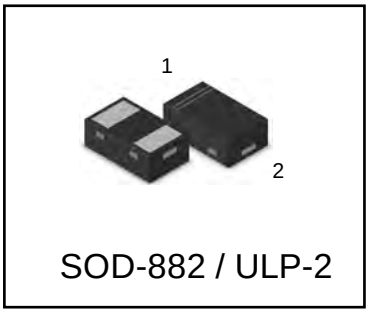
## *Transient Voltage Suppressors for ESD Protection* General Description

The FTV05BAUL2 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium.





### Applications

- Cellular phones audio
- MP3 players
- Digital cameras
- Portable applicationss
- Mobile telephone

### Ordering information

| Device | Marking | Shipping |
|---|---|---|
| FTV05BAUL2 | PB | 10000/Tape&Reel |

### Features

- Low Leakage
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 (> 16 kV) per Human Body Model
- IEC61000−4−2 Level 4 ESD Protection
- These are Pb−Free Devices
- We declare that the material of product compliance with RoHS requirements.

### Absolute Ratings ($T_{amb}$=25°C )

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| IEC 61000-4-2 (ESD) Air discharge<br>Contact discharge | | ±30<br>±30 | kV<br>kV |
| Total Power Dissipation on FR-5 Board (Note 1) @ $T_A$=25℃ | PD | 200 | mW |
| Junction and Storage Temperature Range | TJ,TSTG | -55 to 150 | |
| Lead Solder Temperature – Maximum (10 Second Duration) | TL | 260 | |

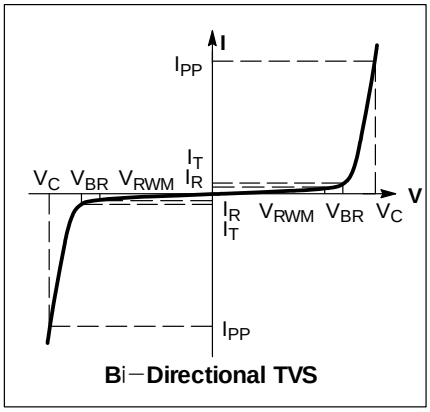
Stresses exceeding Maximum Ratings may damage the device. Maximum Rating are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. FR-5 = 1.0*0.75*0.62 in.

## ELECTRICAL CHARACTERISTICS

($T_A$ = 25℃ unless otherwise noted)

| Symbol | 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 |
| $P_{pk}$ | Peak Power Dissipation |
| C | Capacitance @ $V_R$ = 0 and f = 1.0 MHz |




ELECTRICAL CHARACTERISTICS

| Device | $V_{RWM}$ (V) | $I_{R1}$ (uA) @ $V_{RWM}$ | $I_{R2}$ (uA) @$V_R$=3.5V | $V_{BR}$ (V) @ $I_T$ (Note 2) | | $I_T$ | $V_C$ (V) @ $I_{PP}$ =1A (Note 3) | $V_C$ (V) @MAX $I_{PP}$ (Note 3) | $I_{PP}$ (A) (Note 3) | $P_{PK}$ (W) (Note 3) | C (pF) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Max | Max | Max | Min | Max | mA | Max | Max | Max | Max | Max |
| FTV05BAUL2 | 5.0 | 0.5 | 0.3 | 5.6 | 8.0 | 1.0 | 6.0 | 10 | 8 | 80 | 15 |

Other voltage available upon request.

2. $V_{BR}$ is measured with a pulse test current IT at an ambient temperature of 25℃

