



FEATURES

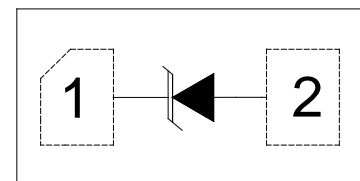
- ✧ Protects one line I/O or power line
- ✧ Low clamping voltage
- ✧ Low leakage current
- ✧ Ultra low capacitance: 25pF(max)
- ✧ RoHS compliant



DFN1006-2L(Bottom view)

MAIN APPLICATIONS

- ✧ USB 2.0 power and data line protection
- ✧ High speed data line
- ✧ Lan equipment
- ✧ Digital visual interface (DVI)
- ✧ Video



Pin Configuration(Top view)

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) ±22kV (air), ±22kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 4A (8/20µs)

MECHANICAL CHARACTERISTICS

- ✧ DFN1006-2L package
- ✧ Molding compound flammability rating : UL 94V-0
- ✧ Quantity per reel : 10,000pcs
- ✧ Lead finish : lead free
- ✧ Marking code: 24

ABSOLUTE MAXIMUM RATINGS (T_A=25°C, RH=45%-75%, unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|------------------|---------------|------|
| Peak pulse power dissipation on 8/20µs waveform | P _{PP} | 100 | W |
| ESD per IEC 61000-4-2 (Air) | V _{ESD} | +/- 22 | kV |
| ESD per IEC 61000-4-2 (Contact) | | +/- 22 | |
| Lead soldering temperature | T _L | 260 (10 sec.) | °C |
| Operating junction temperature range | T _J | -55 to +125 | °C |
| Storage temperature range | T _{STG} | -55 to +150 | °C |

ELECTRICAL CHARACTERISTICS ($T_A=25\text{ }^{\circ}\text{C}$)

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---------------------------|-----------|--|------|------|------|---------------|
| Reverse working voltage | V_{RWM} | | | | 24.0 | V |
| Reverse breakdown voltage | V_{BR} | $I_T=1\text{mA}$ Pin2 to 1 | 26.5 | 28 | 31.5 | V |
| Reverse leakage current | I_R | $V_{RWM}=24\text{V}$ | | 0.01 | 0.1 | μA |
| Forward voltage | V_F | $I_F=15\text{mA}$ | | | 1.1 | V |
| Peak pulse current | I_{PP} | $t_P=8/20\mu\text{s}$ | | | 4 | A |
| Clamping voltage | V_C | $I_{PP}=1\text{A}$, $t_P=8/20\mu\text{s}$ | | 35 | 42 | V |
| | | $I_{PP}=4\text{A}$, $t_P=8/20\mu\text{s}$ | | 47 | 55 | |
| Junction capacitance | C_J | $V_{RWM}=0\text{V}$, $f=1\text{MHz}$ | | 17 | 25 | pF |

RATINGS AND V-I CHARACTERISTICS CURVES ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

FIG.1: V- I curve characteristics (Uni-directional)

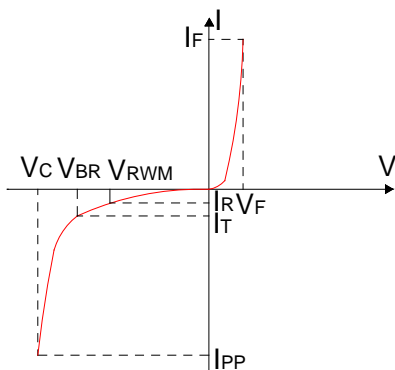


FIG.2: Pulse waveform (8/20 μs)

