

### »Features

- 45Watts peak pulse power (tp = 8/20μs)
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (Cj=0.35pF typ. I/O to I/O)
- IEC 61000-4-2 ±25kV contact ±25kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3.5A (8/20μs)



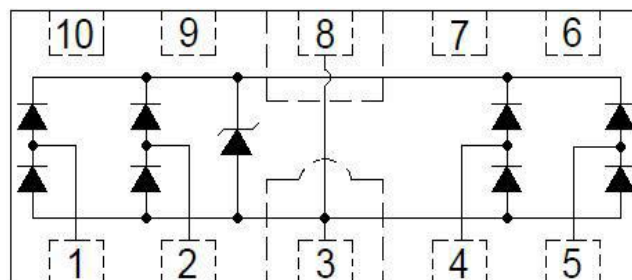
### »Applications

- USB3.0, USB2.0, Ethernet
- HDMI 1.4, Displayport 1.3, eSATA
- Unified Display interface
- Digital Visual Interface
- High speed serial interface

### »Mechanical Data

- Tiny DFN10L(2.5mmx1.0mm) package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

### »Schematic & PIN Configuration



»Absolute Maximum Rating

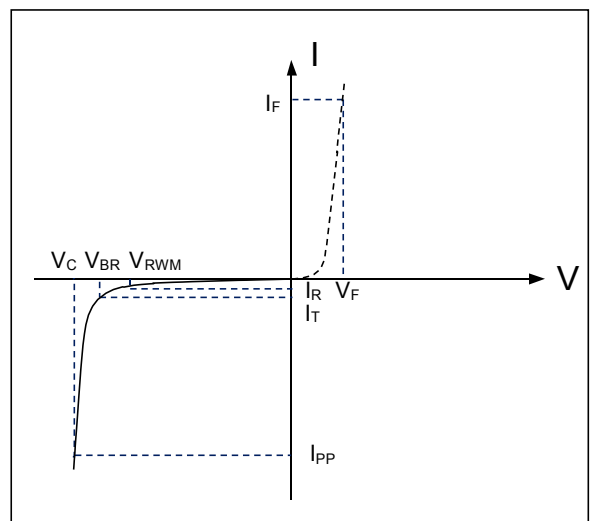
| Rating                                                         | Symbol    | Value          | Units |
|----------------------------------------------------------------|-----------|----------------|-------|
| Peak Pulse Power ( $t_p=8/20\mu s$ )                           | $P_{PP}$  | 45             | Watts |
| Peak Pulse Current ( $t_p=8/20\mu s$ ) (note1)                 | $I_{PP}$  | 3.5            | A     |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | $V_{ESD}$ | 25<br>25       | kV    |
| Lead Soldering Temperature                                     | $T_L$     | 260(10seconds) | °C    |
| Junction Temperature                                           | $T_J$     | -55 to + 125   | °C    |
| Storage Temperature                                            | $T_{stg}$ | -55 to + 125   | °C    |

»Electrical Characteristics

| Parameter                 | Symbol    | Conditions                     | Min | Typical | Max | Units   |
|---------------------------|-----------|--------------------------------|-----|---------|-----|---------|
| Reverse Stand-Off Voltage | $V_{RWM}$ |                                |     |         | 5.0 | V       |
| Reverse Breakdown Voltage | $V_{BR}$  | $I_T=1mA$                      | 5.5 | 7.8     |     | V       |
| Reverse Leakage Current   | $I_R$     | $V_{RWM}=5V, T=25^\circ C$     |     |         | 0.5 | $\mu A$ |
| Peak Pulse Current        | $I_{PP}$  | $t_p=8/20\mu s$                |     |         | 3.5 | A       |
| Clamping Voltage          | $V_C$     | $I_{PP}=3.5A, t_p=8/20\mu s$   |     | 12      | 15  | V       |
| Junction Capacitance      | $C_j$     | $V_R=0V, f=1MHz$<br>I/O to I/O |     | 0.35    | 0.4 | pF      |
|                           |           | $V_R=0V, f=1MHz$<br>I/O to GND |     | 0.7     | 0.8 |         |

»Electrical Parameters (TA = 25°C unless otherwise noted)

|           | Parameter                                   |
|-----------|---------------------------------------------|
| $I_{PP}$  | Maximum Reverse Peak Pulse Current          |
| $V_C$     | Clamping Voltage @ $I_{PP}$                 |
| $V_{RWM}$ | Working Peak Reverse Voltage                |
| $I_R$     | Maximum Reverse Leakage Current @ $V_{RWM}$ |
| $V_{BR}$  | Breakdown Voltage @ $I_T$                   |
| $I_T$     | Test Current                                |
|           |                                             |
|           |                                             |



Note: 8/20 $\mu s$  pulse waveform.

»Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

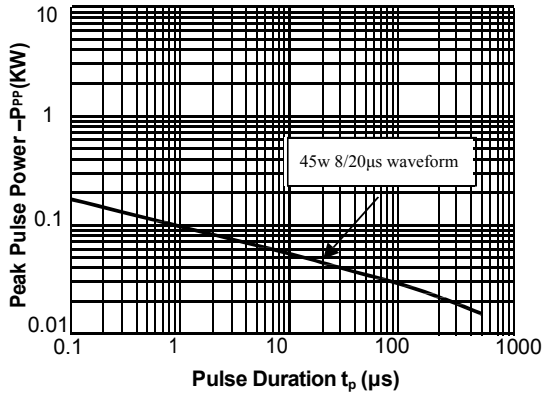


Fig.2 Pulse Derating Curve

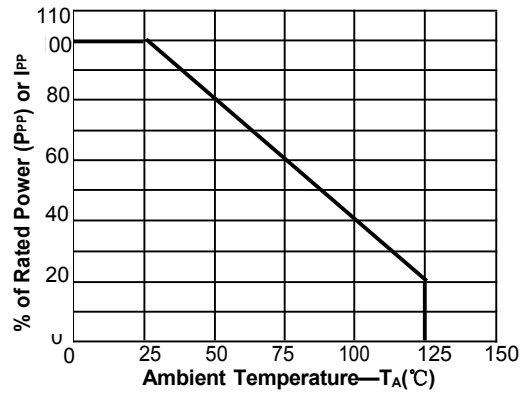


Fig.3 Pulse Waveform-8/20μs

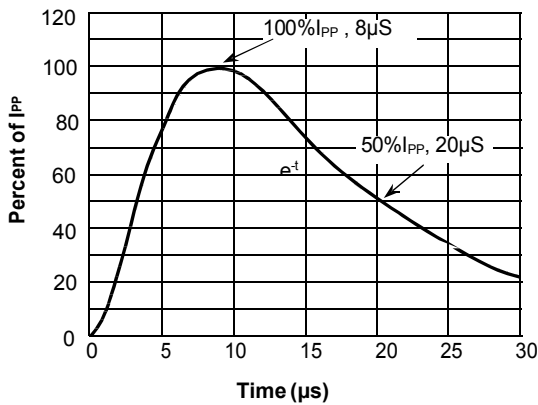


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

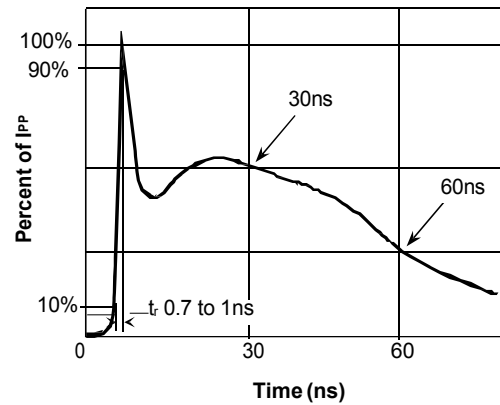


Fig.5 Eye Diagram - HDMI mask at 3.4Gbps per channel

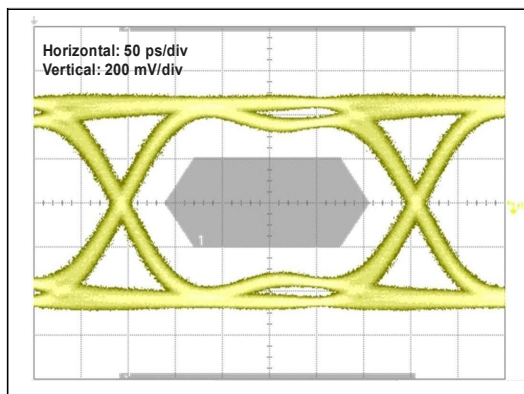
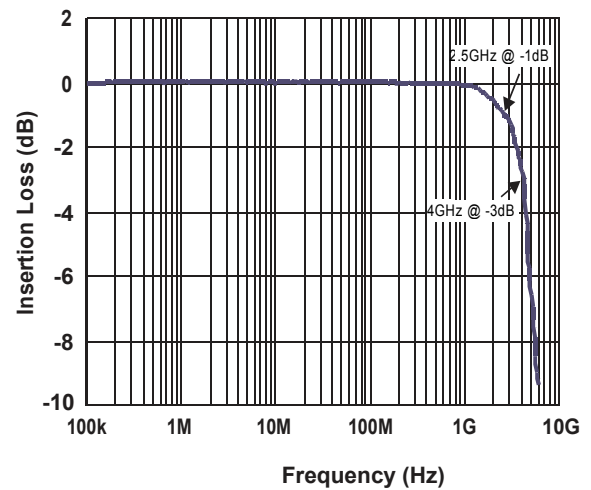
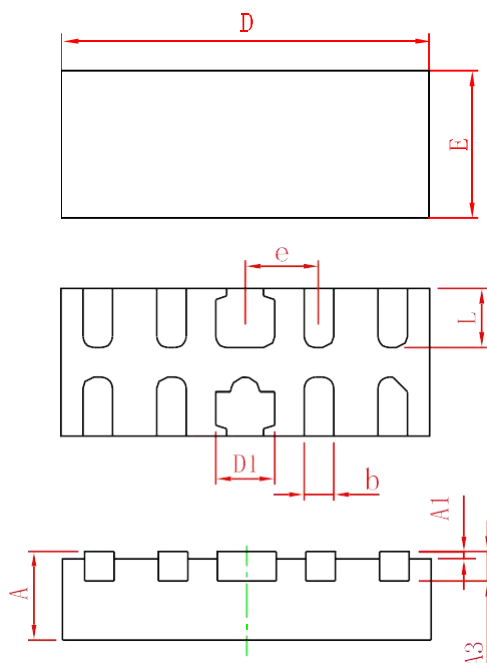


Fig.6 Insertion Loss S21 - I/O to GND



»Outline Drawing – DFN10L(2.5mmx1.0mm)



| Symbol | Dimensions in millimeters |      |      |
|--------|---------------------------|------|------|
|        | Min                       | Nom  | Max  |
| A      | 0.45                      | 0.50 | 0.55 |
| A1     | -                         | 0.02 | 0.05 |
| A3     | 0.10                      | 0.15 | 0.20 |
| D      | 2.45                      | 2.50 | 2.55 |
| E      | 0.95                      | 1.00 | 1.05 |
| D1     | 0.35                      | 0.40 | 0.45 |
| b      | 0.15                      | 0.20 | 0.25 |
| e      | 0.50BSC                   |      |      |
| L      | 0.35                      | 0.40 | 0.45 |

»Marking



»Ordering information

