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# SLVU2.8-4

**TVS Array For ESD and Latch Up Protection**

www.sot23.com.tw

## 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

## 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

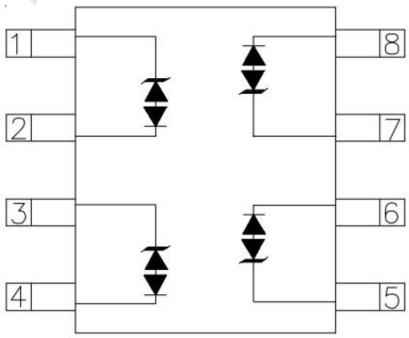
## Applications

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

## Ordering Information

| Part Number | Qty per Reel | Reel Size |
|---|---|---|
| SLVU2.8-4- | 2500 | 13Inch |

## Dimensions and Pin Configuration




Circuit and Pin Schematic

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

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Pulse Power(8/20μs) | Ppk | 100 | W |
| Peak Pulse Current(8/20μs) | $I_{PP}$ | 10 | A |
| ESD per IEC 61000−4−2 (Air)<br>ESD per IEC 61000−4−2 (Contact) | $V_{ESD}$ | ±30<br>±30 | kV |
| Operating Temperature Range | $T_J$ | −40 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 | |
| Punch-Through Voltage | $V_{PT}$ | 3.5 | 3.8 | 4.3 | V | $I_{PT}$ = 2μA |
| Snap-Back Voltage | $V_{SB}$ | 2.8 | | | | $I_{SB}$ = 50mA |
| Reverse Leakage Current | $I_R$ | | | 1.0 | μA | $V_{RWM}$ = 2.8V |
| Clamping Voltage | $V_C$ | | | 5.5 | V | $I_{PP}$ = 1A (8 x 20μs pulse) |
| Clamping Voltage | $V_C$ | | | 10 | V | $I_{PP}$ = 10A (8 x 20μs pulse) |
| Variation in capacitance with reverse bias | | | 1.3 | | pF | Pins 1,8 to 2,7 and pins 3,6 to 4,5<br>VR = 0 to 2.8V, f = 1MHz |
| Junction Capacitance | $C_J$ | | 4.7 | 6 | pF | Pins 1,8 to 2,7 and pins 3,6 to 4,5<br>VR = 2.8V, f = 1MHz |

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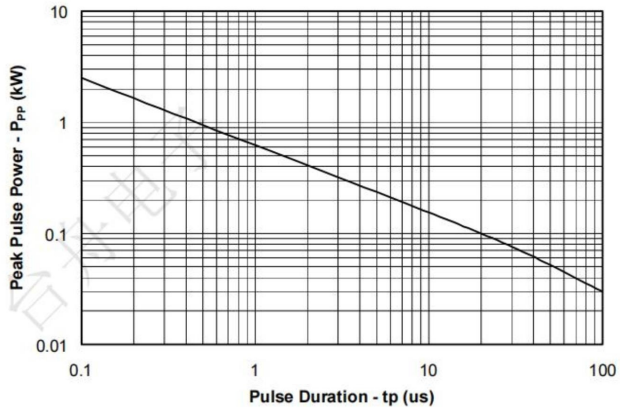
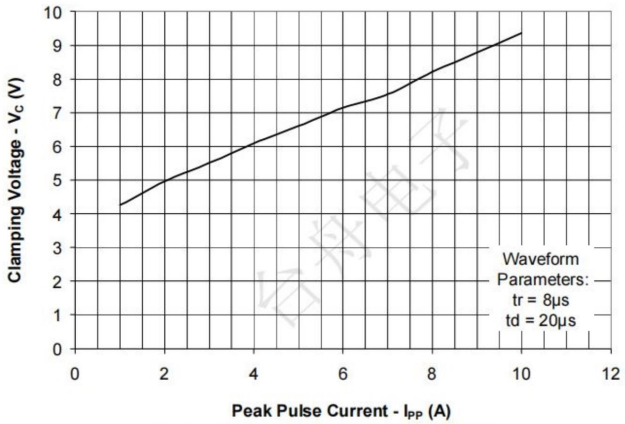
## Typical Performance Characteristics ($T_A$=25°C unless otherwise Specified)

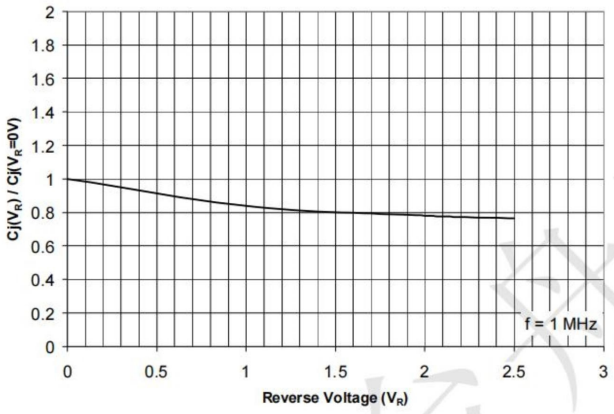
### Non-Repetitive Peak Pulse Power vs. Pulse Time