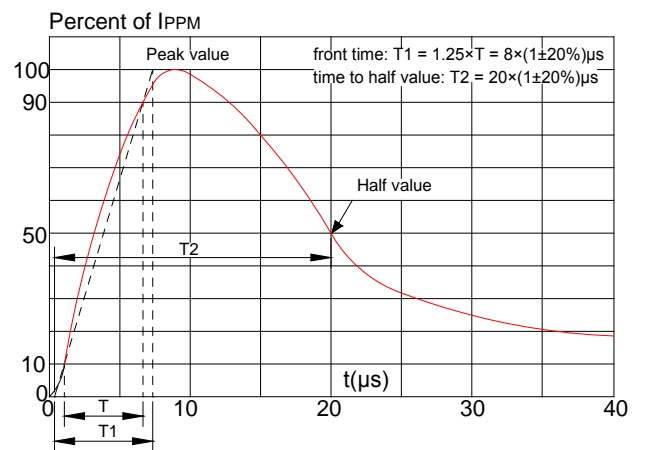


FIG.3: Pulse derating curve

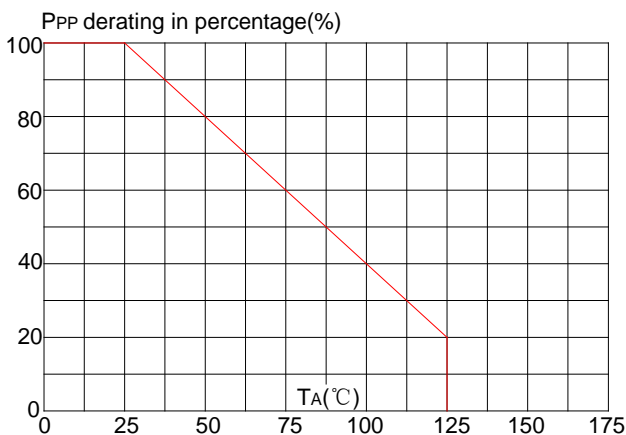
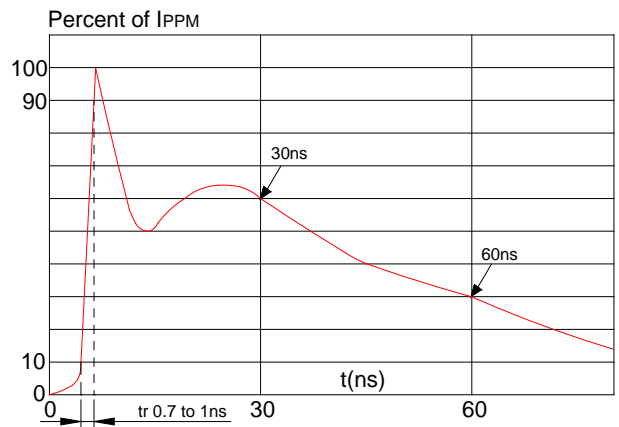
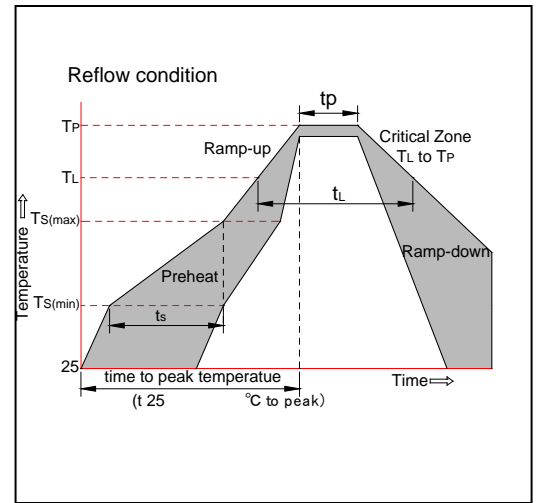


FIG.4: ESD clamping (30kV contact)