3. Surge current waveform per Figure 3.

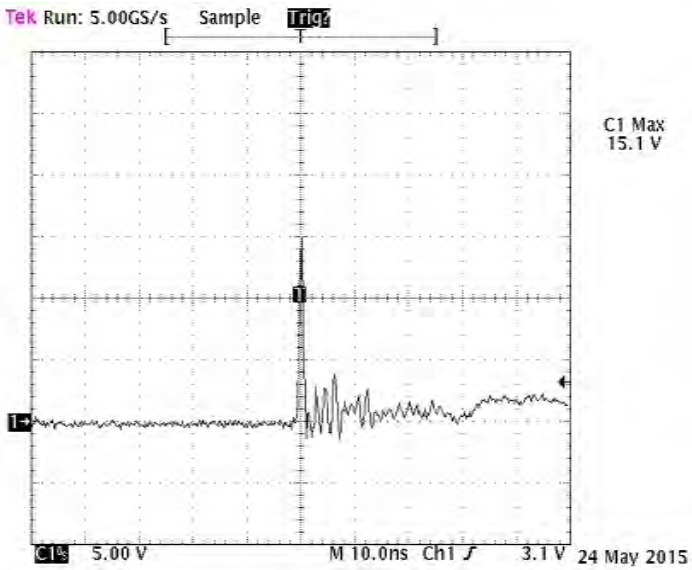



Fig1. ESD Clamping Voltage Screenshot
Positive 8 kV Contact per IEC61000- 4- 2

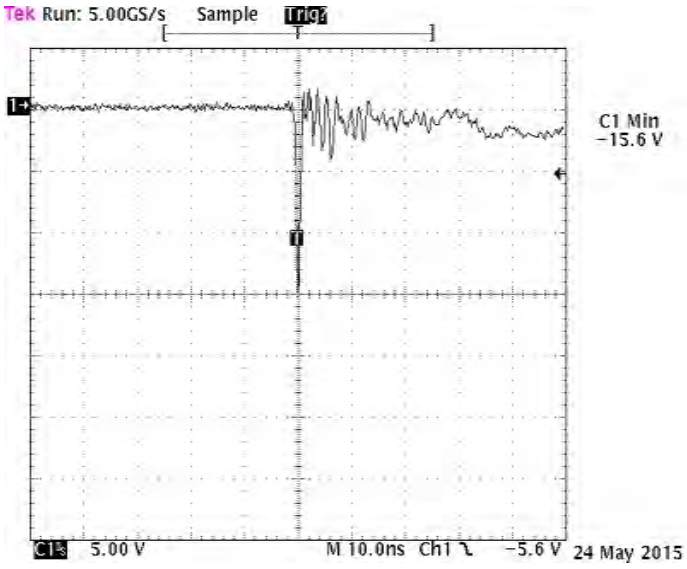



Fig2. ESD Clamping Voltage Screenshot
Negative 8 kV Contact per IEC61000- 4- 2

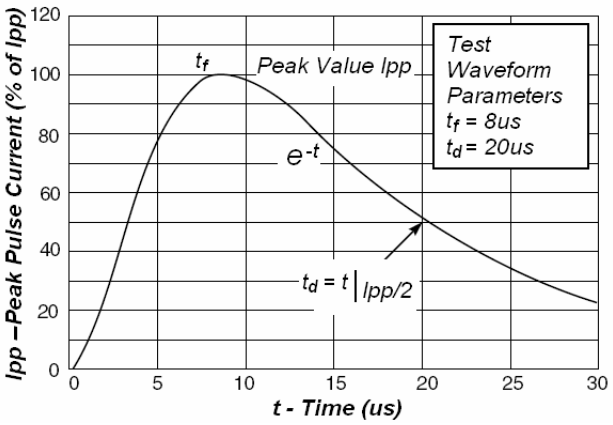
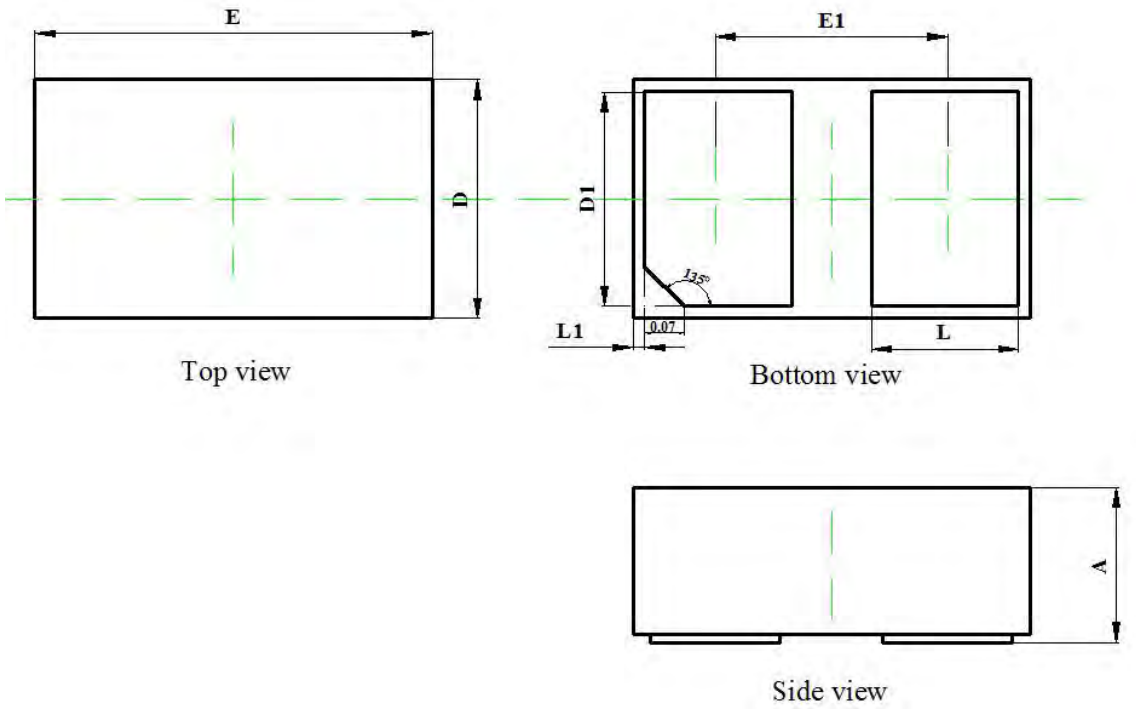



Fig3. Pulse Waveform

## SOD-882 / ULP-2 Package Outline Drawing

### SOD-882 / ULP-2 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 |