UMW SLVU2.8-4.TBT

2.8V TVS Array For ESD and Latch-Up Protection

1.Description

The SLVU2.8-4.TBTis 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 compensation diode is integrated into the TVS to lower the typical capacitance to 6pF per line.

2.Mechanical Characteristics

- Package: SOP-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

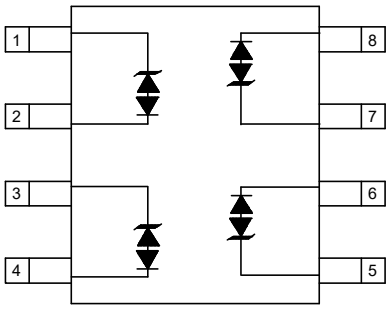
3.Features

- 100W 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) 10A (8/20μs)
- RoHS Compliant

4.Applications

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

5.Pinning information



SOP-8

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

Parameter	Symbol	Value	Units
Peak Pulse Power (8/20μs)	P_{PK}	100	W
Peak Pulse Current (8/20μs)	I_{PP}	10	A
ESD per IEC 61000-4-2(Air)	V_{ESD}	±30	kV
ESD per IEC 61000-4-2(Contact)		±30	kV
Junction Temperature Range	T_J	-40 to 125	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C

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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V_{RWM}				2.8	V
Punch-Through Voltage	V_{PT}	I_{PT}=2μA	3	3.8	4.3	V
Snap-Back Voltage	V_{SB}	I_{SB}=50mA	2.8			
Reverse Leakage Current	I_R	V_{RWM}=2.8V			1	μA
Clamping Voltage	V_C	I_{PP}=1A (8 x 20μs pulse)			5.5	V
		I_{PP}=10A (8 x 20μs pulse)			10	V
Variation in capacitance with reverse bias		Pins 1,8 to 2,7 and pins 3,6 to 4,5 V_R=0 to 2.8V, f=1MHz		1.3		pF
Junction Capacitance	C_J	Pins 1,8 to 2,7 and pins 3,6 to 4,5 V_R=2.8V, f=1MHz		4.5	6	pF