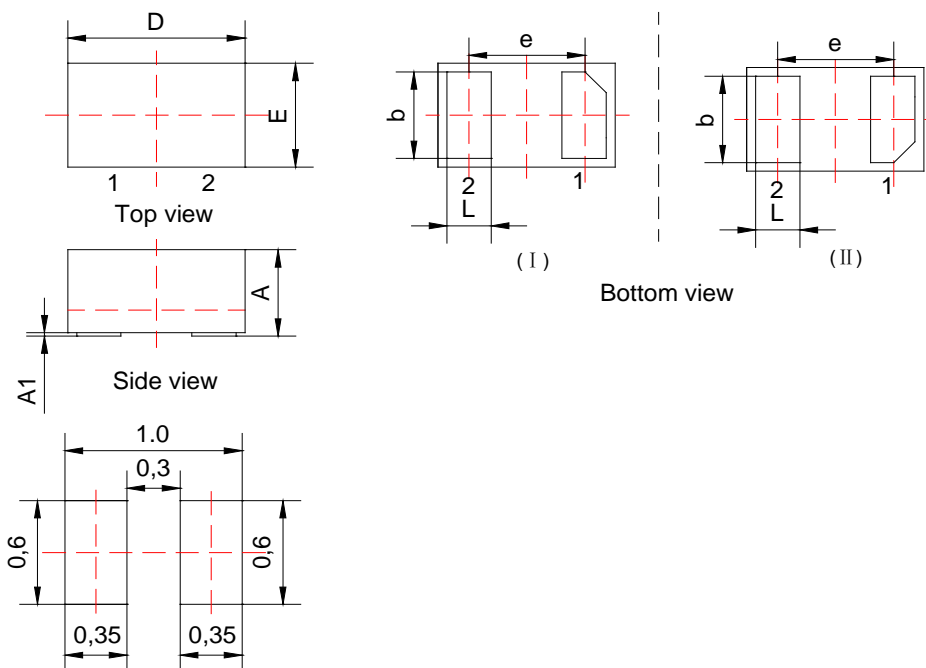


SOLDERING PARAMETERS

| | | |
|---|-----------------------------------|---|
| Reflow Condition | | Pb-Free assembly (see figure at right) |
| Pre Heat | -Temperature Min ($T_{s(min)}$) | +150°C |
| | -Temperature Max($T_{s(max)}$) | +200°C |
| | -Time (Min to Max) (t_s) | 60-180 secs. |
| Average ramp up rate (Liquidus Temp (T_L)to peak) | | 3°C/sec. Max |
| $T_{s(max)}$ to T_L - Ramp-up Rate | | 3°C/sec. Max |
| Reflow | -Temperature(T_L)(Liquidus) | +217°C |
| | -Temperature(t_L) | 60-150 secs. |
| Peak Temp (T_p) | | +260(+0/-5)°C |
| Time within 5°C of actual Peak Temp (t_p) | | 20-40secs. |
| Ramp-down Rate | | 6°C/sec. Max |
| Time 25°C to Peak Temp (T_p) | | 8 min. Max |
| Do not exceed | | +260°C |



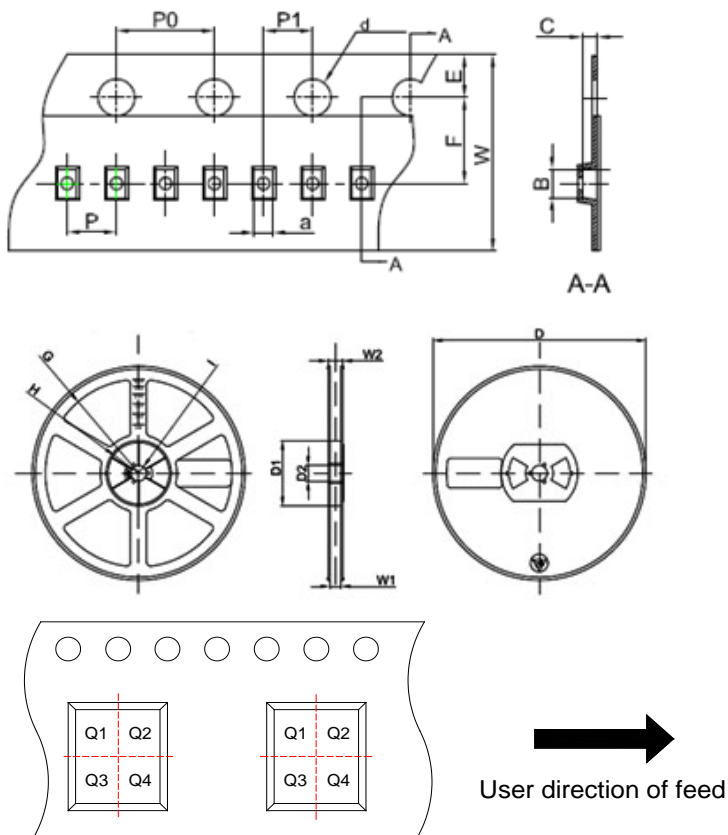
PACKAGE MECHANICAL DATA



Recommended soldering footprint(mm)

| Symbol | Millimeters | | | Inches | | |
|--------|-------------|------|------|----------|-------|-------|
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 0.40 | 0.50 | 0.55 | 0.016 | 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 |
| D | 0.95 | 1.00 | 1.05 | 0.037 | 0.039 | 0.041 |
| e | 0.65BSC | | | 0.026BSC | | |
| 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 |

TAPE AND REEL INFORMATION-DFN1006-2L



Pin 1 quadrant:Q1&Q2

Packaging Description:

DFN1006-2L parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 10,000units per 7" or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

| Symbol | Millimeters | Inches |
|--------|-------------|--------|
| | Typ. | Typ. |
| a | 0.66 | 0.026 |
| B | 1.15 | 0.045 |
| C | 0.66 | 0.026 |
| d | Φ1.50 | Φ0.059 |
| E | 1.75 | 0.069 |
| F | 3.50 | 0.138 |
| P0 | 4.00 | 0.157 |
| P | 2.00 | 0.079 |
| P1 | 2.00 | 0.079 |
| W | 8.00 | 0.315 |
| D | Φ178 | Φ7.008 |
| D1 | 54.40 | 2.142 |
| D2 | 13.00 | 0.512 |
| G | R78.00 | R3.071 |
| H | R25.60 | R1.008 |
| I | R6.50 | R0.256 |
| W1 | 9.50 | 0.374 |
| W2 | 12.30 | 0.484 |

ORDERING INFORMATION

| Part Number | Package | Reel Size | Quantity Per Reel |
|-------------|------------|-----------|-------------------|
| JEU24DF | DFN1006-2L | 7 Inch | 10,000 pcs |

MARKING CODE

| Part Number | Marking Code |
|-------------|--|
| JEU24DF |  |

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