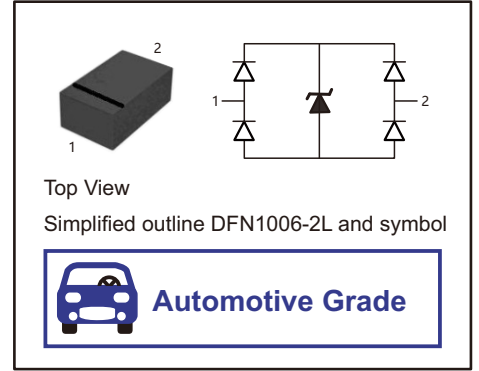




Transient Voltage Suppressors for ESD Protection

General Description

The AT-ESDZULC5V0DS2A is designed to protect voltage sensitive components that require ultra-low capacitance from ESD and transient voltage events. Excellent clamping capability, low capacitance, 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



FEATURES

- Stand-off voltage: 5V Max.
- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 20\text{kV}$ (contact) $\pm 20\text{kV}$ (air)
- Ultra-low capacitance: $C_J = 0.2\text{pF}$ typ.
- Low leakage current
- Qualified to AEC-Q101 Standards for High Reliability

Applications

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

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

| Parameter | Symbol | Value | Unit |
|---------------------------------|------------------|----------|------|
| Peak Pulse Power (8/20 μ S) | P _{PK} | 56 | W |
| Peak Pulse Current | I _{pp} | 4 | A |
| ESD per IEC 61000-4-2(Air) | V _{ESD} | ± 20 | KV |
| ESD per IEC 61000-4-2(Contact) | | ± 20 | |
| Operating Temperature Range | T _J | 125 | °C |
| Storage Temperature Range | T _{stg} | -55~+150 | °C |



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

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|----------------------------------|-----------|----------------------------|-----|-----|-----|------|
| Reverse Stand-off Voltage | V_{RWM} | | | | 5 | V |
| Breakdown Voltage ⁽¹⁾ | V_{BR} | $I_T=1mA$ | 6 | | | V |
| Reverse Leakage Current | I_R | $V_{RWM}=5V$ | | | 100 | nA |
| Clamping Voltage ⁽²⁾ | V_{CL} | $I_{PP}=1A, t_p=8/20\mu s$ | | | 10 | V |
| | | $I_{PP}=4A, t_p=8/20\mu s$ | | | 14 | V |
| Junction Capacitance | C_J | $V_R=0V, f=1MHz$ | | 0.2 | 0.4 | pF |

Fig 1.Clamping voltage vs.Peak pulse current

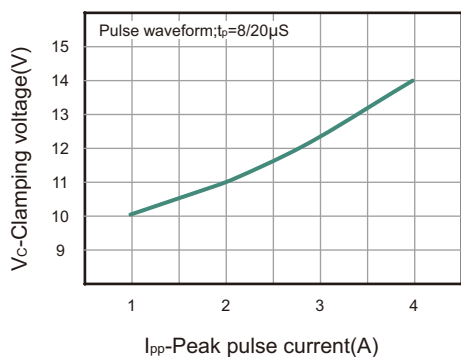
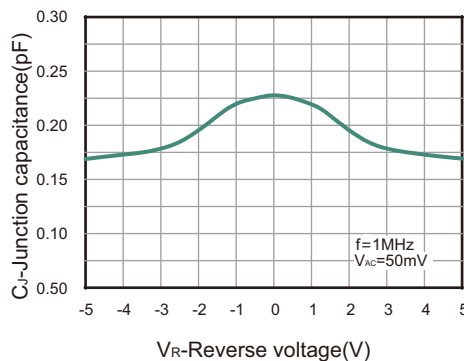
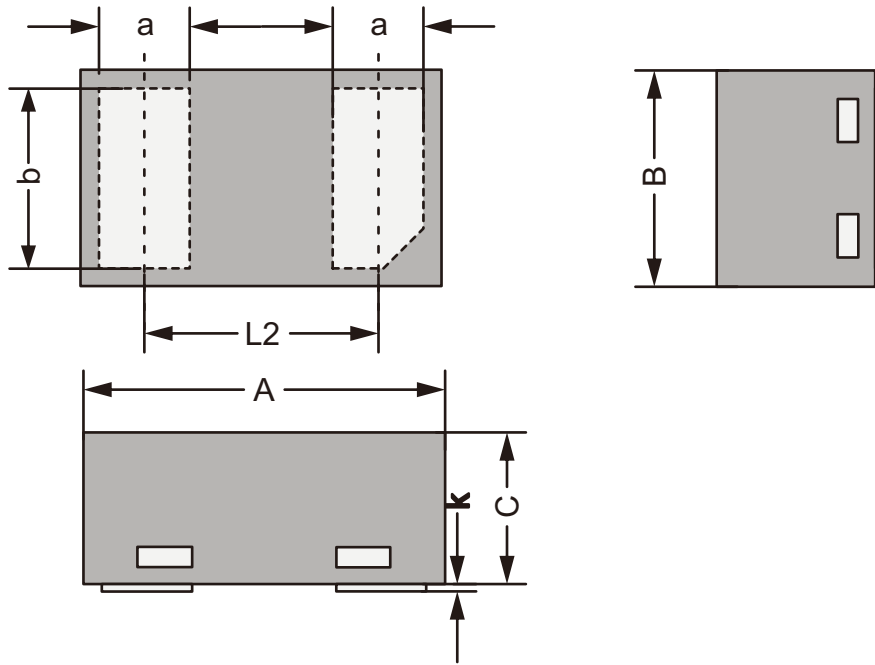


Fig 2.Capacitance vs.Reverse voltage





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 |

Marking

| Type number | Marking code |
|-------------------|--------------|
| AT-ESDZULC5V0DS2A | Q5U |



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