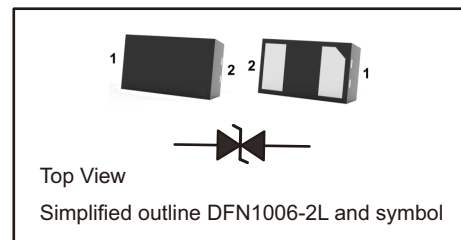


Transient Voltage Suppressors for ESD Protection

FEATURES

- Stand-off voltage: 18.0V Max.
- Transient protection for each line according to
IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact) $\pm 30\text{kV}$ (air)
IEC61000-4-5(Lightning): 7A (8/20 μs)
- Low leakage current



Applications

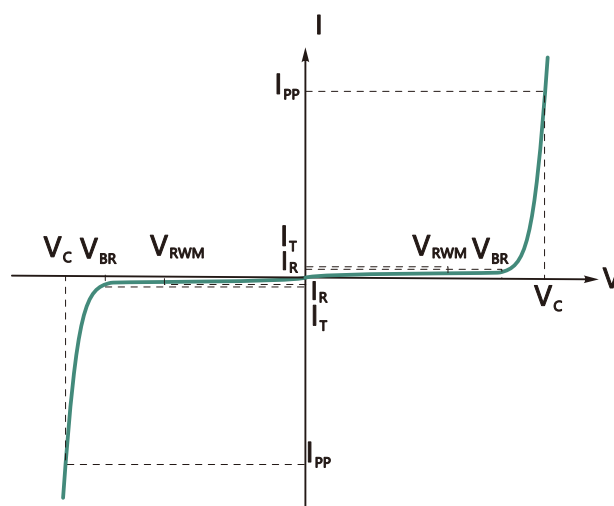
- Computers and peripherals;
- Audio and video equipment;
- Communication systems;
- Portable electronics.

General Description

The ESDB18V0DS2A is designed to protect voltage sensitive components that require ultra-low capacitance 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 low capacitance, it is suited for use in high frequency designs such as USB 2.0 high speed and antenna line applications

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 |





MAXIMUM RATINGS(Ta=25°C unless otherwise noted)

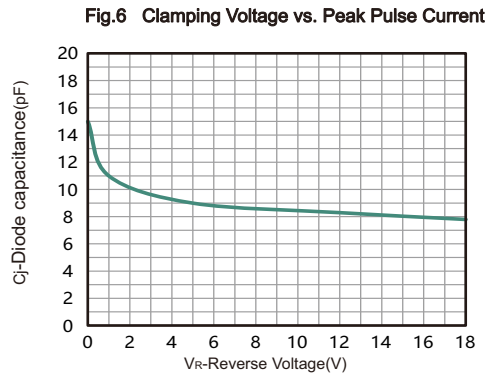
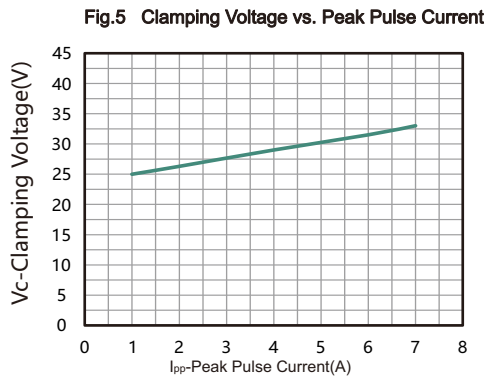
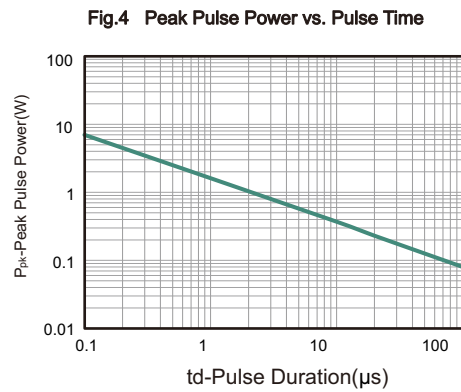
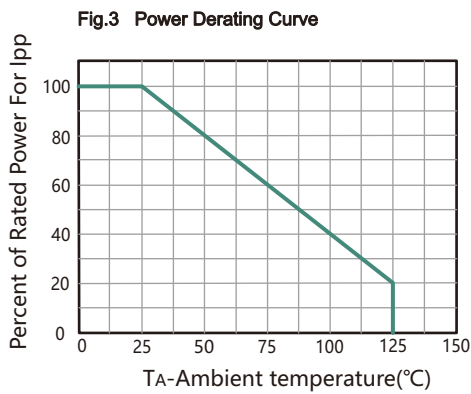
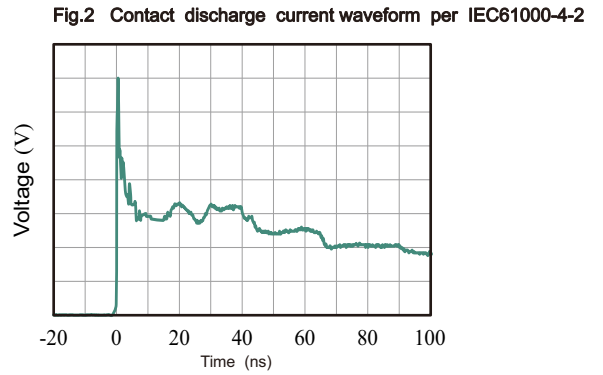
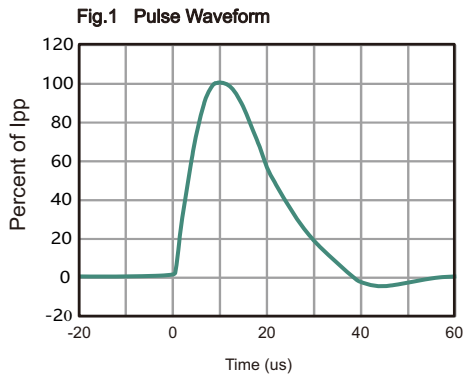
| Parameter | Symbol | Value | Unit |
|--------------------------------|--------|----------|------|
| Peak Pulse Power (8/20μS) | Ppk | 230 | W |
| Peak Pulse Current | Ipp | 7 | A |
| ESD per IEC 61000-4-2(Air) | VESD | ±30 | KV |
| ESD per IEC 61000-4-2(Contact) | | ±30 | |
| Operating Temperature Range | TJ | -55~+125 | °C |
| Storage Temperature Range | Tstg | -55~+150 | °C |

