## Desicription

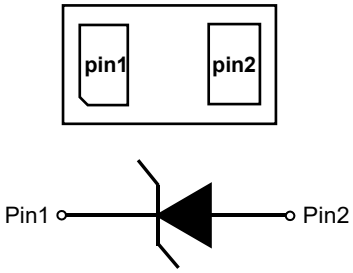
◆ This low-power TVS （Transient Voltage Suppressor)is mainly used for signal and power supply to protect the back-stage circuit from ESD(Electrostatic Discharge) and EFT(Electrical Fast Transients) and improve the reliability of the product, because its extremely small package is suitable for various portable devices and mobile electronic devices.



**DFN1006-2L(SOD882)**

## Features

◆ IEC61000-4-2(ESD):±30KV Max Air
±30KV Max Contact
◆ IEC61000-4-4(EFT):40A(5/50ns)
◆ IEC61000-4-5(Surge): 40A(8/20us)
◆ Line capacitance:80pF(typical)@1MHz
◆ Very low reverse current:$I_R$< 0.3uA(typical)
◆ Halogen free ,Lead free and RoHs




**Circuit Diagram**

## Application

◆ Cellular phones
◆ Portable devices
◆ Digital cameras
◆ Player
◆ Smart home
◆ Robot

## Order information

| Model | Marking | Package | shipping |
|---|---|---|---|
| **ESD6V3D800TR** | | **DFN1006-2L** | **10000/Tape&Reel** |

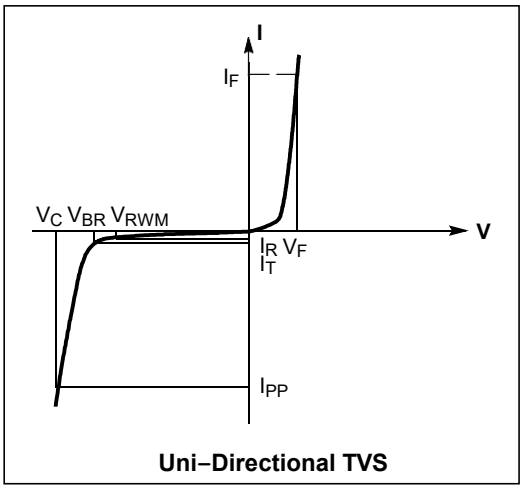
## Electrical characteristic(T=25℃，unless otherwise specified)

| Parameter | Symbol | Conditions | Min. | TYP. | Max. | Units |
|---|---|---|---|---|---|---|
| Reverse stand-off voltage | $V_{RWM}$ | | | | 6.3 | V |
| Reverse leakage current | $I_R$ Pin1~Pin2 | $V_{RWM}$=6.3V | | | 0.3 | uA |
| Reveres breakdown voltage | $V_{BR}$ Pin1~Pin2 | $I_T$=1mA | 6.5 | | | V |
| Peak pulse current | $I_{PP}$ | Vc Max (8/20us) | 35.0 | 40.0 | | A |
| Clamping voltage | $V_C$ Pin1~Pin2 | $I_{PP}$=20A(8/20us) | | | 8.5 | V |
| | | $I_{pp}$= 40A(8/20us) | | 9.5 | 9.8 | V |
| Junction capacitance | $C_J$ | $V_R$=0V f=1MHz | | 80.0 | 150.0 | pF |

