

V_{WM}=5V, 2pF ESD Protection Diode

FEATURES

- Meet IEC61000-4-2(ESD) ±15kV(air) , ±8kV(contact)
- Working Voltage: 5V
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- High Speed Data Lines: USB 2.0 / VGA/ DVI /SDI
- Notebooks, Desktops and Servers
- Touch Panel

MECHANICAL DATA

- Case: DFN1006L
- Molding compound meets UL 94 V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 0.742 mg (approximately)

| KEY PARAMETERS | | |
|--|------------|------|
| PARAMETER | VALUE | UNIT |
| P _{PPSM} | 100 | W |
| I _{PP} | 3 | A |
| V _{WM} | 5 | V |
| V _(BR) at I _R = 1 mA | 6 | V |
| V _C at I _{PP} = 3 A | 15 | V |
| Package | DFN1006L | |
| Configuration | Single die | |



| ABSOLUTE MAXIMUM RATINGS (T _A = 25°C unless otherwise noted) | | | |
|--|-------------------|-------------|------|
| PARAMETER | SYMBOL | TESD5V0L1UC | UNIT |
| Marking code on the device | | BH | |
| Rated random recurring peak Impulse power dissipation (tp=8/20µs waveform) | P _{PPSM} | 100 | W |
| Peak impulse current (tp=8/20µs waveform) | I _{PP} | 3 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | V _{ESD} | ±15 ±8 | kV |
| Junction temperature range | T _J | -55 to +150 | °C |
| Storage temperature range | T _{STG} | -55 to +150 | °C |

| ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | | |
|---|--------------------------------------|---------------|------------|------------|------------|---------------|
| PARAMETER | CONDITIONS | SYMBOL | MIN | TYP | MAX | UNIT |
| Reverse breakdown voltage ⁽¹⁾ | $I_R = 1 \text{ mA}$ | $V_{(BR)}$ | 6 | - | 9.8 | V |
| Rated working standoff voltage | | V_{WM} | - | - | 5 | V |
| Reverse current ⁽¹⁾ | $V_R = 5 \text{ V}$ | I_R | - | - | 0.1 | μA |
| Clamping voltage ⁽²⁾ | $I_{PP} = 1 \text{ A}$ | V_C | - | - | 10 | V |
| Clamping voltage ⁽²⁾ | $I_{PP} = 3 \text{ A}$ | V_C | - | - | 15 | V |
| Junction capacitance | $f = 1 \text{ MHz}, V_R = 0\text{V}$ | C_J | - | - | 2 | pF |

Notes:

1. Pulse test with PW=30 ms
2. $t_p=8/20\mu\text{s}$ waveform

| ORDERING INFORMATION | | |
|-----------------------------|----------------|----------------|
| ORDERING CODE | PACKAGE | PACKING |
| TESD5V0L1UC RJG | DFN1006L | 5K / 7" Reel |

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 8/20 μs pulse waveform according to IEC 61000-4-5