ELECTRICAL CHARACTERISTICS(Ta=25°C unless otherwise noted)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---------------------------|--------|-------------------|------|------|------|------|
| Reverse Stand-off Voltage | VRWM | | | | 18 | V |
| Breakdown Voltage | VBR | IT=1mA | 20.5 | 22.4 | 24.5 | V |
| Reverse Leakage Current | IR | V=VRWM, Ta=25°C | | | 0.3 | μA |
| Clamping Voltage | VC | IPP=1A, tp=8/20μs | | 25.0 | 27.0 | V |
| | | IPP=7A, tp=8/20μs | | 33.0 | 35.0 | |
| Junction Capacitance | Cj | VR=0V, f=1MHz | | 15 | 25 | pF |

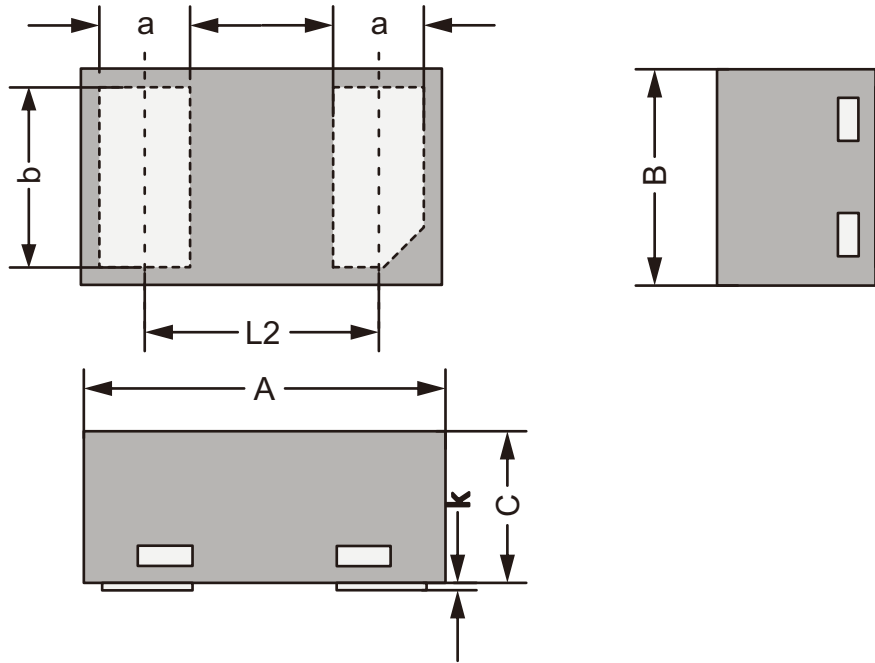


Typical Characteristics





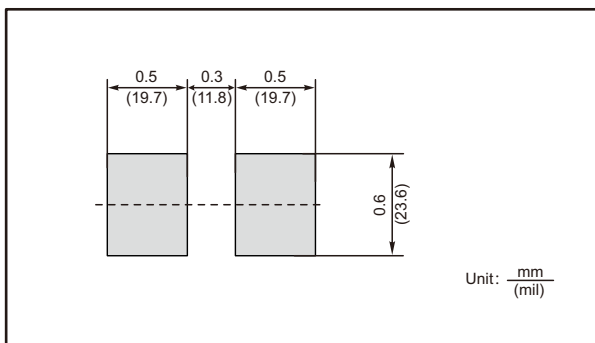
DFN1006-2L Package Outline Dimensions



DFN1006-2L mechanical data

| UNIT | | A | B | C | L2 | a | b | k |
|------|-----|-------|-------|-------|--------------|-------|-------|-------|
| mm | max | 1.05 | 0.65 | 0.55 | 0.65 REF | 0.29 | 0.54 | 0.03 |
| | min | 0.95 | 0.55 | 0.45 | | 0.21 | 0.46 | 0.00 |
| mil | max | 41.34 | 25.59 | 21.65 | 25.59 REF | 11.42 | 21.26 | 55.12 |
| | min | 37.40 | 21.65 | 17.72 | | 8.27 | 18.11 | 1.18 |

The recommended mounting pad size



Marking

| Type number | Marking code |
|--------------|--------------|
| ESDB18V0DS2A | 18H |



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