## Electrical characteristic(T=25℃，unless otherwise specified)

### Electrical performance curve

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

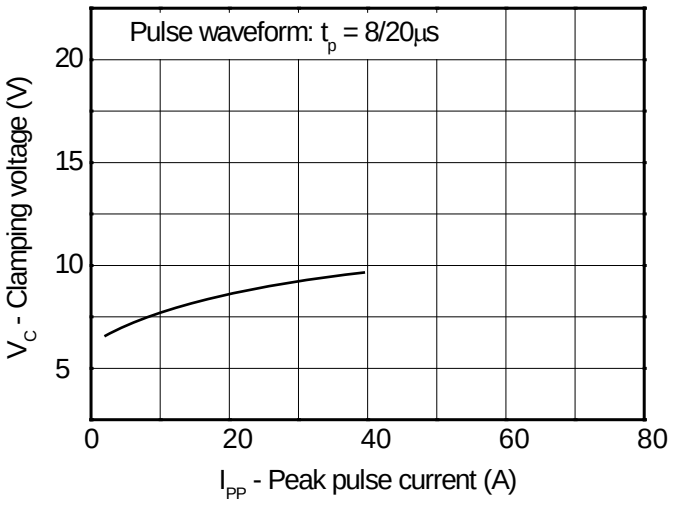


Uni–Directional TVS

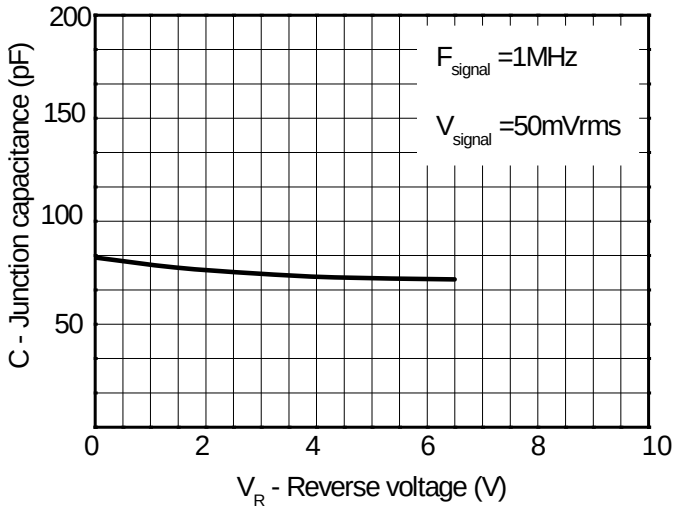
## Maximum Rating

| Rating | symbol | value | Units |
|---|---|---|---|
| Peak Pulse Current(tp=8/20us) | $I_{PP}$ | 40.0 | A |
| ESD per IEC61000-4-2(Contact) | $V_{ESD}$ | ±30 | KV |
| ESD per IEC61000-4-2(Air) | | ±30 | |
| Operating Temperature | $T_J$ | -40~125 | ℃ |
| Storage Temperature | $T_{STG}$ | -55~155 | ℃ |

