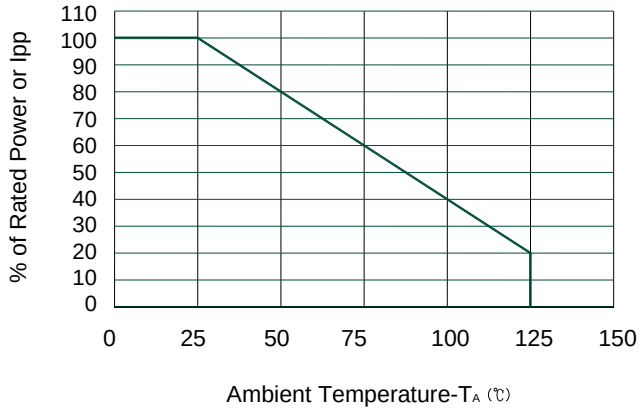
Typical electrical characterist applications



Pulse Waveform

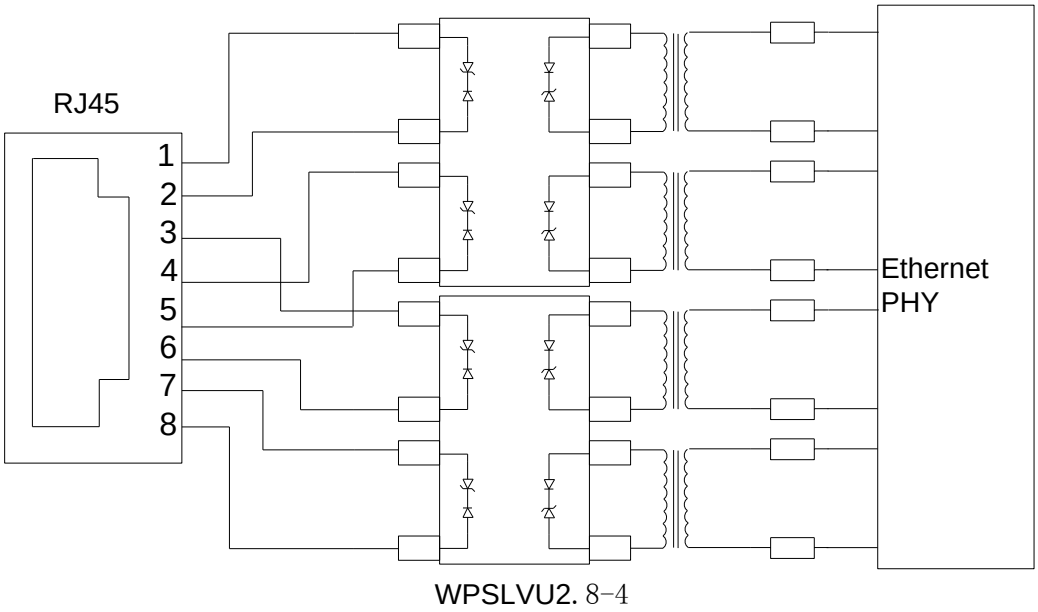


Non-Repetitive Peak Pulse Power vs. Pulse Time

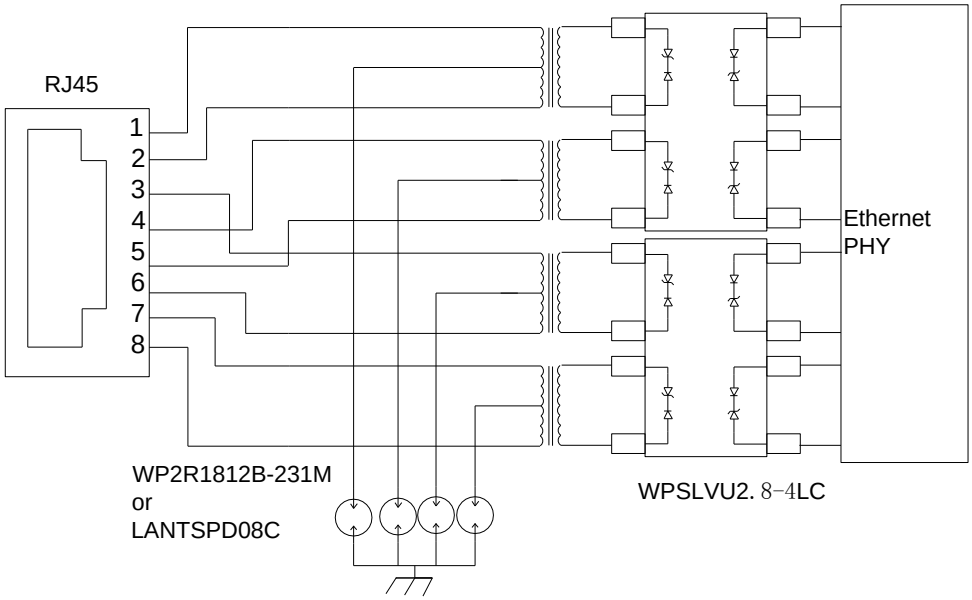


Power Derating Curve

Typical applications



Surge protection for Ethernet



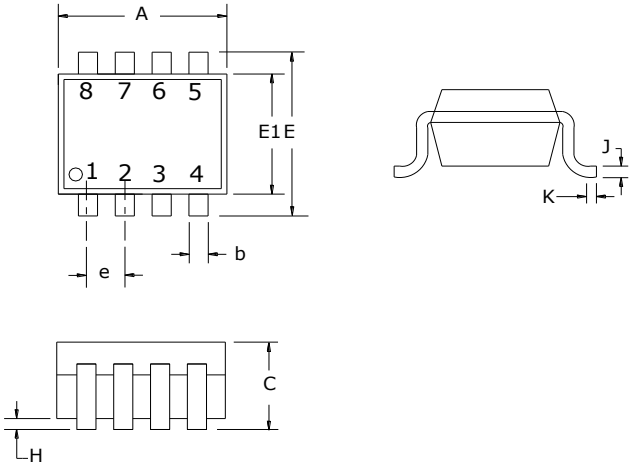
Package Information

SOP-8

Mechanical Data

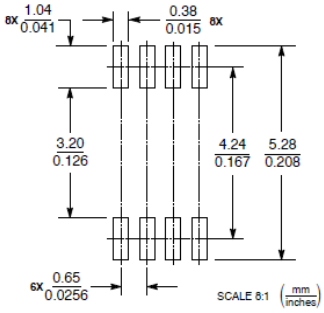
Case: SOP-8

Case Material: Molded Plastic. UL Flammability

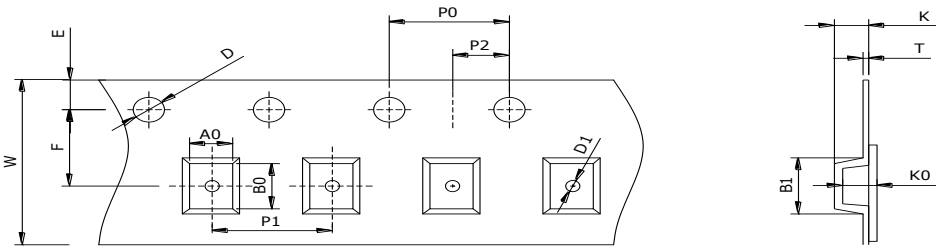


DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	4.80	5.00	0.189	0.197
E	6.00(BSC)		0.236(BSC)	
E1	3.80	4.00	0.150	0.157
b	0.33	0.51	0.013	0.020
C	1.35	1.75	0.053	0.069
J	0.17	0.25	0.007	0.010
e	1.27(BSC)		0.05(BSC)	
K	0.40	1.27	0.016	0.050
H	0.10	0.25	0.004	0.010

Recommended Pad outline



SOP-8 Reel Dim



Package	Chip Size （mm）	Pocket Size B0×A0×K0(mm)	Tape Width	Reel Diameter	Quantity Per Reel	P0	P1
SOP-8	6.0×5.0×1.50	6.20×5.20×1.70	12mm	330mm(13")	2500	8mm	8mm
D0	D1	E	F	K	T	W	
1.5mm	1.5mm	1.75mm	5.0mm	1.55mm	0.20mm	12mm	