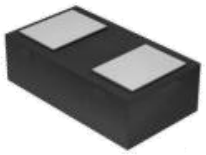
## 1. Features

- Capacitance: 15pF(typ.)
- Reverse Working Voltage: 5V
- IEC 61000-4-2 (ESD Air): ±25KV
  IEC 61000-4-2 (ESD Contact): ±25KV
  IEC 61000-4-5 (Lightning 8/20μs): 8A

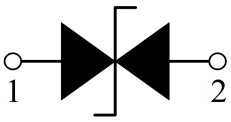
## 2. Pin Description



## 3. Applications

- Smart Phone and Tablet PC
- TV and Set Top Box
- Wearable Devices
- PDA

## 4. Schematic Diagram




## 5. Order Information

| Type | Package | Size (mm) | Delivery Form | Delivery Quantity |
|---|---|---|---|---|
| H5VL10B | DFN1006 | 1.00x0.60x0.37 | 7" T&R | 10,000 |

## 6. Limiting Values($T_A$ = 25 °C, unless otherwise specified)

| Symbol | Parameter | Conditions | Min | Max | Unit |
|---|---|---|---|---|---|
| $V_{ESD}$ | Electrostatic Discharge Voltage | IEC 61000-4-2; Contact Discharge | - | ±25 | kV |
| | | IEC 61000-4-2; Air Discharge | - | ±25 | kV |
| $P_{PP}$ | Peak Pulse Power | $t_P$ = 8/20 μs | - | 80 | W |
| $I_{PPM}$ | Rated Peak Pulse Current | $t_P$ = 8/20 μs | - | 8 | A |
| $T_A$ | Ambient Temperature Range | - | -55 | 125 | ℃ |
| $T_{stg}$ | Storage Temperature Range | - | -55 | 150 | ℃ |

## 7. Electrical Characteristics($T_A$ = 25 °C, unless otherwise specified)

| Symbol | Parameter | Conditions | Min | Typ. | Max | Unit |
|---|---|---|---|---|---|---|
| $V_{RWM}$ | Reverse Working Voltage | $T_A$ = 25 °C | - | - | 5.0 | V |
| $V_{BR}$ | Breakdown Voltage | $I_R$ = 1mA; $T_A$ = 25 °C | 5.6 | 6.5 | 8.4 | V |
| $I_R$ | Reverse Leakage Current | $V_{RWM}$ = 5V; $T_A$ = 25 °C | - | - | 0.1 | μA |
| $V_C$ | Clamping Voltage | $I_{PP}$=1A, $t_P$ =8/20μs | - | - | 6 | V |
| | | $I_{PP}$=8A, $t_P$ =8/20μs | - | - | 10 | V |
| $C_J$ | Junction Capacitance | $V_R$ = 0V, f = 1 MHz | - | 15 | 18 | pF |

## 8. Typical Characteristics

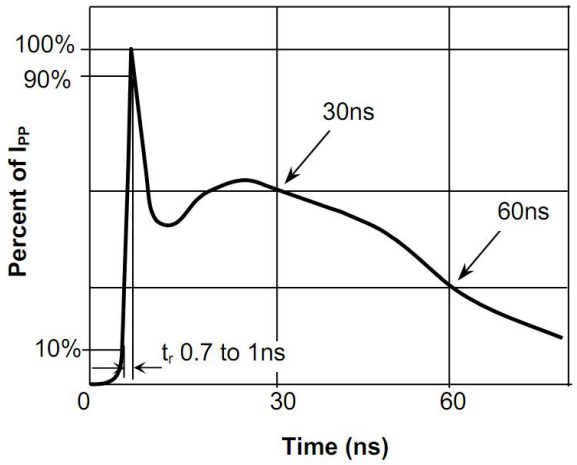



Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

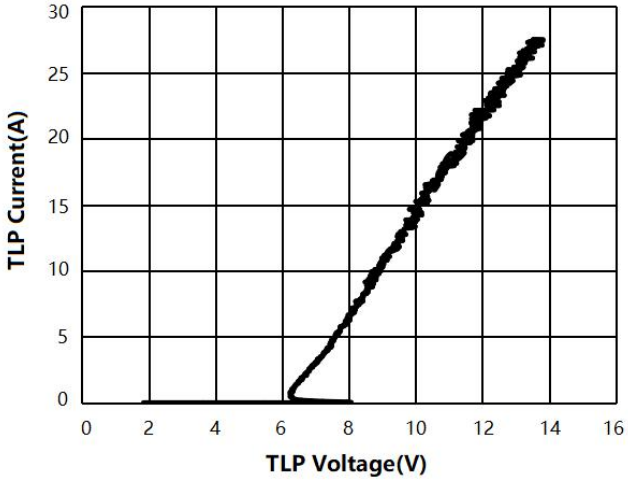



Fig.2 Transmission Line Pulse (TLP)