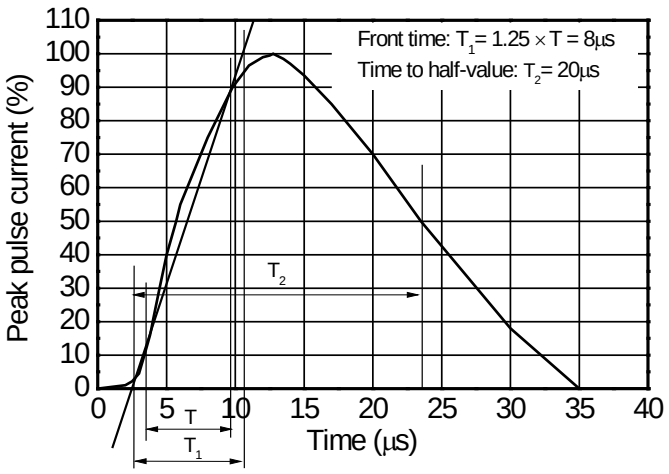
## Typical characteristic



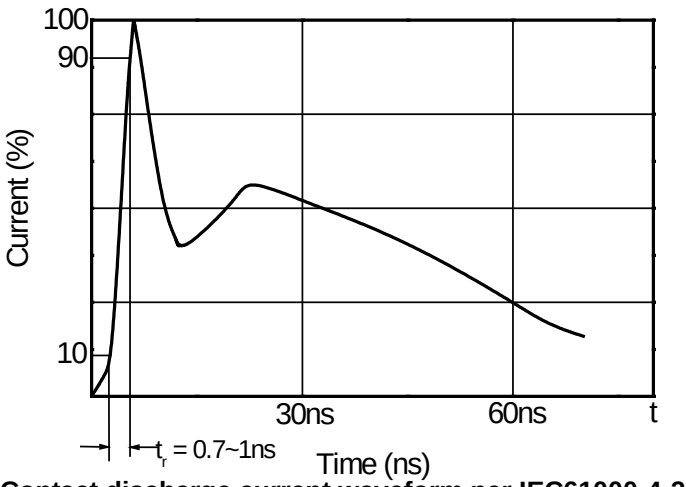

**Clamping voltage vs. Peak pulse current**



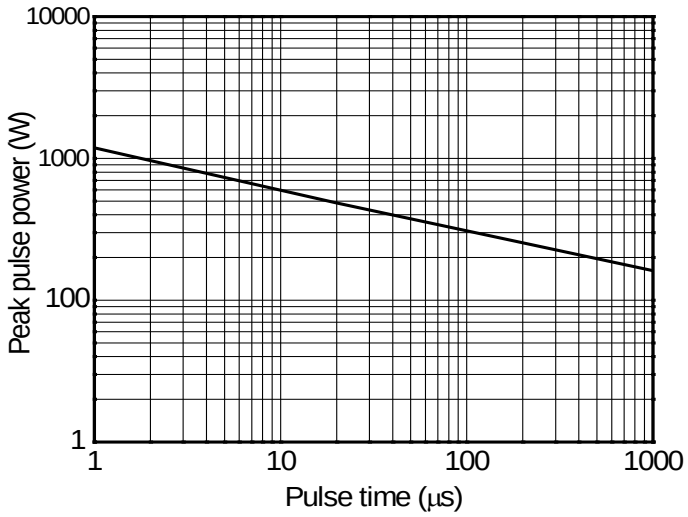

**Capacitance vs. Reveres voltage**



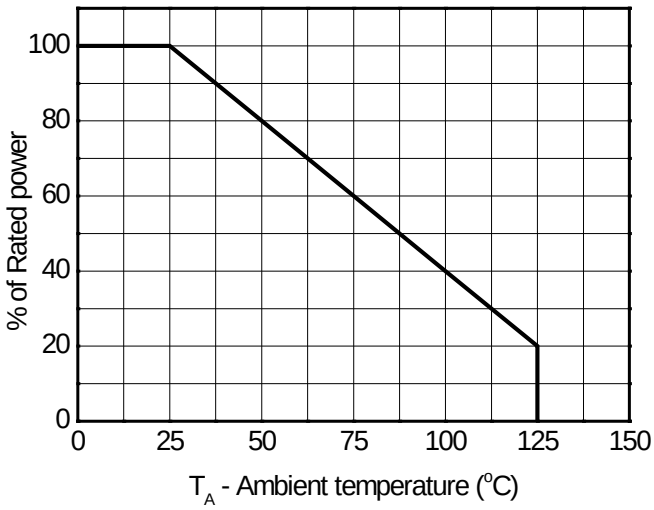

**8/20μs waveform per IEC61000-4-5**




**Contact discharge current waveform per IEC61000-4-2**



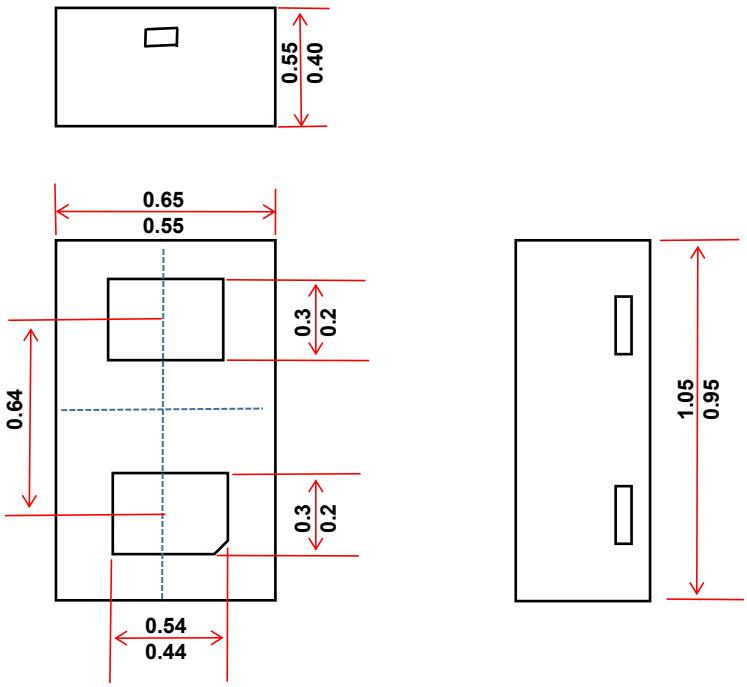

**Non-repetitive peak pulse power vs. Pulse time**




**Power derating vs. Ambient temperature**

## Dimension outline Unit:mm

DFN1006-2L(SOD882)




## Recommened Mounting Pad Layout Unit:mm

