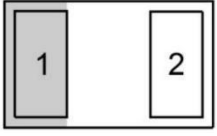
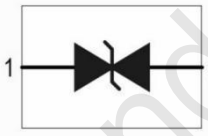




1-Line Bidirectional ESD Protection Diode

DFN1006-2L

schematic & pin configuration

| simplified outline | Graphic symbol |
|---|--|
|  |  |

General description

Low capacitance bidirectional Electrostatic Discharge (ESD) protection diode in a DFN1006(SOD882) leadless ultra small surface-Mounted Device (SMD) plastic package designed to protect one signal line from the damage caused by ESD and other transients.

Features and benefits

- Bidirectional ESD Protection of one line
- Femtofarad capacitance: $c_j = 65\text{PF}$ (TYP)
- Low clamping voltage $V_c = 9.0\text{V}@30\text{A}$ (TYP)
- Low leakage current: nA Level
- ESD Protection up to 30 kv
- IEC 61000-4-2; level 4 (ESD)
- IEC 61000-4-5 (surge); $I_{ppM} = 30\text{A}$

Application information

- portable electronics
- computers and peripherals
- Audio and video equipment
- cellular handsets and accessories
- communication systems
- power supplies

ordering information

| Device | package | packaging |
|-----------|------------|-------------------|
| ESD8B5.0C | DFN1006-2L | 10000/Tape & Reel |

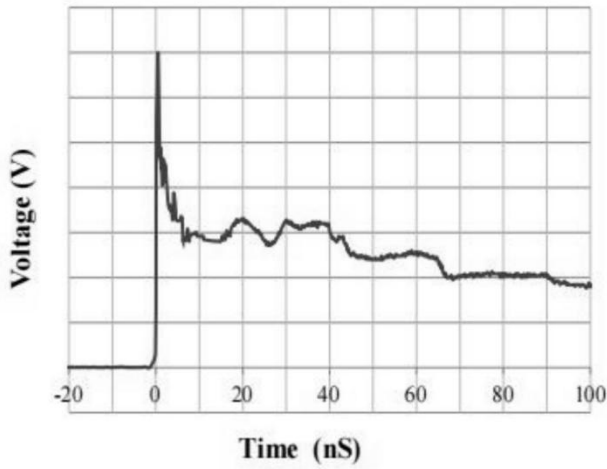
Maximum Ratings (TA = 25 °c, unless otherwise specified)

| parameter | symbol | value | unit |
|---|-----------------|--------------|------|
| peak pulse power (TP = 8/20 μ s) | PPPM | 300 | W |
| Rated peak pulse current (TP = 8/20 μ s) | I PPM | 30 | A |
| Maximum lead temperature for soldering during 10s | TL | 260 | . c |
| storage Temperature Range | Tstg | -55 to + 150 | °C |
| operating Temperature Range | T _{OP} | -40 to + 125 | °C |
| ESD Voltage IEC 61000-4-2 (air discharge) | VESD | 30 | kv |
| ESD Voltage IEC 61000-4-2 ocontact discharge) | VESD | 30 | kv |

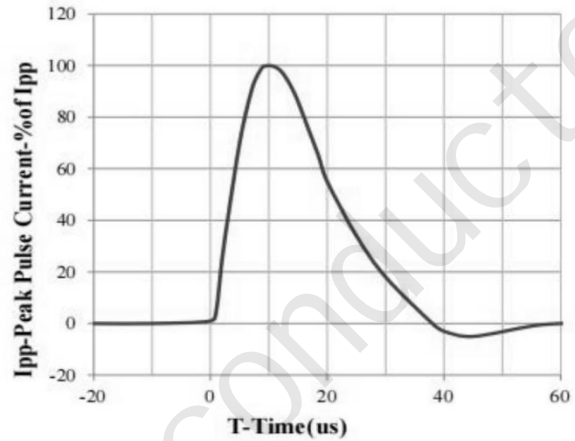
Electrical characteristics (TA = 25 C, unless otherwise specified)

| parameter | sympo | Min | TYP | Max | unit | condition |
|-------------------------|----------------|-----|-----|-----|------|----------------------------------|
| Reverse working voltage | VRWM | -- | -- | 5.0 | V | |
| Breakdown voltage | VBR | 5.6 | -- | 7.0 | V | IT= 1mA |
| Leakage current Leak | IR | -- | -- | 100 | nA | VRWM=5V |
| clamping voltage | V _C | -- | 6.5 | 7.0 | V | I _{pp} = 10A, TP=8/20μS |
| clamping voltage | V _C | -- | 9 | 10 | V | I _{pp} =30A, TP=8/20μS |
| Junction capacitance | C _J | -- | 65 | 80 | PF | VR=0V, f= 1MHz |