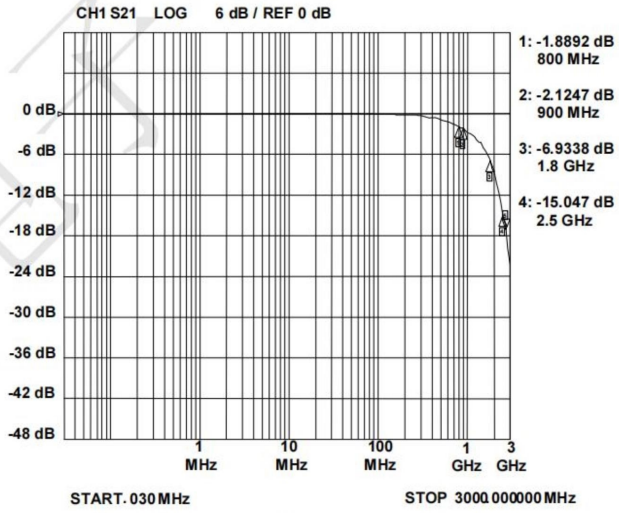

### Clamping Voltage vs. Peak Pulse Current



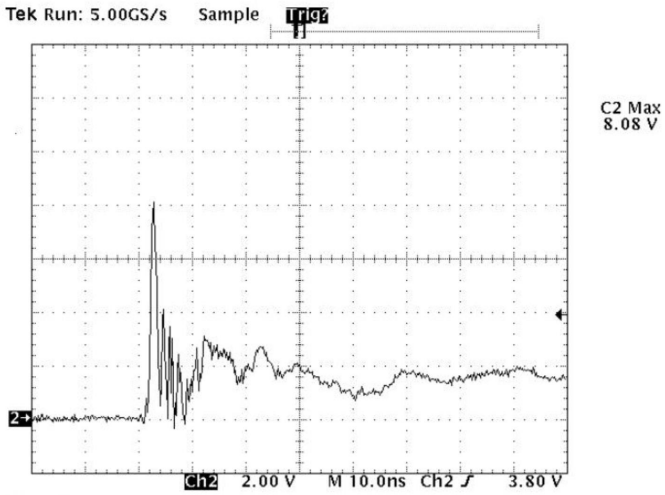

### Normalized Junction Capacitance vs. Reverse Voltage




### Typical Insertion Loss (S21)

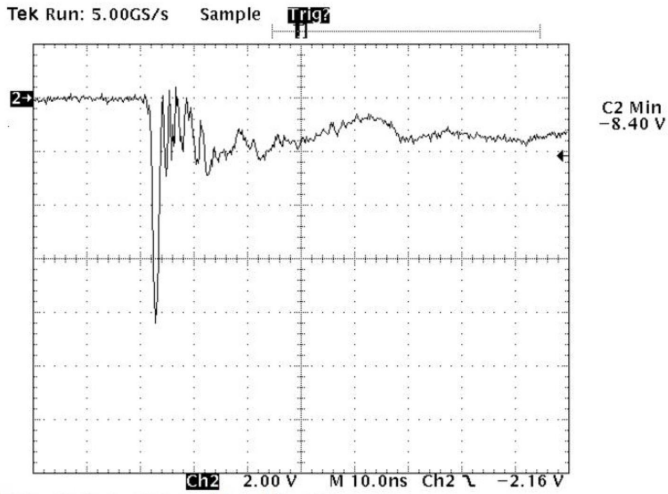



### ESD Clamping
### (8kV Contact per IEC 61000-4-2)



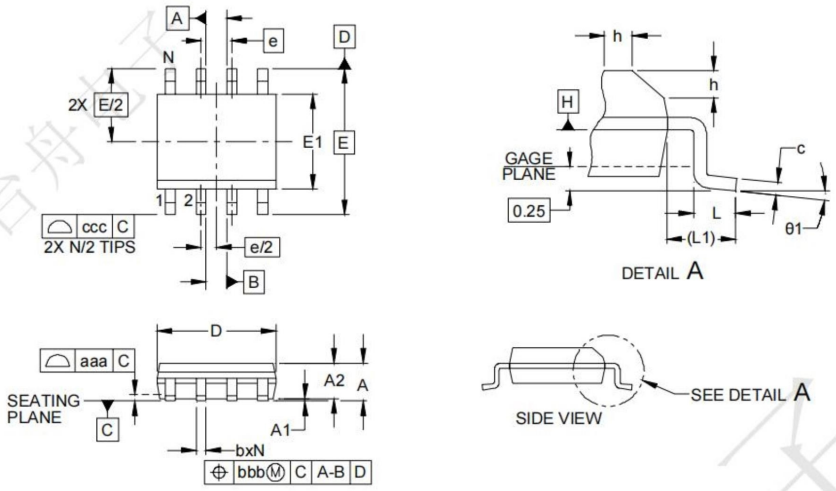

Note: Data is taken with a 10x attenuator

### ESD Clamping
### (-8kV Contact per IEC 61000-4-2)




Note: Data is taken with a 10x attenuator

## Outline Drawing - SOP-8




| DIM | DIMENSIONS | | | | | |
|---|---|---|---|---|---|---|
| | INCHES | | | MILLIMETERS | | |
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | .053 | - | .069 | 1.35 | - | 1.75 |
| A1 | .004 | - | .010 | 0.10 | - | 0.25 |
| A2 | .049 | - | .065 | 1.25 | - | 1.65 |
| b | .012 | - | .020 | 0.31 | - | 0.51 |
| c | .007 | - | .010 | 0.17 | - | 0.25 |
| D | .189 | .193 | .197 | 4.80 | 4.90 | 5.00 |
| E1 | .150 | .154 | .157 | 3.80 | 3.90 | 4.00 |
| E | .236 BSC | | | 6.00 BSC | | |
| e | .050 BSC | | | 1.27 BSC | | |
| h | .010 | - | .020 | 0.25 | - | 0.50 |
| L | .016 | .028 | .041 | 0.40 | 0.72 | 1.04 |
| L1 | (.041) | | | (1.04) | | |
| N | 8 | | | 8 | | |
| θ1 | 0° | - | 8° | 0° | - | 8° |
| aaa | .004 | | | 0.10 | | |
| bbb | .010 | | | 0.25 | | |
| ccc | .008 | | | 0.20 | | |

## Land Pattern - SOP-8