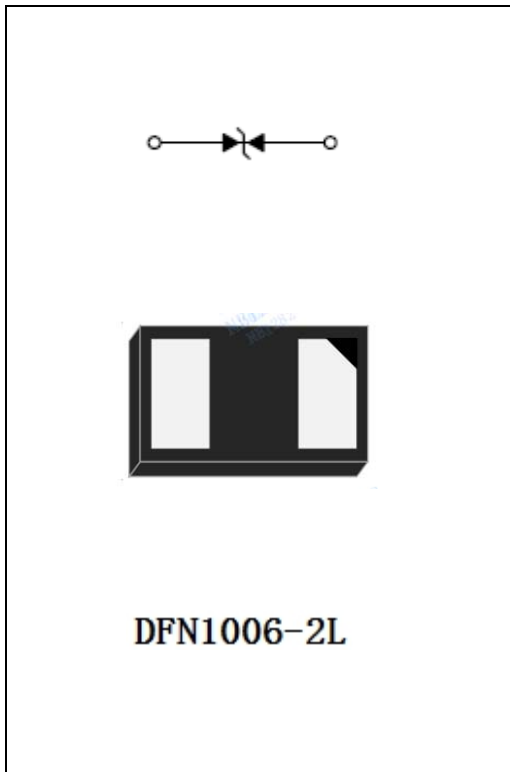


1- Line, Bi-directional, Ultra-low Capacitance Transient Voltage Suppressor



Features

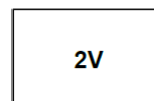
- Stand-off voltage: 5V Max
- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 25\text{kV}$ (contact)
IEC61000-4-5(surge): 5A (8/20 μs)
- Low leakage current:
- Ultra low clamping voltage
- RoHS Compliant

Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Digital Visual Interface (DVI)
- PCI Express and Serial SATA Ports

