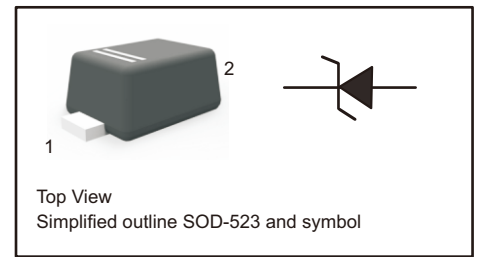




Transient Voltage Suppressors for ESD Protection

General Description

The ESD6V0D5 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.



Features

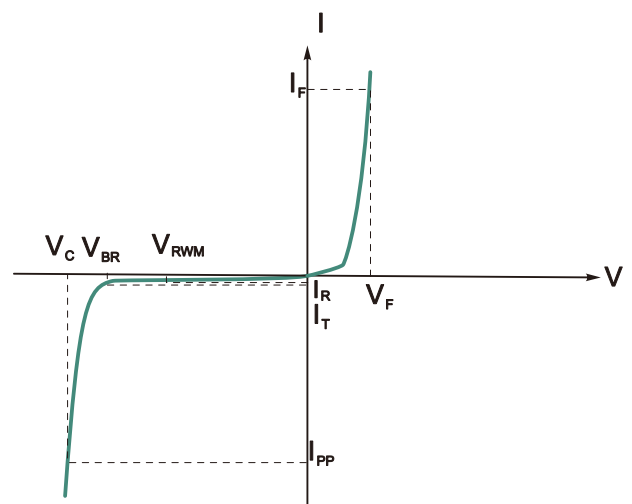
- 181 Watts peak pulse power ($t_p = 8/20\mu s$)
- Uni-directional ESD protection of one line
- IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- Suitable replacement for MLV's in ESD protection applications
- Working voltages: 6.0V
- Low leakage current
- Low clamping voltage

APPLICATIONS

- Computers and peripherals
- Audio and video equipment
- Cellular handsets and accessories
- Portable electronics
- Other electronics equipments communication systems

Electronics Parameter

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





Absolute Ratings
(Tamb=25°C)

| Parameter | Symbol | Value | Unit |
|--|------------------|-------------|------|
| IEC 61000-4-2 ESD Voltage Air Model | V _{ESD} | ±30 | KV |
| IEC 61000-4-2 ESD Voltage Contact Model | | ±30 | |
| Peak Pulse Power(tp=8/20us) | P _{PK} | 181 | W |
| Peak Pulse Current(tp=8/20us) | I _{PP} | 8.8 | A |
| Maximum junction temperature | T _J | -55 to +150 | °C |
| Storage Temperature | T _{STG} | -55 to +150 | °C |

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter | Symbol | Conditions | Min | Typ | Max | Units |
|---------------------------|--------|---------------------------------|-----|-----|------|-------|
| Reverse stand-off voltage | VRWM | | | | 6.0 | V |
| Reverse Breakdown Voltage | VBR | IT=1mA | 6.8 | | | V |
| Reverse Leakage Current | IR | VR=VRWM | | | 0.01 | uA |
| Clamping Voltage | VC | I _{PP} =5A,tp=8/20us | | | 12.4 | V |
| Clamping Voltage | VC | I _{PP} =8.8A,tp=8/20us | | | 20.5 | V |
| Junction Capacitance | Cj | VR=0V,f=1MHz | | 70 | | pF |



Fig.1 8 X 20us Pulse Waveform

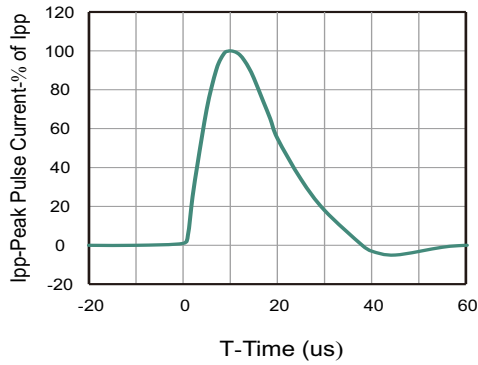


Fig.2 Power Derating Curve

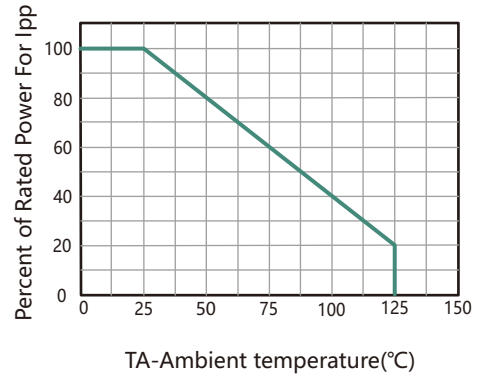
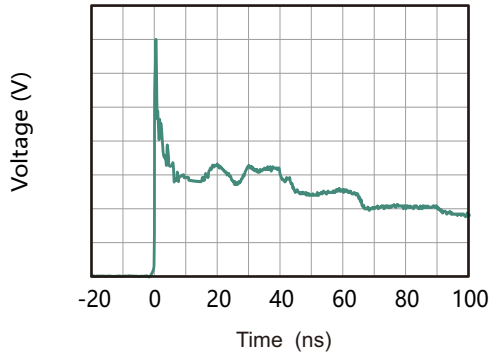


