Description

The SLVU2.8 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 compensation diode is integrated into the TVS to lower the typical capacitance to 0.6pF per line. The SLVU2.8 complies with the IEC 61000-4-2 (ESD) standard with ±30kV air and ±30kV contact discharge. The combination of low leakage, signal integrity and flow through design makes the SLVU2.8 an ideal application such as 10/100/1000 Ethernet.

Features

- 280W peak pulse power (8/20μs)
- Ultra low leakage: nA level
- Low operating voltage: 2.8V
- Very low capacitance: 0.6pF
- 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
  - – IEC61000-4-5 (Lightning) 18A (8/20μs)
- RoHS Compliant

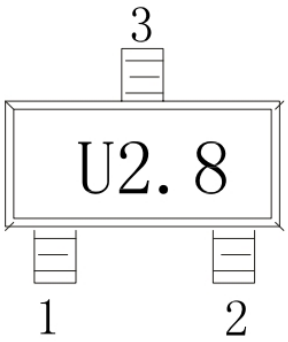
Mechanical Characteristics

- Package: SOT-23
- Lead Finish: Matte Tin
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications

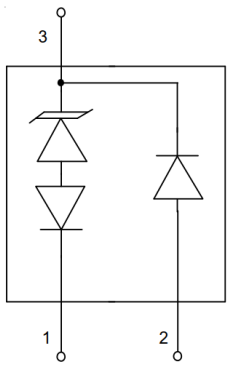
- Base Station
- Analog Inputs
- Switch Systems
- 10/100/1000 Ethernet
- WAN/LAN Equipment
- Desktops, Servers, and Notebooks
- Low Voltage Interfaces

Marking Information

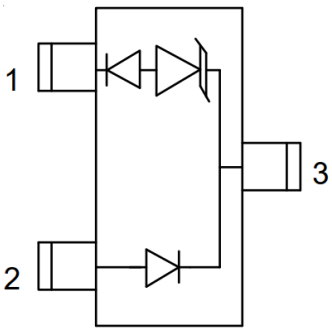


U2.8= Device Marking Code

Dimensions and Pin Configuration



Circuit and Pin Schematic



SOT23 (Top View)

Ordering Information

Part Number	Packaging	Reel Size
SLVU2.8	3000/Tape & Reel	7 inch

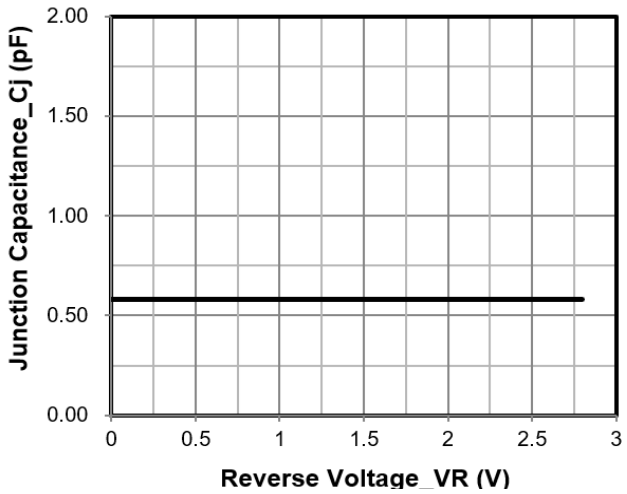
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	280	W
Peak Pulse Current (8/20μs)	I_{PP}	18	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