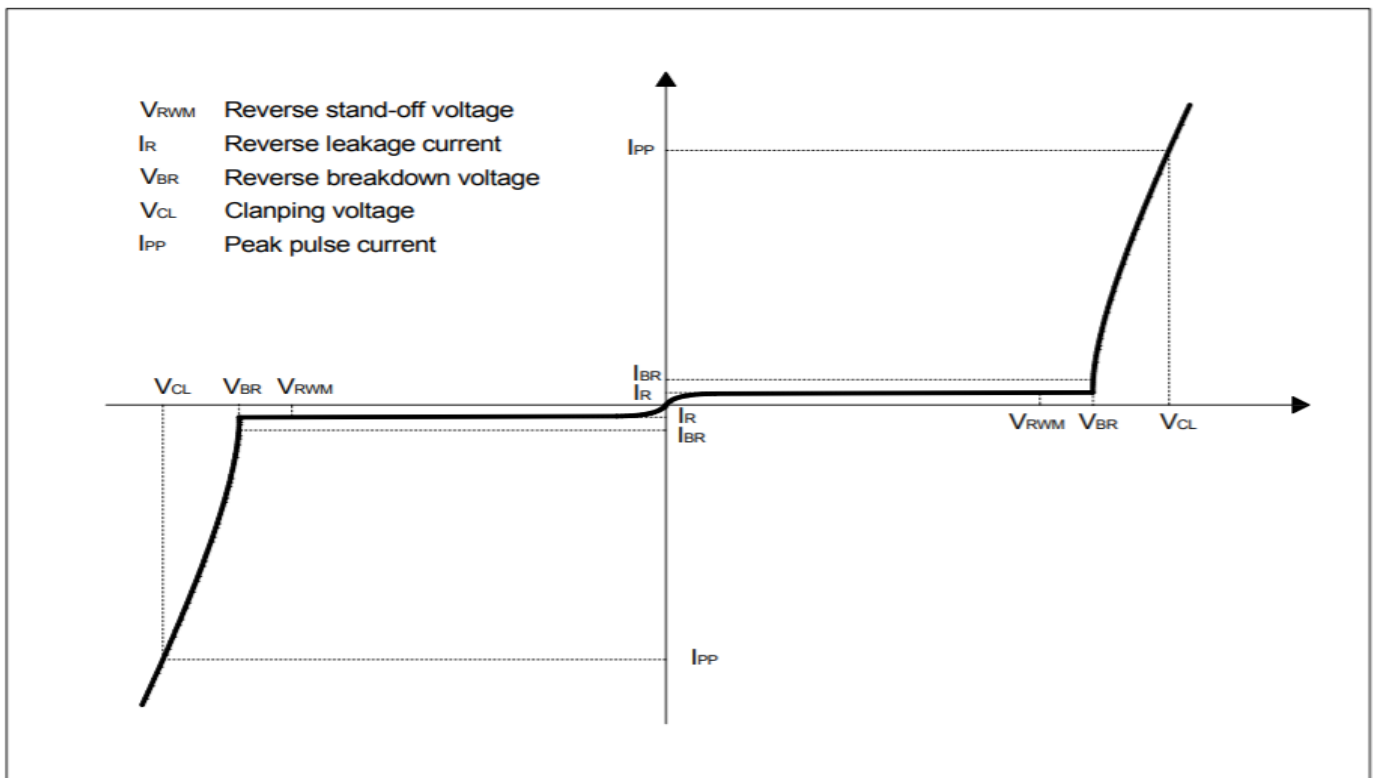
Mechanical Data

- **Package:** DFN1006-2L
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end
- **Marking:**



2V = Device Marking Code

■ Definitions of electrical characteristics





ESDSLC5V0LBA1

■Maximum Ratings

| PARAMETER | SYMBOL | Rating | UNIT |
|---|-----------|----------|-------------|
| Peak pulse power ($t_p = 8/20\mu s$) | P_{pk} | 80 | W |
| Peak pulse current ($t_p = 8/20\mu s$) | I_{pp} | 5 | A |
| ESD according to IEC61000-4-2 air discharge | V_{ESD} | ± 25 | KV |
| ESD according to IEC61000-4-2 contact discharge | | ± 25 | KV |
| Operating temperature | T_J | -55~125 | $^{\circ}C$ |
| Storage temperature | T_{STG} | -55~150 | $^{\circ}C$ |

■Electrical Characteristics ($T_a=25^{\circ}C$ Unless otherwise specified)

| PARAMETER | Symbol | UNIT | Conditions | Min | Typ | Max |
|---------------------------------|-----------|---------|--------------------------------|-----|-----|-----|
| Reverse maximum working voltage | V_{RWM} | V | | | | 5 |
| Reverse breakdown voltage | V_{BR} | V | $I_{BR} = 1mA$ | 6 | | |
| Reverse leakage current | I_R | μA | $V_{RWM} = 5V$ | | | 0.2 |
| Clamping voltage ³⁾ | V_{CL} | V | $I_{PP} = 1A, t_p = 8/20\mu s$ | | 9 | 10 |
| | | V | $I_{PP} = 5A, t_p = 8/20\mu s$ | | 13 | 16 |
| Junction capacitance | C_J | pF | $V_R = 0V, f = 1MHz$ | | 0.3 | |

(1). TLP parameter: $Z_0 = 50\Omega$, $t_p = 100ns$, $t_r = 2ns$, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.

(2). Contact discharge mode, according to IEC61000-4-2.

(3). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

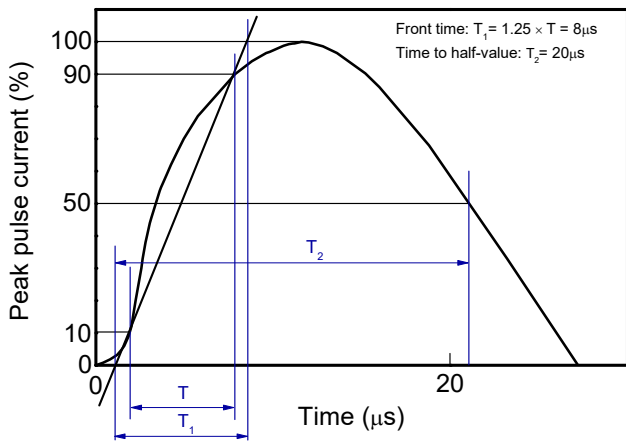
| PREFERED P/N | UNIT WEIGHT(mg) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|-----------------|----------------------|-------------------------|----------------------------|---------------|
| ESDSLC5V0LBA1 | Approximate 0.9 | 10000 | 100000 | 400000 | 7 Tape & reel |



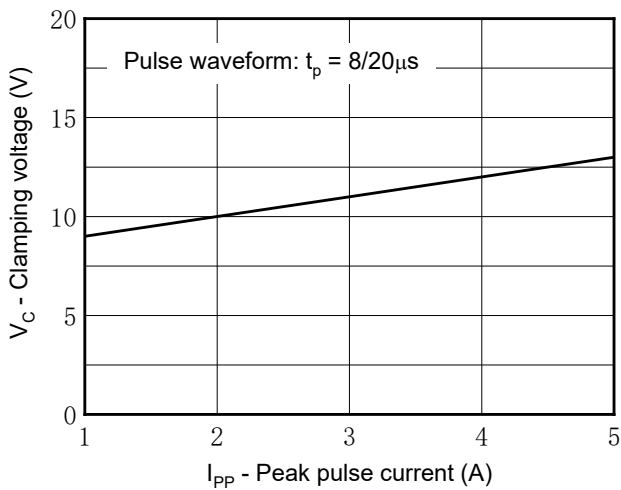
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■ Characteristics (Typical)