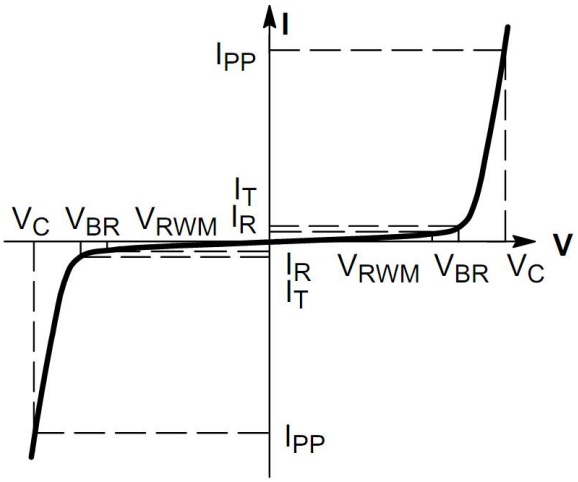



Fig.3 V-I Characteristics for Bidirectional Diode

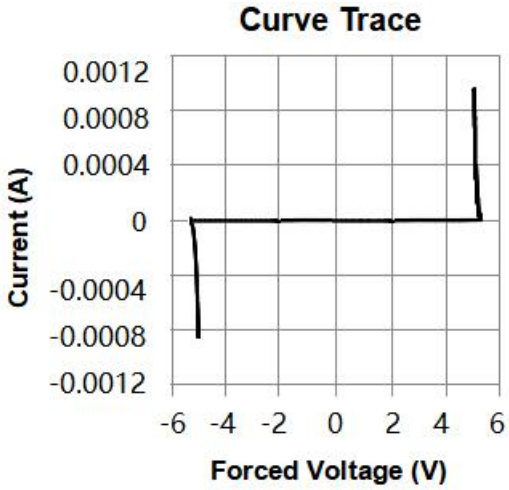



Fig.4 IV Curve

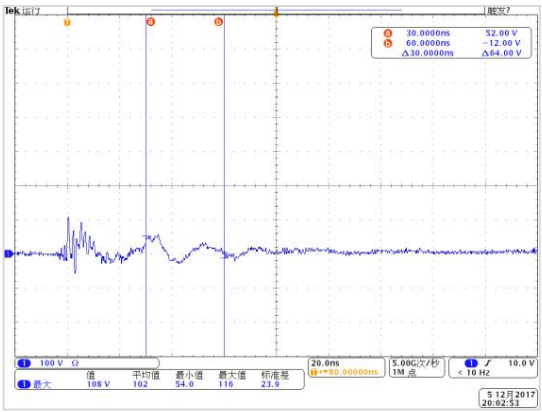


Fig.5 Clamping Voltage at IEC61000-4-2
+8kV Pulse Waveform

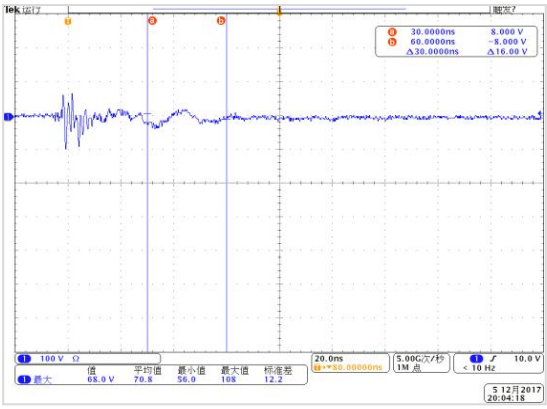
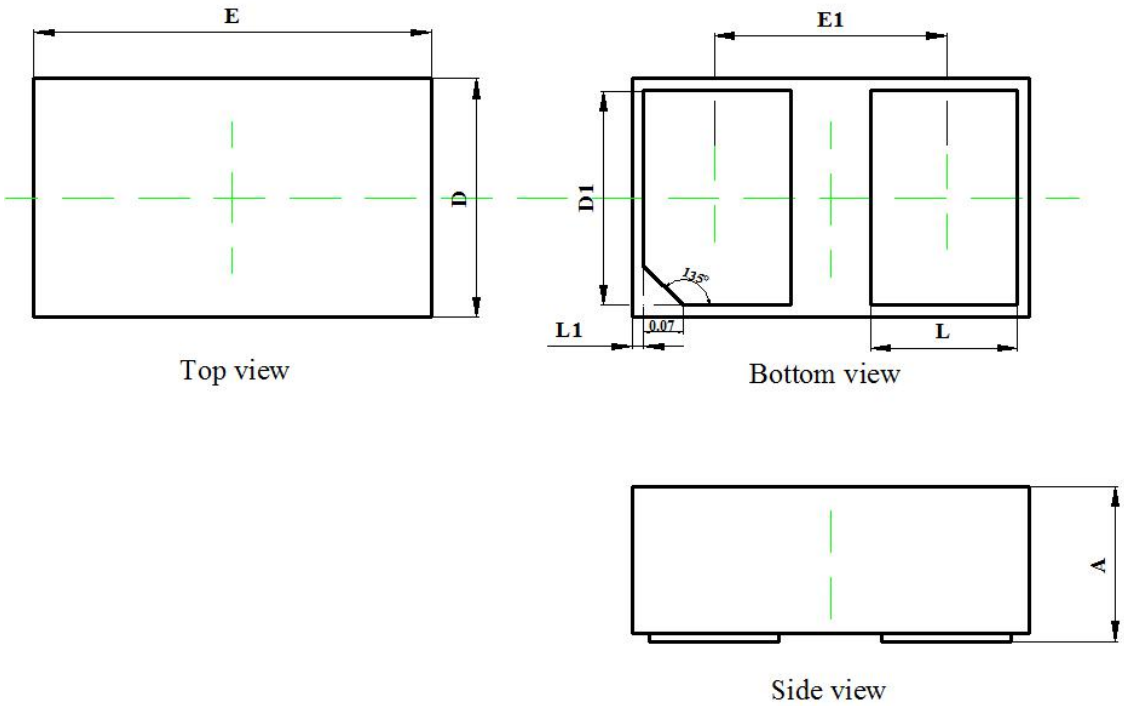


