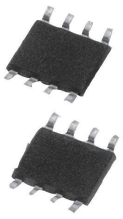
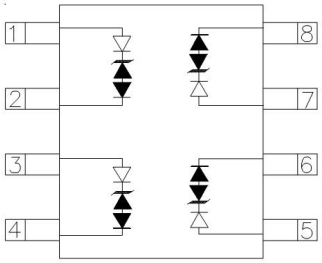
# Low Capacitance ESD Protection -ESDSLVU2.8-4 VBR4.5-6.5V

## Description

The ESDSLV2.8-4 VBR4.5-6.5V of transient voltage suppressors are designed to protect low voltage, the features integrated low capacitance compensation diodes that reduce the typical capacitance to 3pF per line. This .combined with low leakage current, means signal integrity is preserved in high-speed applications such as 10/100 Ethernet. The SLVU2.8-4 VBR4.5-6.5V is in an SO-8 package and may be used to protect two high-speed line pairs. The “flow-thru” design minimizes trace inductance and reduces voltage overshoot associated with ESD events. The low clamping voltage of the SLVU2.8-4 VBR4.5-6.5V minimizes the stress on the protected IC

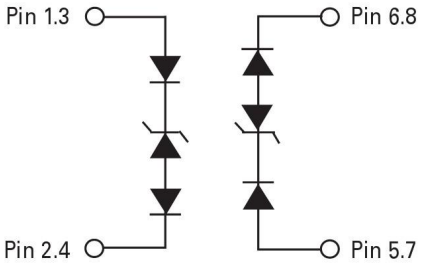





**Schematic and PIN Configuration**

## Feature

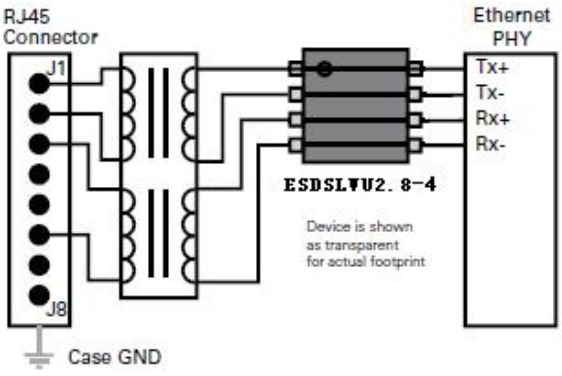
- Case :JEDEC SOP-8 package
- Low clamping voltage
- Small packaging options saves board space
- Low capacitance :3 pF typical
- Protection for 4 Lines
- Compatible with IEC 61000-4-2(ESD) :Air 15KV , Contact 8KV
- Compatible with IEC 61000-4-4(EFT) :40A ,5/50 nS
- Compatible with IEC 61000-4-5(Surge):24A




**Functional Block Diagram**

## Applications

- WAN/LAN Equipment
- 1000 Ethernet
- Personal digital assistants
- LAN devices
- Switching Systems
- Desktops, Servers, and Notebooks
- Instrumentation
- Analog Inputs




**Application Example**



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## Absolute Maximum Ratings

| Parameter | Symbol | Value | Units |
|---|---|---|---|
| Peak Current ($t_p$ =8/20 μ s) | $P_{PK}$ | 400 | W |
| Peak Current ($t_p$ =8/20 μ s) | $I_{PP}$ | 24 | A |
| IEC61000-4-2 (Contact) | $V_{ESD}$ | 8 | kV |
| IEC61000-4-2 (Air) | $V_{ESD}$ | 15 | kV |
| Lead Soldering Temperature | $T_L$ | 260 (10 sec) | ° C |
| Operating Temperature | $T_J$ | -50 to 125 | ° C |
| Storage Temperature Range | $T_{STG}$ | -50 to 150 | ° C |