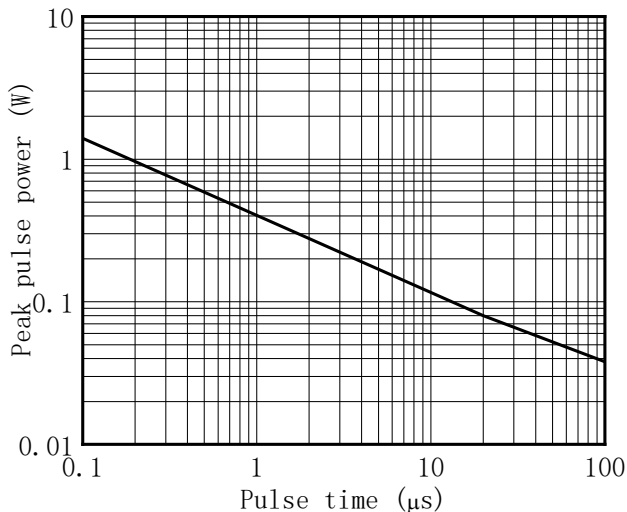
8/20 μ s waveform per IEC61000-4-5



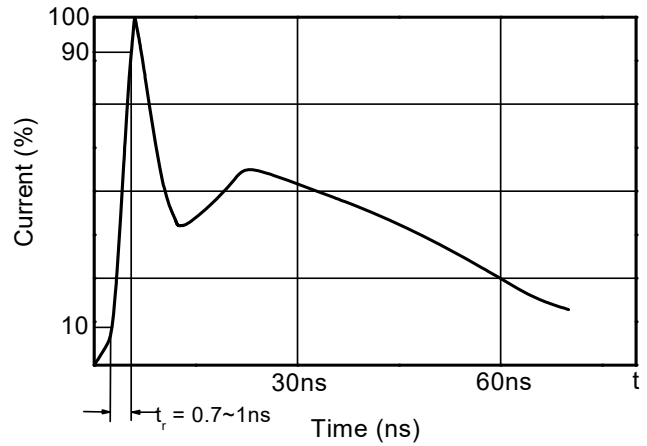
Clamping voltage vs. Peak pulse current



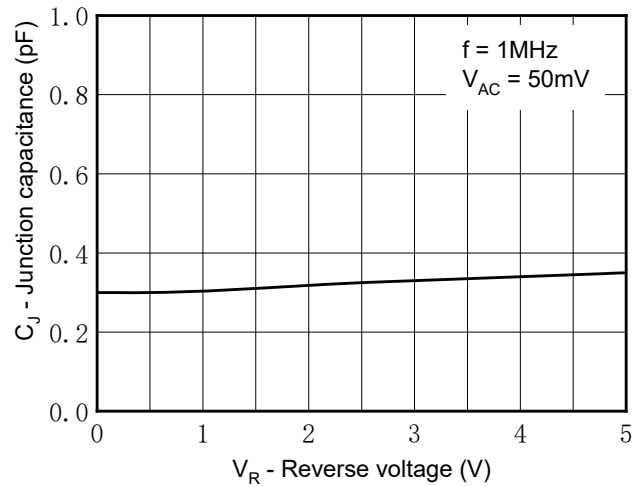
Non-repetitive peak pulse power vs. Pulse time



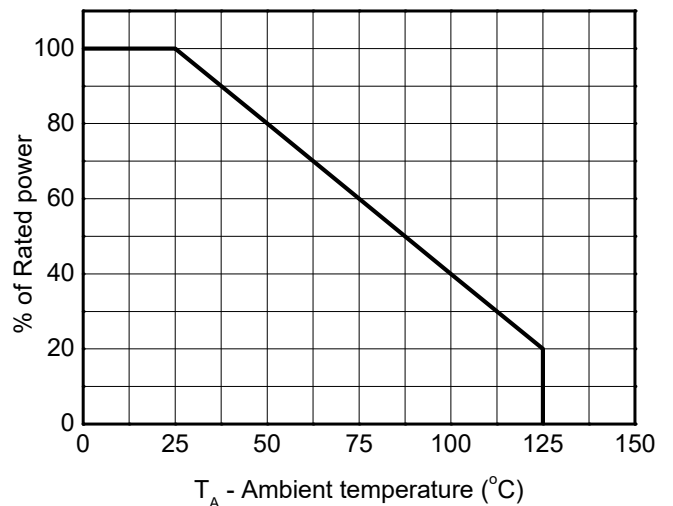
Contact discharge current waveform per IEC61000-4-2



