

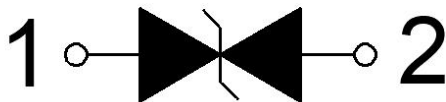
### Features

- 2-pin lead-less package
- Junction capacitance (Max value: 0.6pF)
- Peak Pulse Current (8/20μs): 1.5A
- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:24V
- Qualified to AEC-Q101 Standards for High Reliability
- RoHS Compliant

### Mechanical Characteristics

- Package: DFN1006
- Lead Finish:Matte Tin
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Tape Reel :10000pcs

### Appearance & Symbol

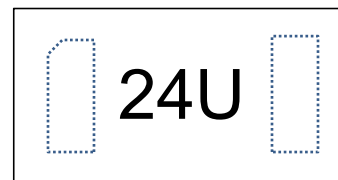


Bi-directional

### Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation,Digital Cameras
- Peripherals, Audio Players, Industrial Equipment

### Marking Information



24U=Marking Code

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

| Parameters                                                     | Symbol           | Value       | Unit |
|----------------------------------------------------------------|------------------|-------------|------|
| Peak Pulse Power (tp=8/20μs waveform)                          | P <sub>PP</sub>  | 80          | W    |
| Peak Pulse Current (8/20μs)                                    | I <sub>PP</sub>  | 1.5         | A    |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | V <sub>ESD</sub> | ±15<br>±8   | KV   |
| Operating Temperature Range                                    | T <sub>J</sub>   | -55 to +125 | °C   |
| Storage Temperature Range                                      | T <sub>stg</sub> | -55 to +150 | °C   |

Electrical Characteristics (T=25°C, RH=45%-75%, unless otherwise noted)

| Parameter                 | Symbol           | Test Condition                                 | Min  | Typ | Max | Unit |
|---------------------------|------------------|------------------------------------------------|------|-----|-----|------|
| Reverse Working Voltage   | V <sub>RWM</sub> |                                                |      |     | 24  | V    |
| Reverse Breakdown Voltage | V <sub>BR</sub>  | I <sub>R</sub> = 1mA                           | 24.5 |     | 31  | V    |
| Reverse Leakage Current   | I <sub>R</sub>   | V <sub>R</sub> = 24V                           |      |     | 0.2 | μA   |
| Clamping Voltage          | V <sub>C</sub>   | I <sub>PP</sub> = 1A, T <sub>P</sub> =8/20us   |      |     | 40  | V    |
| Clamping Voltage          | V <sub>C</sub>   | I <sub>PP</sub> = 1.5A, T <sub>P</sub> =8/20us |      |     | 54  | V    |
| Junction Capacitance      | C <sub>J</sub>   | V <sub>R</sub> =0V, f =1MHz                    |      | 0.4 | 0.6 | pF   |