## Electrical Characteristics (T =25° C)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| Reverse Stand-off Voltage | $V_{RWM}$ | | | | 2.8 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | It = 1mA | 4.5 | | 6.5 | V |
| Reverse Leakage Current | $I_R$ | $V_{RWM}$ =5.0V, T=25℃ | | | 1 | μ A |
| Clamping Voltage | $V_C$ | $I_{PP}$ = 2A, $t_P$ = 8/20μs | | | 5.5 | V |
| Clamping Voltage | $V_C$ | $I_{PP}$=5A, $t_P$ = 8/20μs | | | 8.5 | V |
| Junction Capacitance | $C_J$ | $V_R$=0V, f = 1MHz | | 3 | 5 | pF |



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## Rating & Characteristic Curves

Figure 1- Power Derating Curve

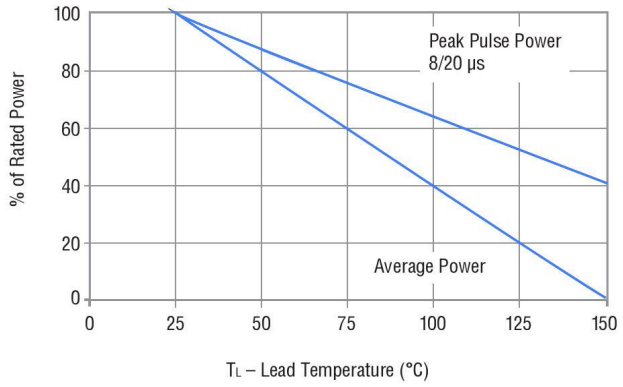



Figure 2- Clamping Voltage vs Current

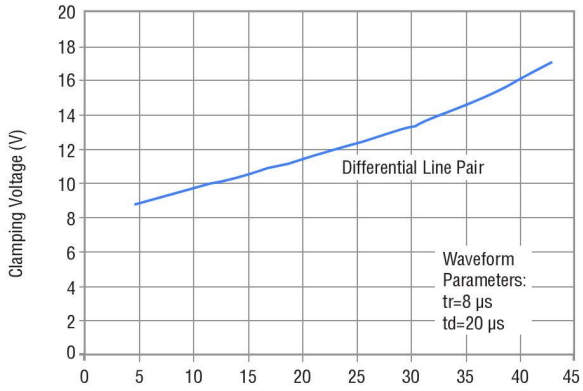



Figure 3- Typical Junction Capacitance

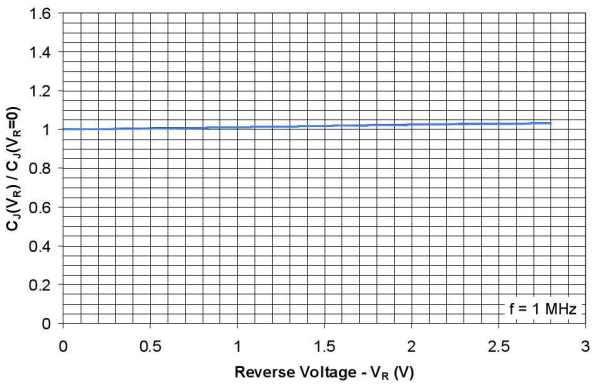



Figure 4- Pulse Waveform

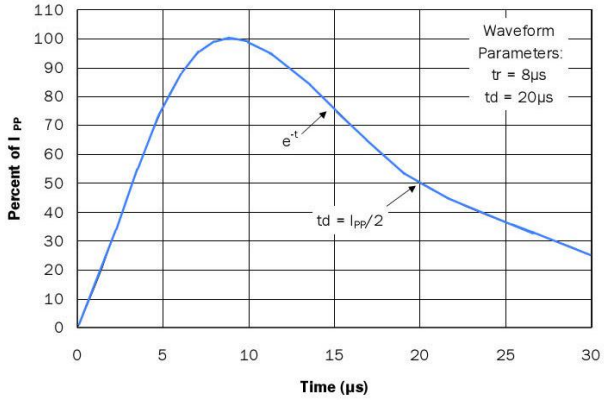



Figure 5- Peak Power Derating Curve