Capacitance vs. Reverse voltage



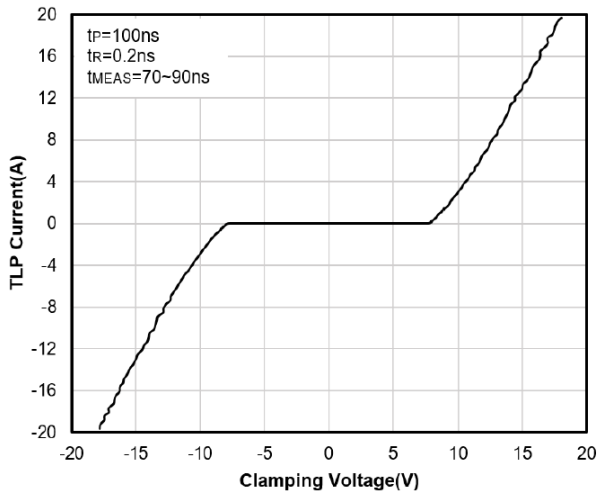
Power derating vs. Ambient temperature



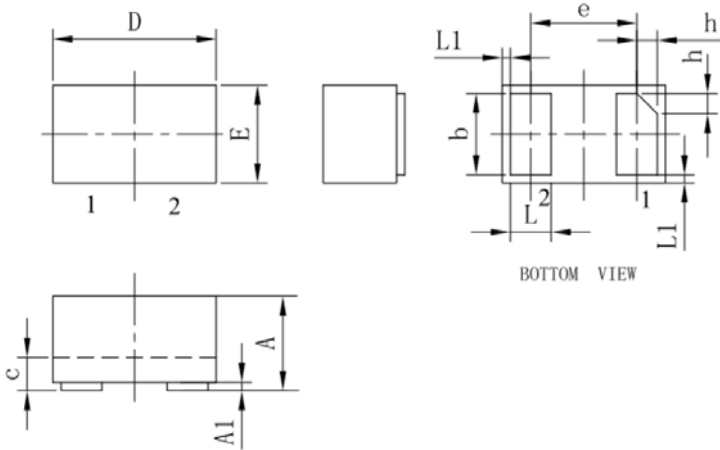


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TLP Measurement

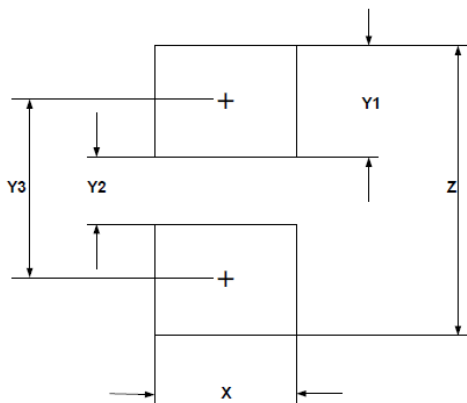


Outline Dimensions



| SYM | DIMENSIONS | | | | | |
|-----|-------------|------|------|-----------|-------|-------|
| | MILLIMETERS | | | INCHES | | |
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.45 | 0.50 | 0.55 | 0.018 | 0.020 | 0.022 |
| A1 | 0.00 | 0.02 | 0.05 | 0.000 | 0.001 | 0.002 |
| b | 0.45 | 0.50 | 0.55 | 0.018 | 0.020 | 0.022 |
| c | 0.12 | 0.15 | 0.18 | 0.005 | 0.006 | 0.007 |
| D | 0.95 | 1.00 | 1.05 | 0.037 | 0.039 | 0.041 |
| e | 0.65 BSC | | | 0.026 BSC | | |
| E | 0.55 | 0.60 | 0.65 | 0.022 | 0.024 | 0.026 |
| L | 0.20 | 0.25 | 0.30 | 0.008 | 0.010 | 0.012 |
| L1 | 0.05REF | | | 0.002REF | | |
| h | 0.07 | 0.12 | 0.17 | 0.003 | 0.005 | 0.007 |

Recommend land pattern (Unit:mm)



| SYM | DIMENSIONS | |
|-----|-------------|--------|
| | MILLIMETERS | INCHES |
| X | 0.60 | 0.024 |
| Y1 | 0.50 | 0.020 |
| Y2 | 0.30 | 0.012 |
| Y3 | 0.80 | 0.032 |
| Z | 1.30 | 0.052 |

Notes:

This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met



ESDSL5V0LBA1

Disclaimer

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