



Bi-directional ESD Protection Diode

Peak Pulse Power - 100 Watts
Reverse Working Voltage - 5V

Description

The H04X25V0BU is ultra low capacitance ESD designed to protect high speed data interfaces. This series has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by ESD (electrostatic discharge).

Features

- 1 Channel of ESD Protection (Bi-directional)
- Peak Pulse Power :Ppp = 100W (tp=8/20 us)
- Reverse Working Voltage : 5V
- Low Leakage Current
- Ultra low Capacitance : 0.25pF (Typ)
- IEC 61000-4-2 (ESD) :±20kV(Contact) / ±25kV(Air)

Applications

- Digital Visual Interface (DVI)
- Cellular Handsets & Accessories
- Display / USB / MDDI Ports
- RF Circuits
- PCI Express

Mechanical Data

- Case: DFN1006 Package
- Case Material: "Green" Molding Compound UL Flammability Classification Rating 94V-0
- Component in accordance to RoHS
- Halogen Free

Note: Products with logo  or  are made by HY Electronic (Cayman) Limited.

Ordering Information

- Package :DFN1006
- Reel Size :7 (inches)
- Quantity Per Reel :10,000/Tape & Reel
- Quantity One Box :100,000/Tape & Reel
- Quantity One Carton :400,000/Tape & Reel

Marking Information

5BU

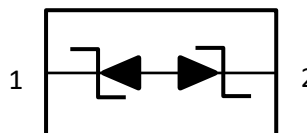
"5BU"=Product Type Marking Code

Package Outline



DFN1006 Top View

Device Schematic & PIN Configuration



Maximum Ratings (@TA = +25°C, unless otherwise specified.)