| Order code     | Package             | Base qty | Delivery mode |
|----------------|---------------------|----------|---------------|
| ESD7004MUTAG-N | DFN10L(2.5mmx1.0mm) | 3k       | Tape and reel |

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:*

*Click to view products by [Bourne](#) manufacturer:*

Other Similar products are found below :

[60KS200C](#) [D18V0L1B2LP-7B](#) [D5V0F4U5P5-7](#) [NTE4902](#) [P4KE27CA](#) [P6KE11CA](#) [P6KE8.2A](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#)  
[SMBJ33CATR](#) [SMBJ6.5A](#) [SMBJ8.0A](#) [ESD101-B1-02ELS E6327](#) [ESD112-B1-02EL E6327](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-](#)  
[HF](#) [3.0SMCJ33CA-F](#) [3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [JANTX1N6126A](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [SCM1293A-04SO](#)  
[ESD200-B1-CSP0201 E6327](#) [SM12-7](#) [CEN955 W/DATA](#) [VESD12A1A-HD1-GS08](#) [CPDQC5V0-HF](#) [D1213A-01LP4-7B](#) [ESD101-B1-02EL](#)  
[E6327](#) [AOZ8808DI-03](#) [5KP15A](#) [5KP48A](#) [5KP90A](#) [ESD3V3D7-TP](#) [15KPA36A-LF](#) [P4KE56CA](#) [P4KE68A](#) [P4KE91CATR](#) [P6KE120A](#)  
[P6KE13CA](#) [P6KE43CA](#) [P6KE6.8CA](#) [P6KE8.2](#) [P6SMBJ20CA](#) [JANTX1N6072A](#) [SR2835ESKG](#) [SA90CA](#)