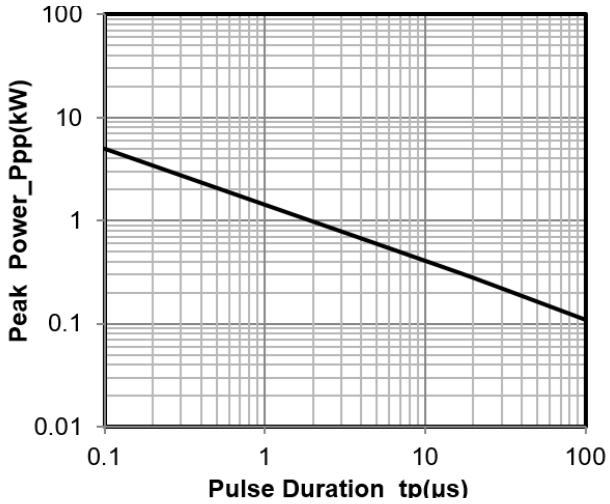
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			2.8	V	Pin 3 or Pin 2 to Pin 1
Breakdown Voltage	V_{PT}	3.0			V	I_{PT} = 2μA , Pin 3 to 1
	V_{BR}	3.5			V	I_T= 1mA , Pin 3 to 1
	V_{SB}	3.8			V	I_{SB}= 50mA , Pin 3 to 1
Reverse Leakage Current	I_R			1	μA	V_T=V_{RWM}
Clamping Voltage	V_C			7	V	I_{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V_C			15.5	V	I_{PP} = 18A (8 x 20μs pulse)
Junction Capacitance	C_J		0.6	1	pF	VR = 0V, f = 1MHz

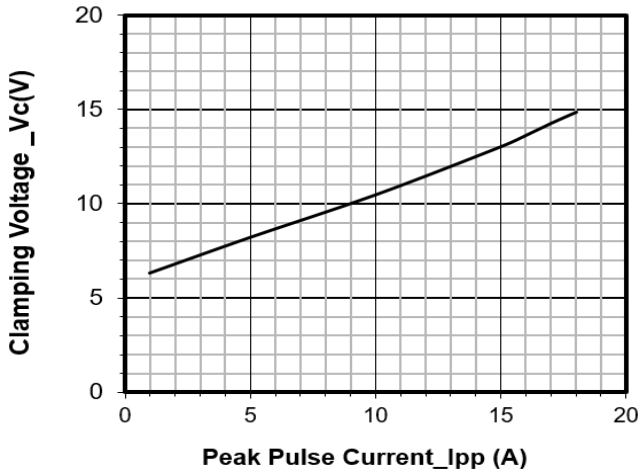
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



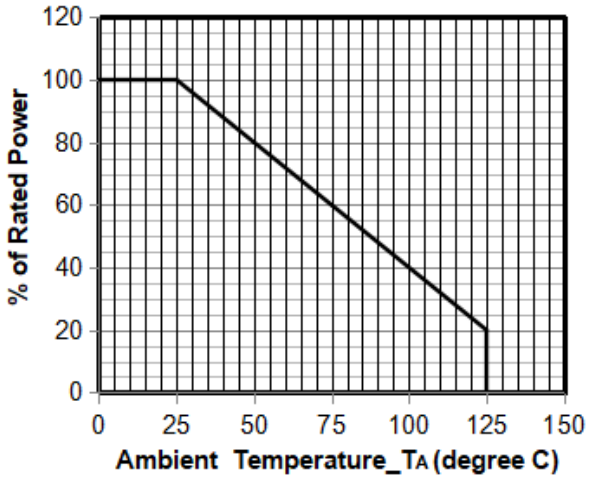
Junction Capacitance vs. Reverse Voltage