Absolute Ratings

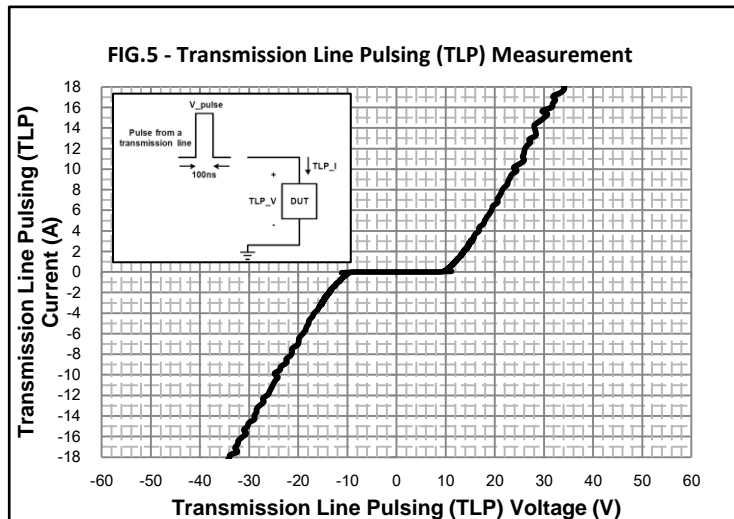
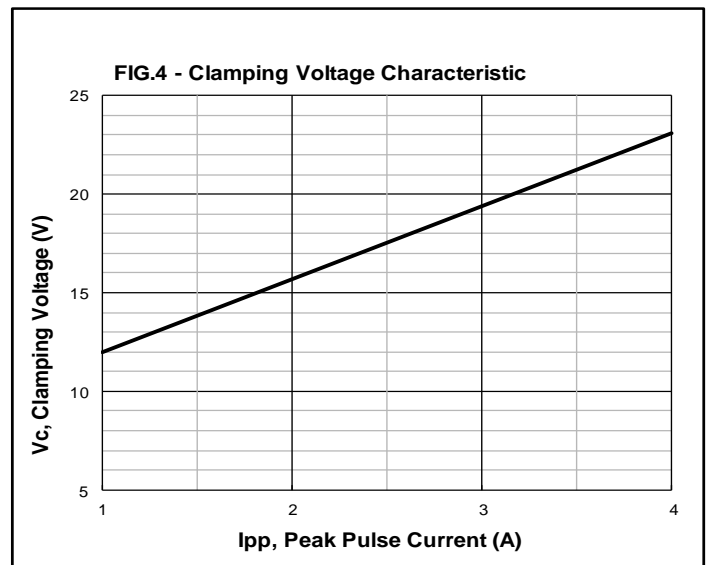
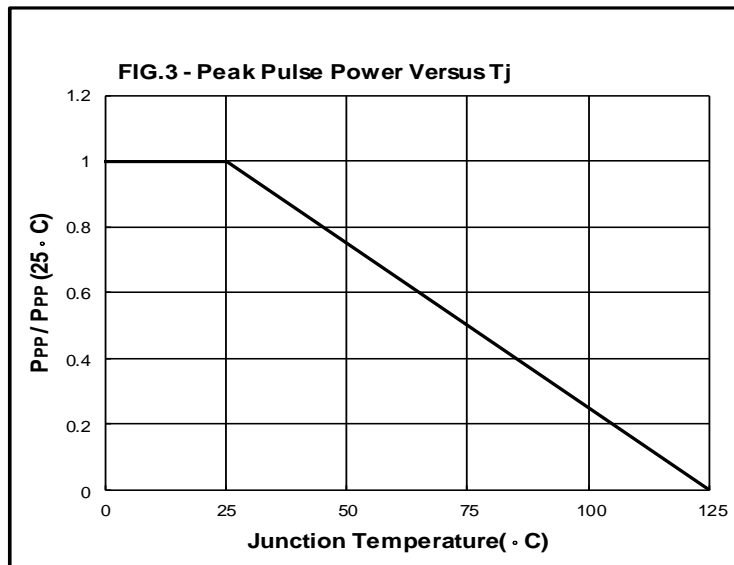
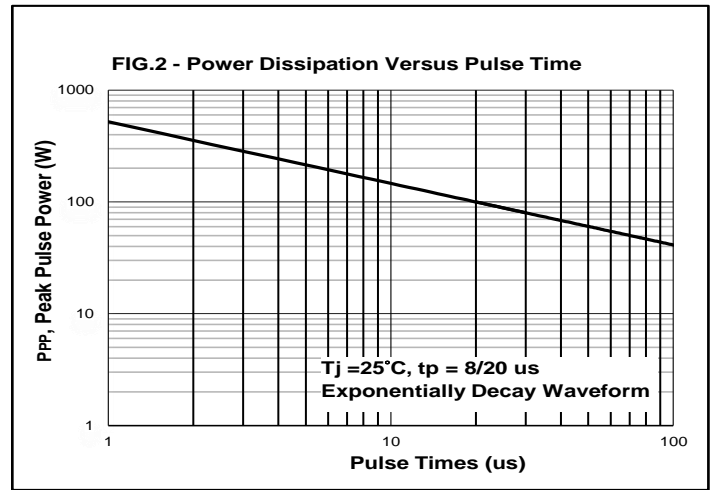
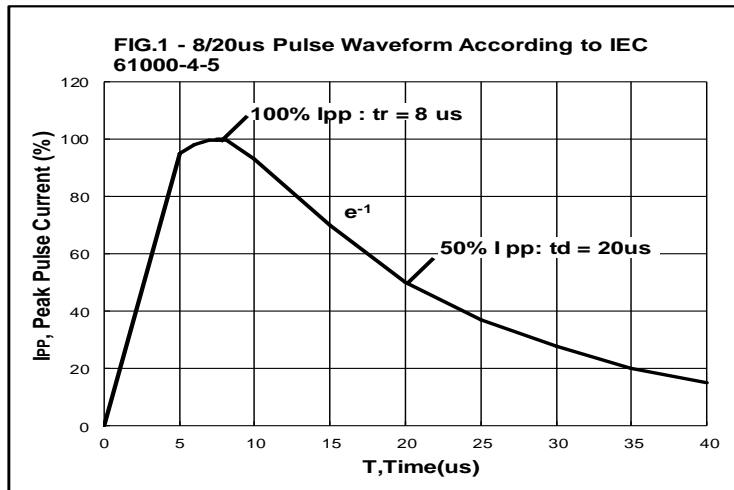
| Parameter | Symbol | Value | Unit |
|--|------------------|-------------|------|
| Peak Pulse Power Dissipation (8/20 us) | P _{PP} | 100 | W |
| Peak Pulse Current (8/20 us) | I _{PP} | 4 | A |
| ESD Protection- Contact (Standard IEC 61000-4-2) | V _{ESD} | ±20 | k V |
| ESD Protection- Air (Standard IEC 61000-4-2) | | ±25 | |
| Operating Temperature Range | T _J | -55 to +125 | °C |
| Storage Temperature Range | T _{STG} | -55 to +150 | °C |
| Soldering Temperature, t max =10s | T _L | 260 | °C |