8.Typical Characteristic

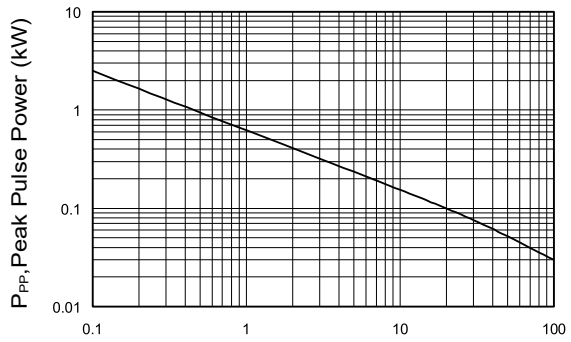


Figure 1: Non-Repetitive Peak Pulse Power vs. Pulse Time

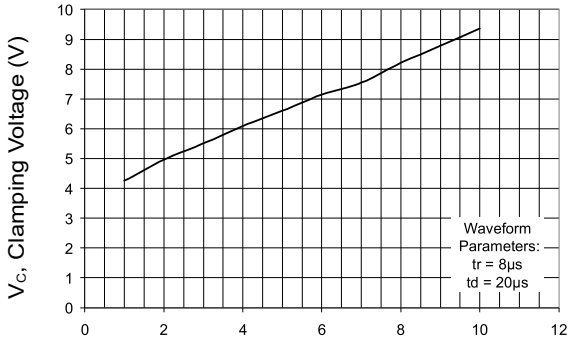


Figure 2: Clamping Voltage vs. Peak Pulse Current

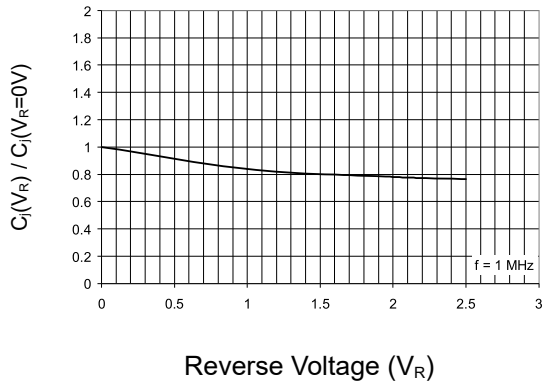


Figure 3: Normalized Junction Capacitance vs. Reverse Voltage

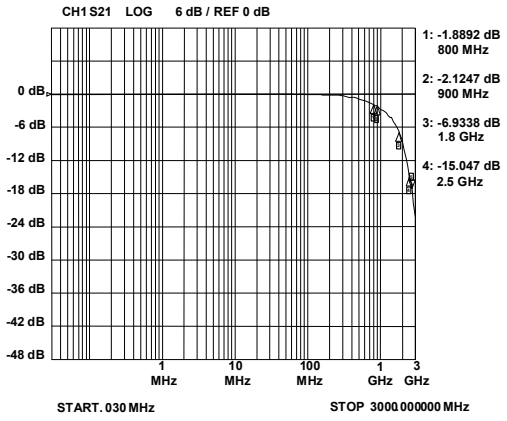
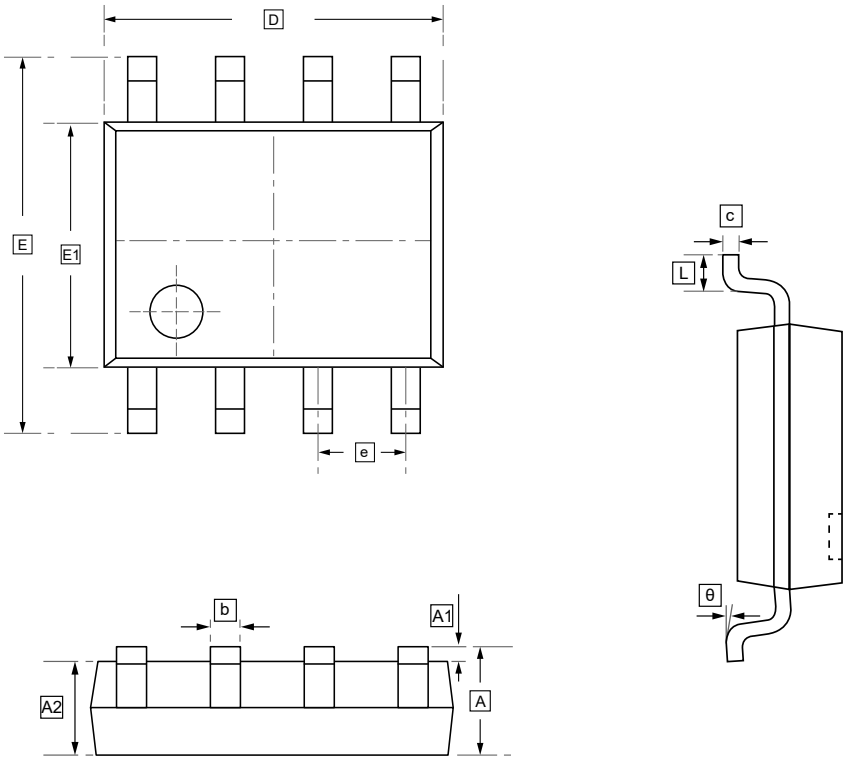


Figure 4: Typical Insertion Loss (S21)

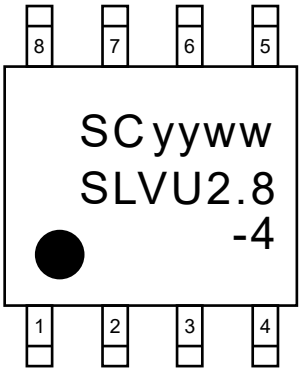
9.SOP-8 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	b	c	D	e	E	E1	L	θ
Min	1.350	0.100	1.350	0.330	0.170	4.800	1.270	5.800	3.800	0.400	0°
Max	1.750	0.250	1.550	0.510	0.250	5.000	BSC	6.200	4.000	1.270	8°

10.Ordering information



yy: Year Code
ww: Week Code

Order Code	Package	Base QTY	Delivery Mode
UMW SLVU2.8-4.TBT	SOP-8	500	Tape and reel

11.Disclaimer

UMW reserves the right to make changes to all products, specifications. Customers should obtain the latest version of product documentation and verify the completeness and currency of the information before placing an order.

When applying our products, please do not exceed the maximum rated values, as this may affect the reliability of the entire system. Under certain conditions, any semiconductor product may experience faults or failures. Buyers are responsible for adhering to safety standards and implementing safety measures during system design, prototyping, and manufacturing when using our products to prevent potential failure risks that could lead to personal injury or property damage.

Unless explicitly stated in writing, UMW products are not intended for use in medical, life-saving, or life-sustaining applications, nor for any other applications where product failure could result in personal injury or death. If customers use or sell the product for such applications without explicit authorization, they assume all associated risks.

When reselling, applying, or exporting, please comply with export control laws and regulations of China, the United States, the United Kingdom, the European Union, and other relevant countries, regions, and international organizations.

This document and any actions by UMW do not grant any intellectual property rights, whether express or implied, by estoppel or otherwise. The product names and marks mentioned herein may be trademarks of their respective owners.