

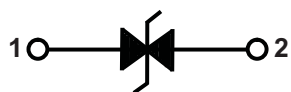
## Features

- 100W Peak Pulse Power Per Line(8/20us)
- 3.3V Working Peak Reverse Voltage
- Maximum Reverse Peak Pulse Current:7A
- ESD per IEC 61000-4-2(Contact):30KV
- ESD per IEC 61000-4-2(Air):30KV
- Clamping Voltage @IPP=7A:9V
- Junction Capacitance:10PF
- Package:DFN1006-2L(0402)
- Polarity: Bidirectional

## Mechanical Characteristics

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- Lead Finish: NiPdAu
- Case Material: “ Green ” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below

## Schematic And Configuration



## Ordering Information

| Part Number   | Packaging   | Reel Size |
|---------------|-------------|-----------|
| TEVB10R0V3B1X | Tape & Reel | 7inch     |

## Absolute Maximum Ratings (Ta=25°C,RH=45%-75%,unless otherwise noted)

| Parameter                   | Symbol | Value    | Unit |
|-----------------------------|--------|----------|------|
| Operating Temperature Range | Tj     | -55~+125 | °C   |
| Storage Temperature Range   | Tstg   | -55~+150 | °C   |

## Electrical Characteristics (Ta=25°C)

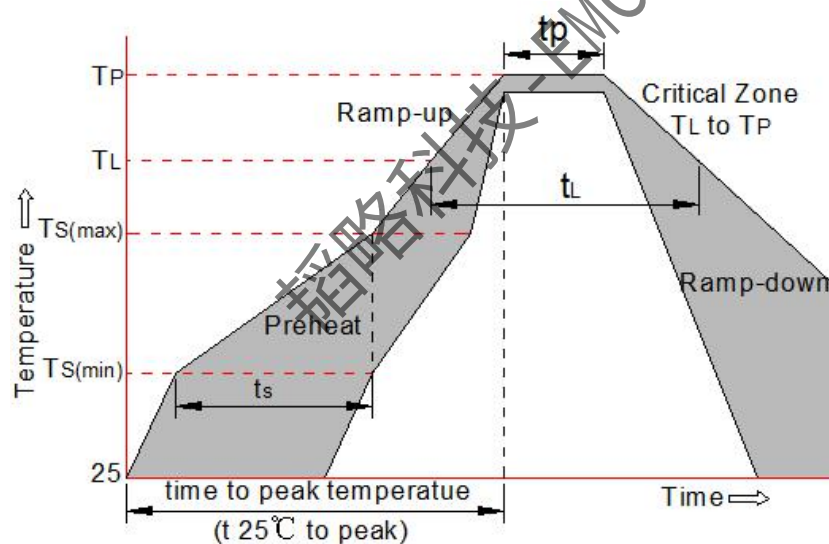
| Parameter               | Symbol | Min | Type | Max | Unit | Test Condition       |
|-------------------------|--------|-----|------|-----|------|----------------------|
| Reverse Working Voltage | Vrwm   |     |      | 3.3 | V    |                      |
| Breakdown Voltage       | Vbr    | 3.7 |      |     | V    | It=1mA               |
| Reverse Leakage Current | Ir     |     |      | 1   | uA   | Vrwm=3.3V            |
| Clamping Voltage        | Vc     |     | 9    | 11  | V    | Ipp=7A(8×20us pulse) |
| Juntion Capacitance     | Cj     |     | 10   |     | pF   | Vr=0V,f=1MHz         |

The graph shows the Percent of IPPM on the y-axis (0 to 100) against time  $t$  in nanoseconds on the x-axis (0 to 60). The curve starts at 0, rises sharply to a peak of 100% at  $t = 0.7$  ns, then drops to a local minimum of approximately 40% at  $t \approx 10$  ns. It then rises to a local maximum of approximately 60% at  $t \approx 25$  ns, before decaying towards 30% at  $t = 60$  ns. A vertical dashed line marks the peak at  $t = 0.7$  ns.