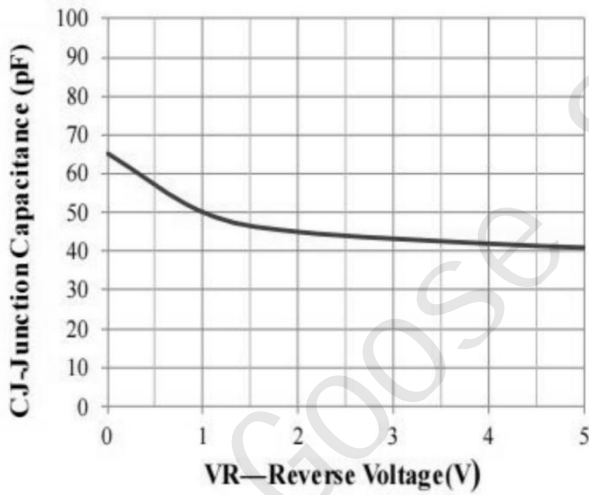
Typical performance characteristics (TA=25. c unless otherwise specified)



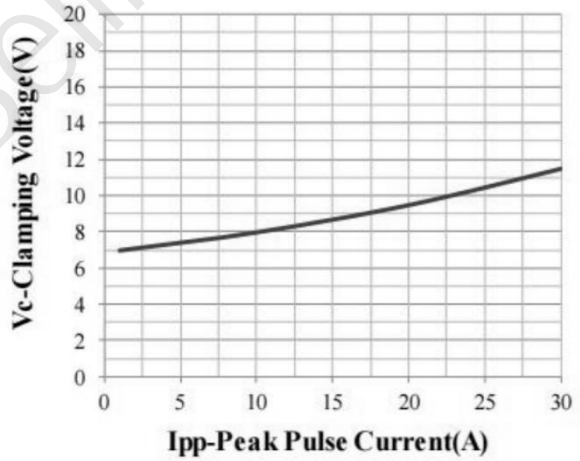
IEC61000-4-2 pulse waveform



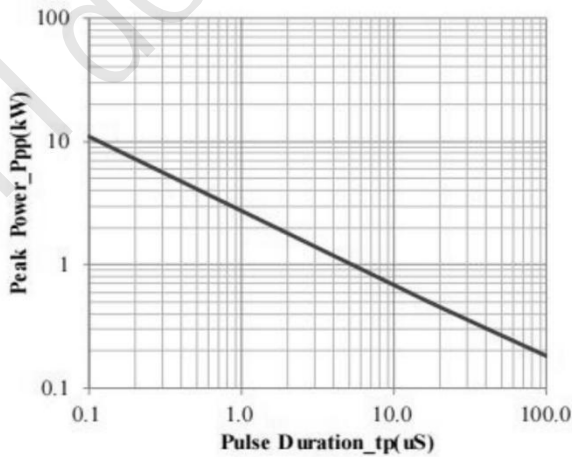
8 X 20us pulse waveform



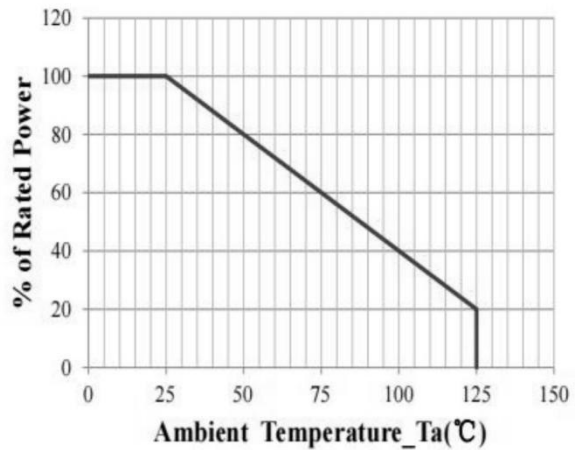
Junction capacitance vs. Reverse voltage



clamping voltage Vs. peak pulse current



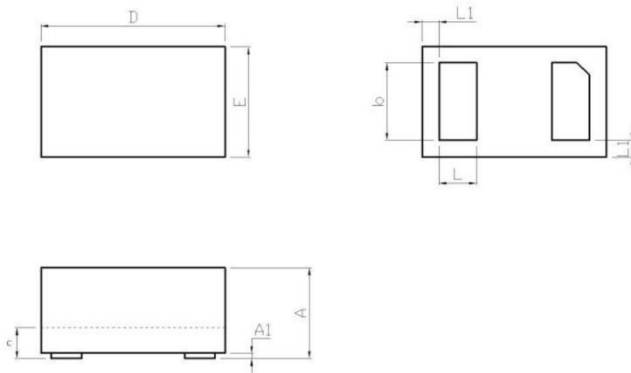
peak pulse power Vs. pulse Time



power Derating curve

package outline Dimensions

DFN1006-2L



| DFN1006-2L (mm) | | |
|-----------------|-------|-------|
| Dim | Min | Max |
| A | 0.35 | 0.55 |
| A1 | 0 | 0.05 |
| b | 0.40 | 0.60 |
| D | 0.95 | 1.08 |
| E | 0.55 | 0.68 |
| L | 0.20 | 0.30 |
| L1 | 0.035 | 0.065 |

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