

ESD1201BU

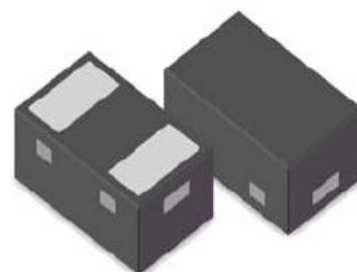
Transient Voltage Suppressors ESD Protection Diode

GENERAL DESCRIPTION

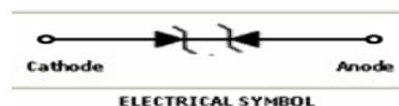
Silicon Protection Diode in a DFN1006 Package.

FEATURES

- Transient protection for high-speed data lines
IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (Contact)
 $\pm 20\text{kV}$ (Air)
Cable Discharge Event (CDE)
- Package optimized for high-speed lines
- Protects one data, control line
- Low capacitance: 0.25pF (Typical)
- Low leakage current
- Low clamping voltage



DFN1006 Package



Device Marking:

| Device Type | Marking | Shipping |
|-------------|---------|-------------|
| ESD1201BU | 12BU | 10,000/Reel |

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Units |
|------------------------|--|----------------------|------------------|
| P_{pp} | Peak pulse power | 64 | W |
| T_L | Max Lead Solder Temperature range (10 Second Duration) | 260 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55 to +150 | $^\circ\text{C}$ |
| T_{OPT} | Operating Temperature | -55 to +125 | $^\circ\text{C}$ |
| V_{ESD} | ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air) | ± 15 ± 20 | KV |

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Test Condition | Min | Typ | Max | Unit |
|------------------------|---------------------------------|---|------|------|------|---------------|
| V_{BR} | Reverse Breakdown Voltage | $I_T = 1\text{mA}$ | 13.3 | | | V |
| V_{RWM} | Reverse Working Voltage | | | | 12 | V |
| I_R | Reverse Leakage Current | $V_{RWM} = 12\text{V}$ | | | 500 | μA |
| V_c | Clamping Voltage(IEC 61000-4-5) | $I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$ | | | 22 | V |
| | | $I_{PP} = 2\text{A}, t_p = 8/20\mu\text{s}$ | | | 32 | V |
| C_j | Junction Capacitance | $V_R = 0\text{V}, f = 1\text{MHz}$ | | 0.25 | 0.40 | pF |