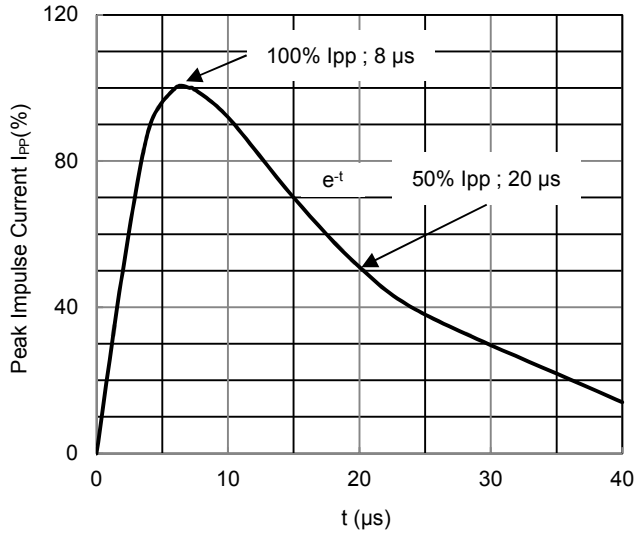


Fig.2 ESD pulse waveform according to IEC 6100-4-2

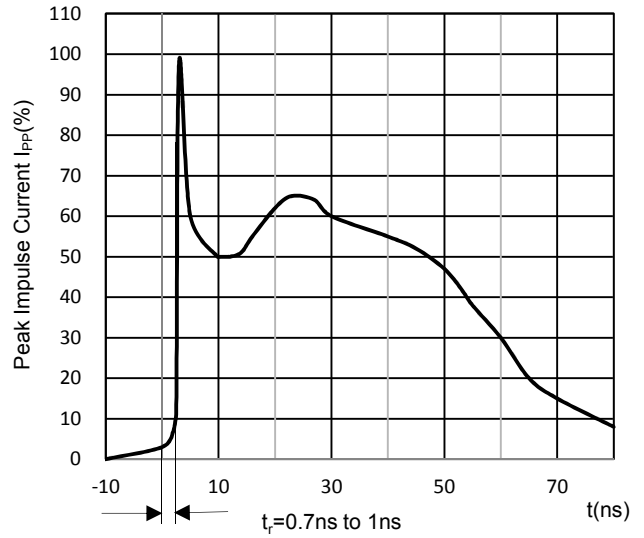


Fig.3 TLP I-V Curve

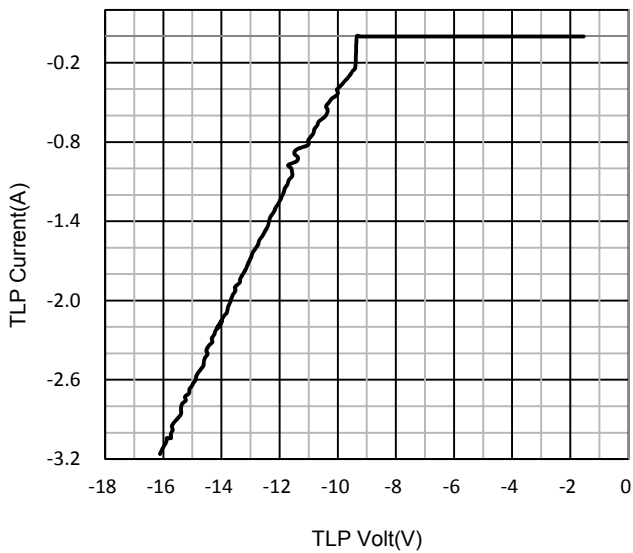
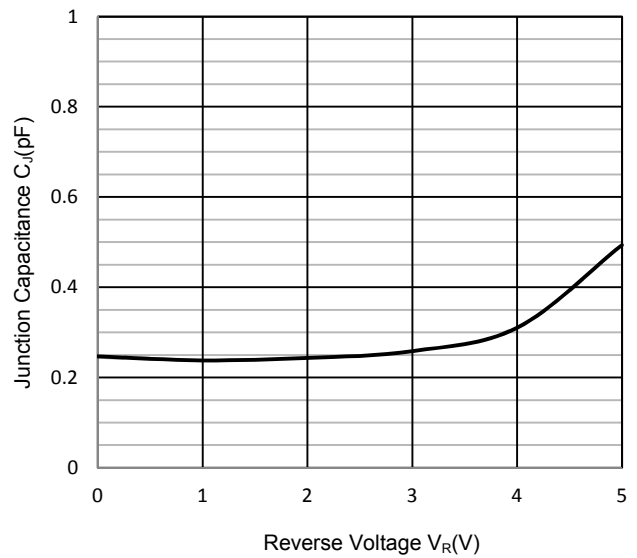
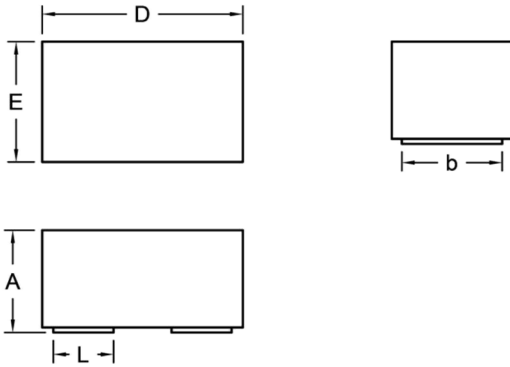


Fig.4 Typical Junction Capacitance



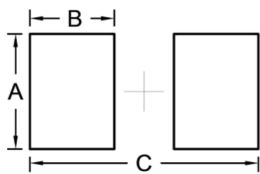
PACKAGE OUTLINE DIMENSION

DFN1006L



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-------------|------|--------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.46 | 0.51 | 0.018 | 0.020 |
| b | 0.50 (TYP.) | | 0.020 (TYP.) | |
| D | 0.95 | 1.05 | 0.037 | 0.041 |
| E | 0.55 | 0.65 | 0.022 | 0.026 |
| L | 0.30 (TYP.) | | 0.012 (TYP.) | |

SUGGESTED PAD LAYOUT



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 0.56 | 0.022 |
| B | 0.41 | 0.016 |
| C | 1.11 | 0.044 |

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