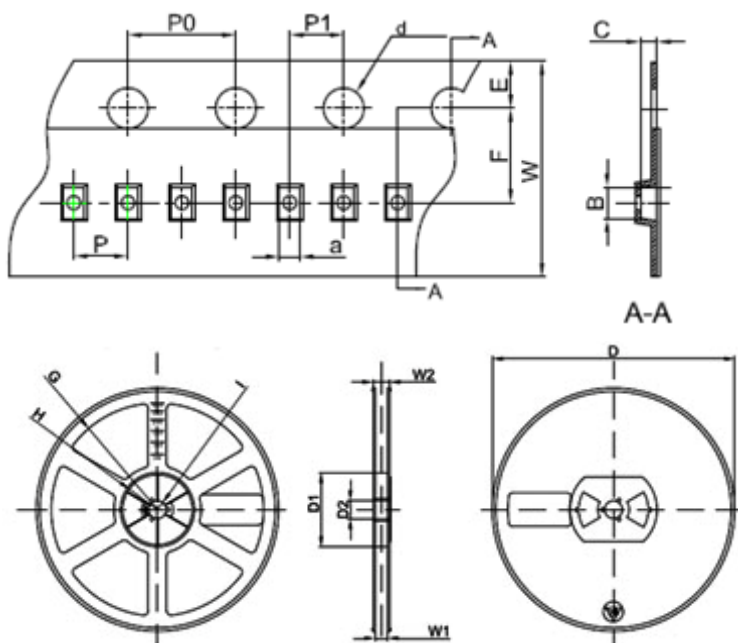
| $t$ (ns) | Percent of IPPM |
|----------|-----------------|
| 0        | 0               |
| 0.7      | 100             |
| 10       | ~40             |
| 25       | ~60             |
| 30       | ~50             |
| 60       | ~30             |

## Soldering Parameters

| Reflow Condition                                        |                                   | Pb-Free Assembly<br>(see as bellow) |
|---------------------------------------------------------|-----------------------------------|-------------------------------------|
| 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 (Liquid us Temp ( $T_L$ ) to peak) |                                   | 3°C/sec. Max                        |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                    |                                   | 3°C/sec. Max                        |
| Reflow                                                  | -Temperature( $T_L$ ) (Liquid us) | +217°C                              |
|                                                         | -Temperature( $t_L$ )             | 60-150 secs.                        |
| Peak Temp ( $T_p$ )                                     |                                   | +260(+0/-5)°C                       |
| Time within 5°C of actual Peak Temp ( $t_p$ )           |                                   | 30 secs. Max                        |
| Ramp-down Rate                                          |                                   | 6°C/sec. Max                        |
| Time 25°C to Peak Temp ( $T_p$ )                        |                                   | 8 min. Max                          |
| Do not exceed                                           |                                   | +260°C                              |



## Tape And Reel Information

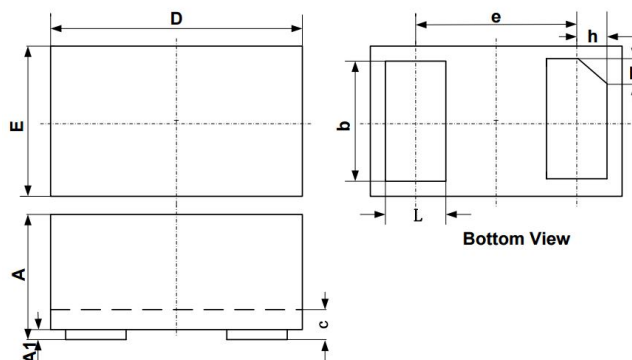


## Packaging Description:

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).

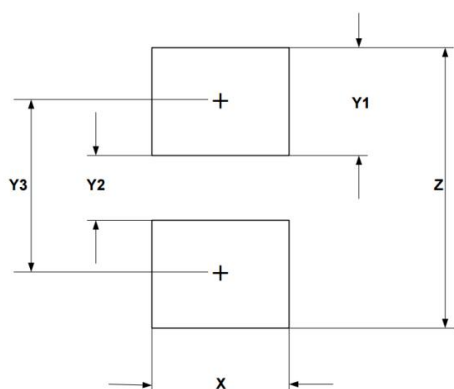
| Symbol | Millimeter | Inches |
|--------|------------|--------|
|        | Typ.       | Typ.   |
| a      | 0.66       | 0.026  |
| B      | 1.15       | 0.045  |
| C      | 0.66       | 0.026  |
| d      | Φ1.50      | Φ0.059 |
| E      | 1.75       | 0.069  |
| F      | 3.50       | 0.138  |
| P0     | 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  |

## Package Mechanical Data



| 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 |
| h   | 0.07        | 0.12 | 0.17 | 0.003     | 0.005 | 0.007 |

## Suggested Land Pattern



| 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  |

## Contact Information

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