Electrical Characteristics

| Parameter | Test Conditions | Symbol | Min | Typ | Max | Unit |
|---------------------------|---|------------------|-----|------|-----|------|
| Reverse Working Voltage | --- | V _{RWM} | - | - | 5 | V |
| Reverse Breakdown Voltage | I _T = 1mA | V _B | 6 | - | - | V |
| Reverse Current | V _R = 5V | I _R | - | - | 100 | nA |
| Reverse Clamping Voltage | I _{PP} = 1A (8/20μs) | V _C | - | - | 13 | V |
| | I _{PP} = 4A (8/20μs) | | - | - | 25 | |
| TLP Clamping Voltage | I _{PP} =16A, T _P =100ns | V _{TLP} | - | 31 | - | V |
| Dynamic Resistance | TLP Pulse | R _{DYN} | - | 1.3 | - | Ω |
| Junction Capacitance | V _R = 0V, F = 1MHz | C _j | - | 0.25 | 0.4 | pF |

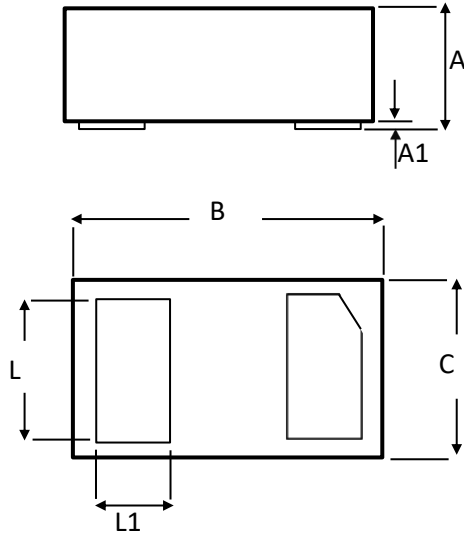


Rating and Characteristic Curves



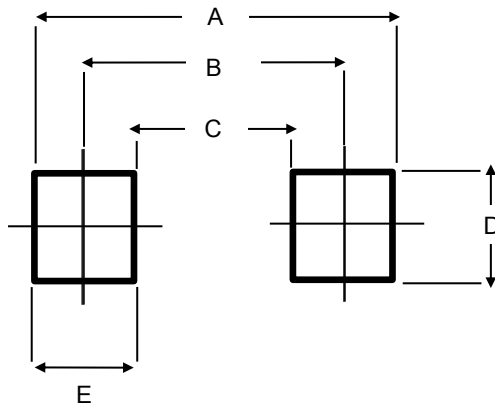


Package Outline Dimensions



| DFN1006 Package | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 0.45 | 0.55 |
| A1 | - | 0.02 |
| B | 0.95 | 1.05 |
| C | 0.55 | 0.65 |
| L | 0.45 | 0.55 |
| L1 | 0.2 | 0.3 |
| All Dimensions in mm | | |

Suggested Soldering Pad Layout



| Dim. | Value |
|----------------------|-------|
| A | 1.10 |
| B | 0.90 |
| C | 0.30 |
| D | 0.60 |
| E | 0.40 |
| All Dimensions in mm | |



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