ESD1201BU

ELECTRICAL CHARACTERISTICS CURVE

Fig 1 Power Derating Curve

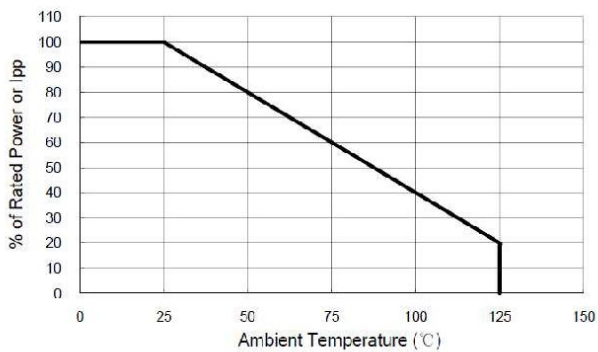


Fig 2 8/20μs Waveform per IEC61000-4-5

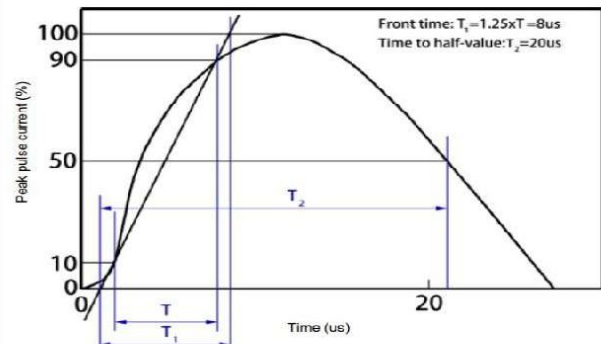


Fig 3 Clamping Voltage vs Peak Pulse Current

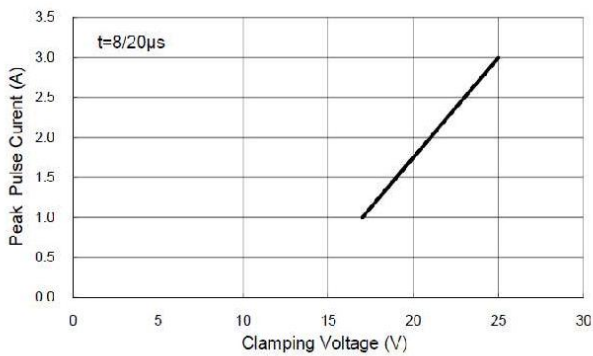


Fig 4 Voltage vs Capacitance

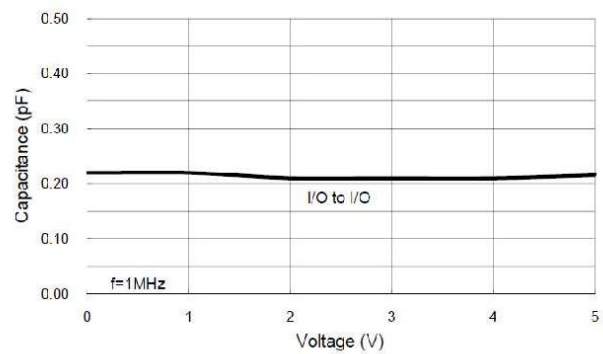


Fig 5 ESD Clamping of I/O to GND
(+8kV Contact per IEC 61000-4-2)

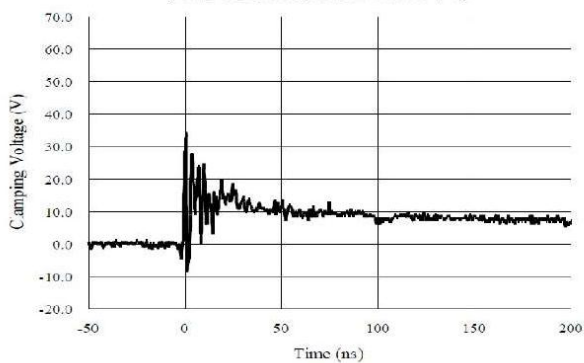
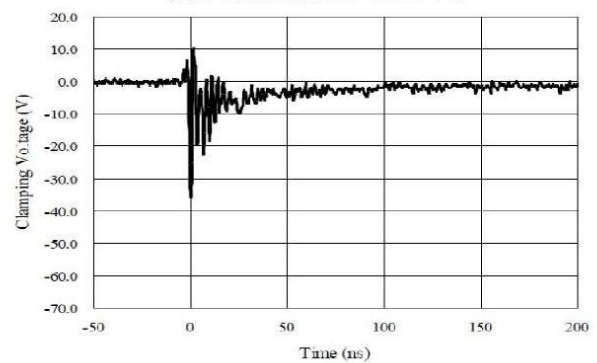
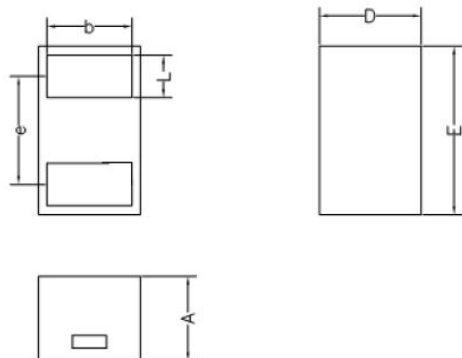


Fig 6 ESD Clamping of I/O to GND
(-8kV Contact per IEC 61000-4-2)

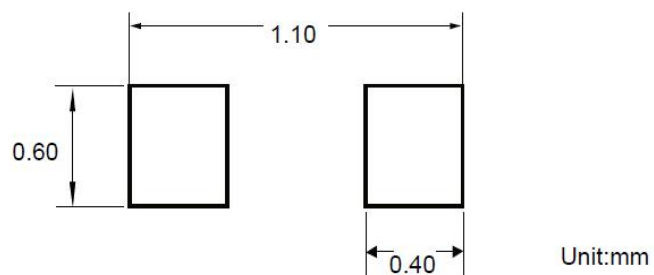


ESD1201BU

DFN1006 Package Outline



| Symbol | Dimensions in millimeters | | |
|--------|---------------------------|------|------|
| | Min | Nom | Max |
| D | 0.55 | 0.60 | 0.65 |
| E | 0.95 | 1.00 | 1.05 |
| b | 0.45 | 0.50 | 0.55 |
| L | 0.20 | 0.25 | 0.30 |
| e | 0.64 BSC | | |
| A | 0.45 | 0.50 | 0.55 |



Important Notice and Disclaimer

DOESHARE has used reasonable care in preparing the information included in this document, but DOESHARE does not warrant that such information is error free. DOESHARE assumes no liability whatsoever for any damages incurred by you resulting from errors in or omissions from the information included herein.

DOESHARE no warranty, representation or guarantee regarding the documents, circuits and products specification, DOESHARE reservation rights to make changes for any documents, products, circuits and specifications at any time without notice.

Purchasers are solely responsible for the choice, selection and use of the DOESHARE products and services described herein, and DOESHARE assumes no liability whatsoever relating to the choice, selection or use of the products and services described herein.

No license, express or implied, by implication or otherwise under any intellectual property rights of DOESHARE.

Resale of DOESHARE products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by DOESHARE for the DOESHARE product or service described herein and shall not create or extend in any manner whatsoever, any liability of DOESHARE.