Fig.3 Contact discharge current waveform per IEC6100-4-2

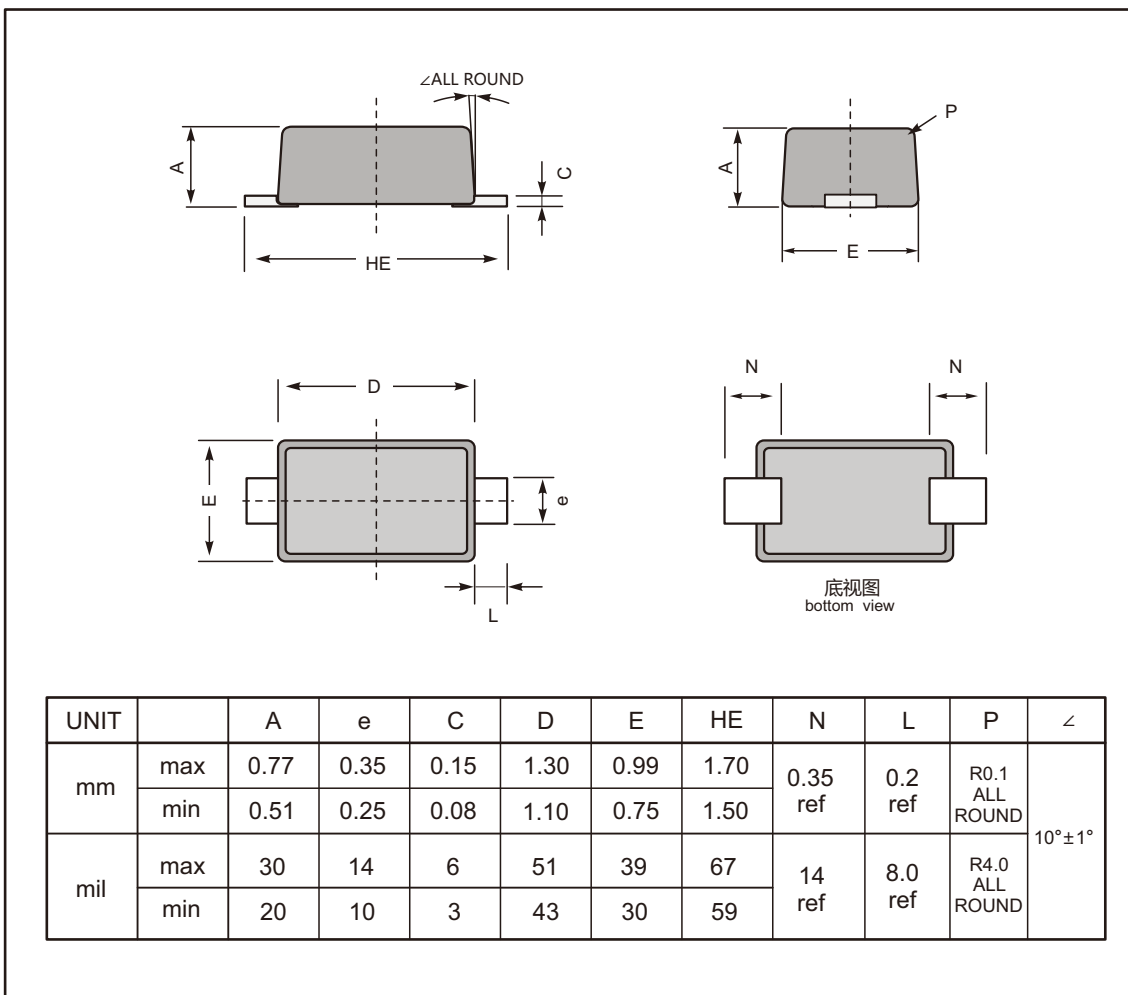




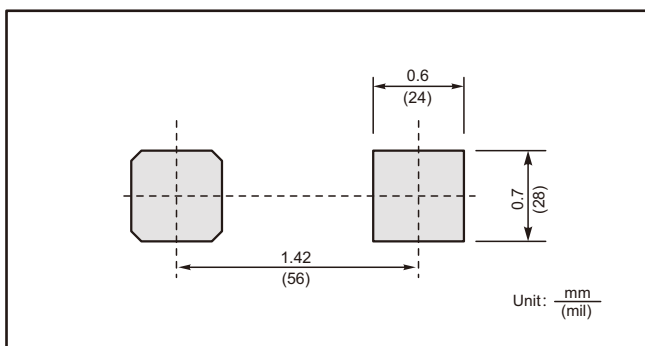
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-523



The recommended mounting pad size



Marking

| Type number | Marking code |
|-------------|--------------|
| ESD6V0D5 | F0 |



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