Fig.6 Clamping Voltage at IEC61000-4-2
-8kV Pulse Waveform

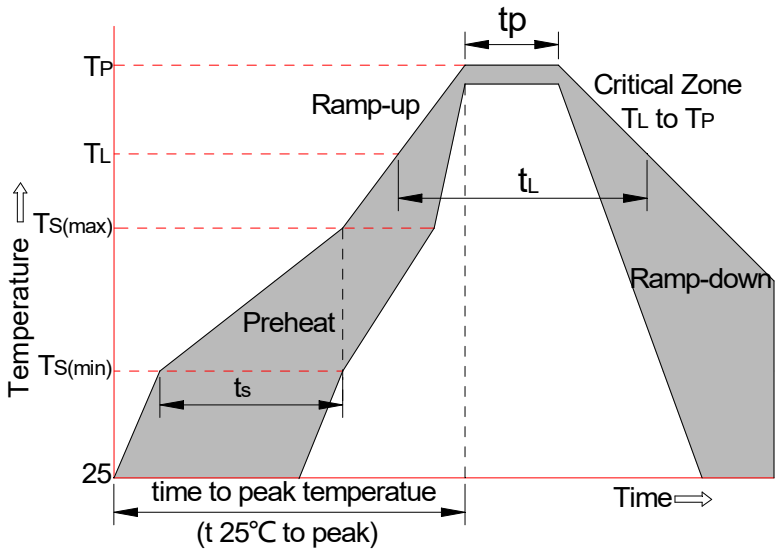
## 9. Package Outline Dimensions

**DFN1006 Package Outline**




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 0.350 | 0.450 | 0.014 | 0.018 |
| D | 0.550 | 0.650 | 0.022 | 0.026 |
| E | 0.950 | 1.050 | 0.037 | 0.041 |
| D1 | 0.420 | 0.520 | 0.017 | 0.020 |
| E1 | 0.550 | 0.650 | 0.022 | 0.026 |
| L | 0.270 | 0.370 | 0.011 | 0.015 |
| L1 | 0.000 | 0.100 | 0.000 | 0.004 |

## 10. Soldering Parameters




| Reflow Condition | | Pb-Free Assembly |
|---|---|---|
| Pre-heat | -Temperature Min ($T_{s(min)}$) | +150°C |
| | -Temperature Max($T_{s(max)}$) | +200°C |
| | -Time (Min to Max) (ts) | 60-180 secs. |
| Average ramp up rate (Liquid us Temp ($T_L$) to peak) | | 3°C/sec. Max |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate | | 3°C/sec. Max |
| Reflow | -Temperature($T_L$)(Liquid us) | +217°C |
| | -Temperature($t_L$) | 60-150 secs. |
| Peak Temp ($T_p$) | | +260(+0/-5)°C |
| Time within 5°C of actual Peak Temp ($t_p$) | | 30 secs. Max |
| Ramp-down Rate | | 6°C/sec. Max |
| xTime 25°C to Peak Temp ($T_P$) | | 8 min. Max |
| Do not exceed | | +260°C |