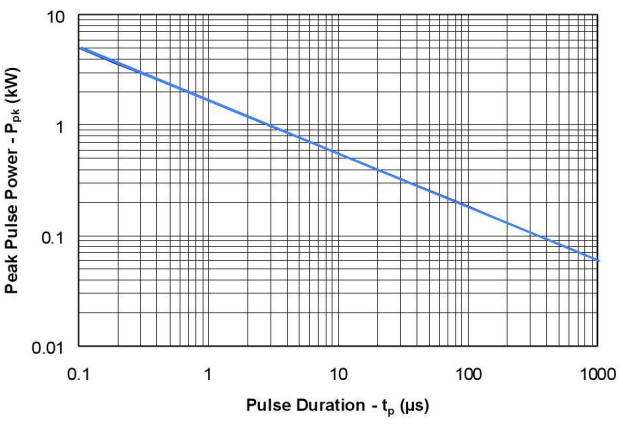
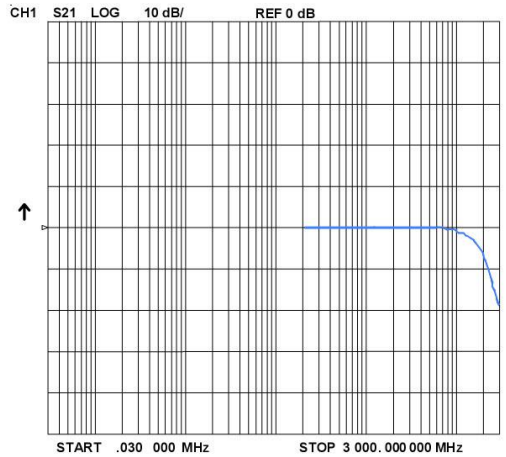


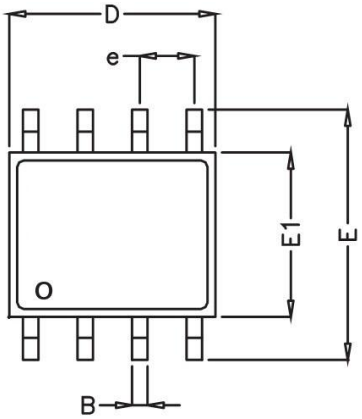

Figure 6- Insertion Loss

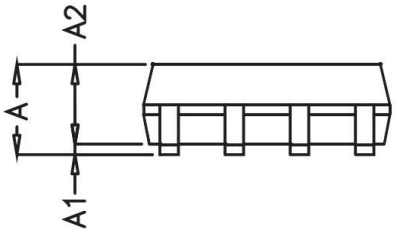


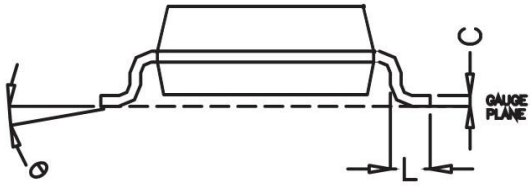


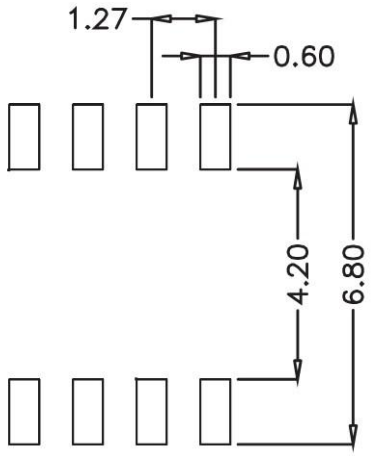

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## PACKAGE OUTLINE DIMENSIONS SO-8




| DIMENSIONS | | | | |
|---|---|---|---|---|
| SYMBOL | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0.053 | 0.069 | 1.35 | 1.75 |
| A1 | 0.004 | 0.010 | 0.10 | 0.25 |
| A2 | 0.050 | 0.065 | 1.25 | 1.65 |
| B | 0.012 | 0.020 | 0.31 | 0.51 |
| c | 0.007 | 0.010 | 0.17 | 0.25 |
| D | 0.189 | 0.197 | 4.80 | 5.00 |
| E | 0.228 | 0.244 | 5.80 | 6.20 |
| E1 | 0.150 | 0.157 | 3.80 | 4.00 |
| e | 0.050BSC | | 1.27BSC | |
| L | 0.016 | 0.050 | 0.40 | 1.27 |

## Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.



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