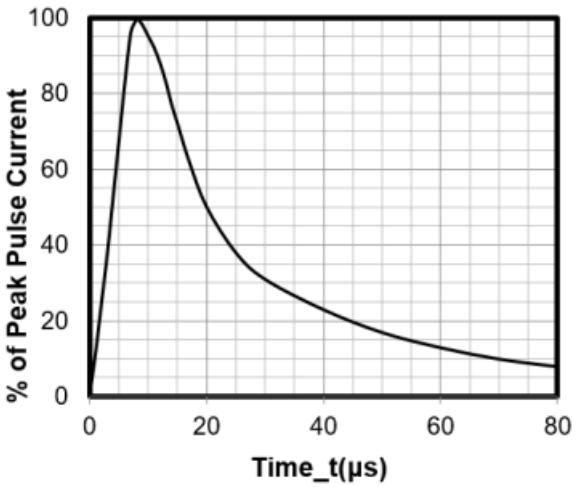
Peak Pulse Power vs. Pulse Time



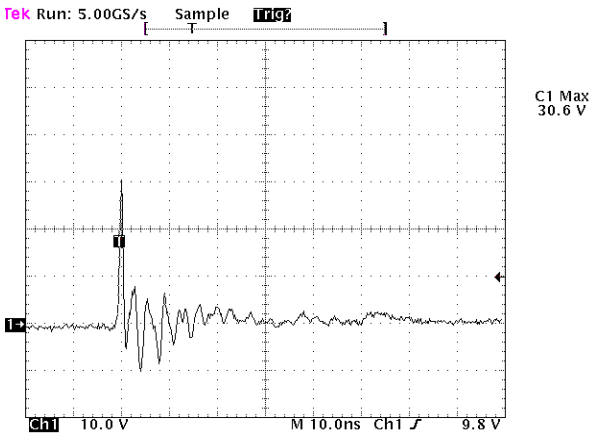
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



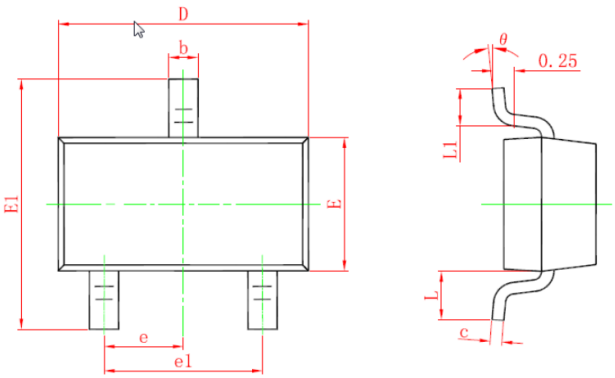
8 X 20μs Pulse Waveform



Note：Data is taken with a 10x attenuator

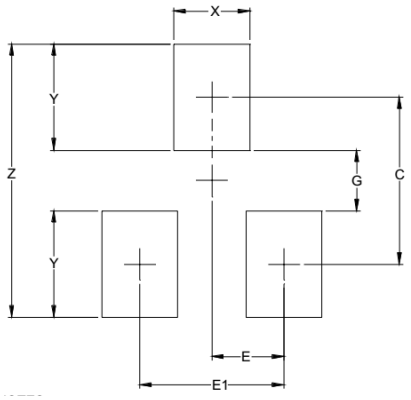
ESD Clamping Voltage
8 kV Contact per IEC61000−4−2

SOT-23 Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.90	- -	1.15	0.035	- -	0.045
A1	0.00	- -	0.10	0.000	- -	0.004
A2	0.90	- -	1.05	0.035	- -	0.041
b	0.30	- -	0.50	0.012	- -	0.020
c	0.08	- -	0.15	0.003	- -	0.006
D	2.80	- -	3.00	0.110	- -	0.118
E	1.20	- -	1.40	0.047	- -	0.055
E1	2.25	- -	2.55	0.089		0.100
e	0.95TYP			0.037TYP		
e1	1.80	- -	2.00	0.071	- -	0.079
L	0.55REF			0.022REF		
L1	0.30	- -	0.50	0.012	- -	0.020
Θ	0°	- -	8°	0°	- -	8°

Suggested Land Pattern



SYM	DIMENSIONS	
	INCHES	MILLIMETERS
C	(.087)	(2.20)
E	.037	0.95
E1	.075	1.90
G	.031	0.80
X	.039	1.00
Y	.055	1.40
Z	.141	3.60

Contact Information

Applied Power Microelectronics Inc.
Website: http://www.appliedpowermicro.com
Email: sales@appliedpowermicro.com
Phone: +86 (0519) 8399 3606