## Typical Characteristics

FIG1: Power rating derating curve

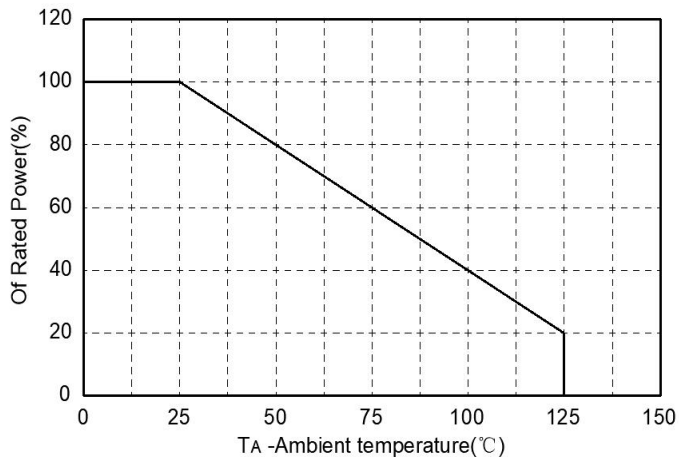


FIG2: pulse Waveform

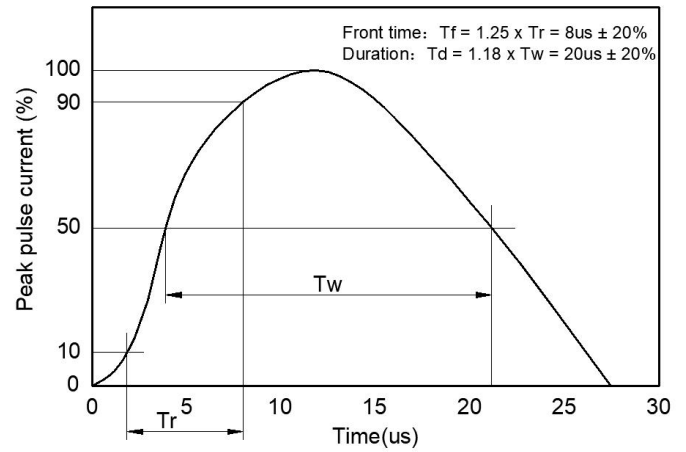


FIG3: Capacitance between terminals characteristics

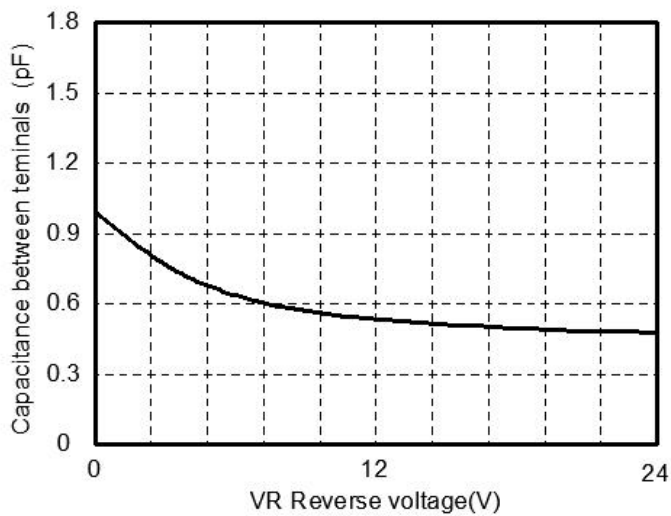
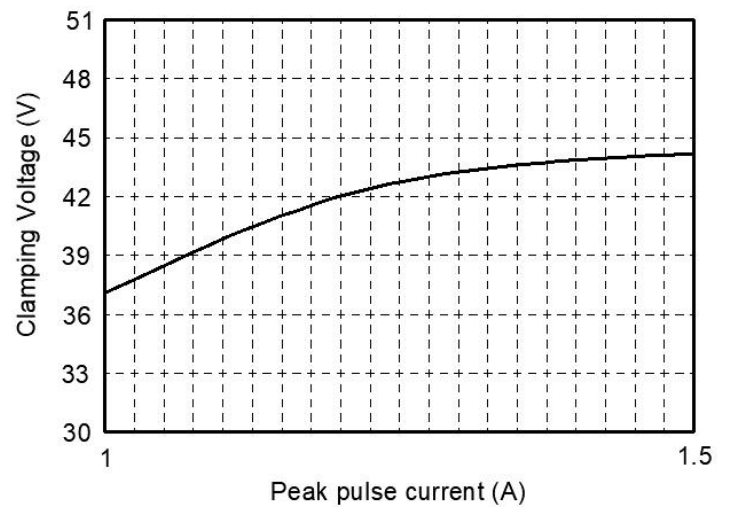
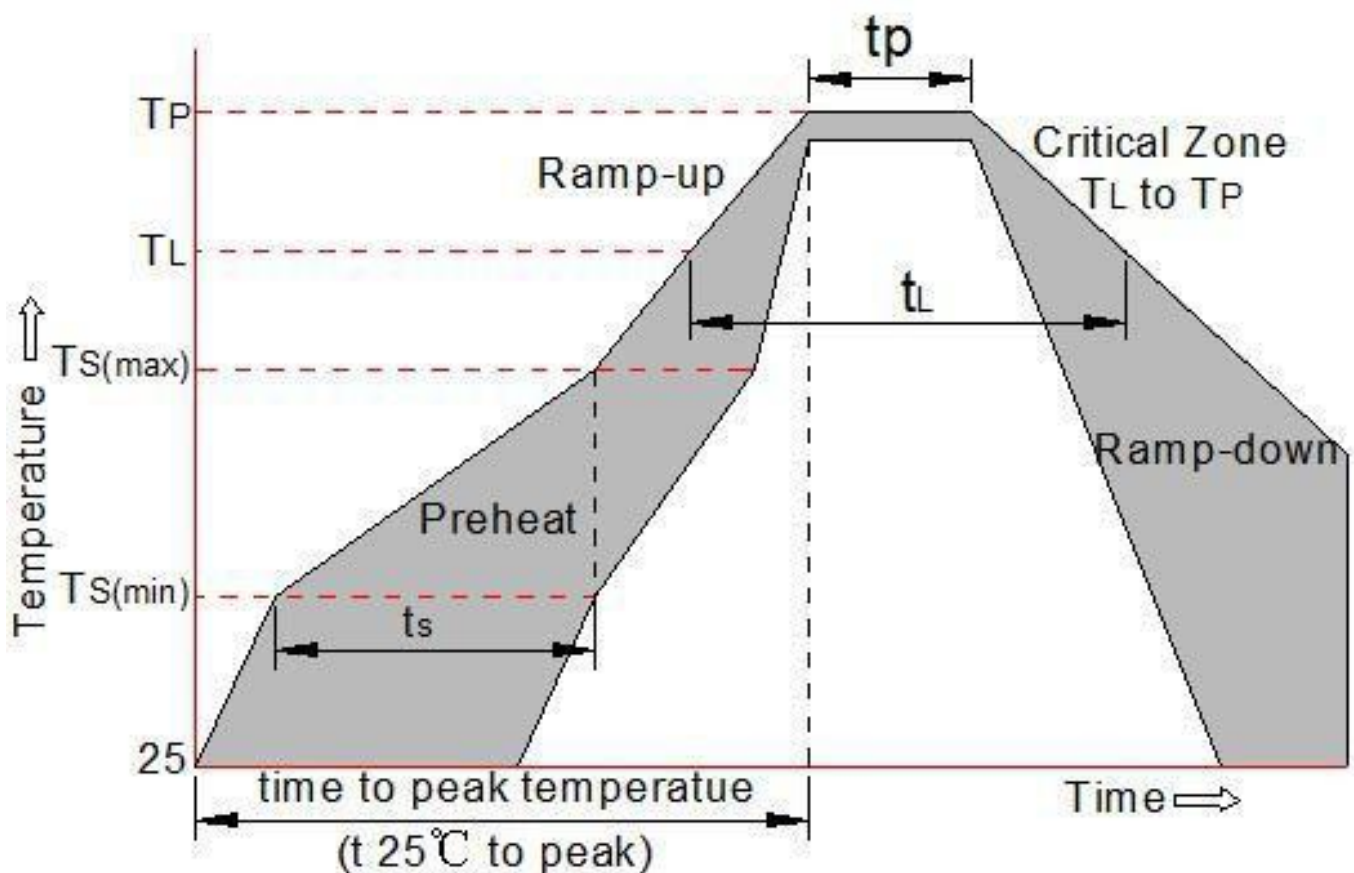


FIG4: Clamping Voltage vs. Peak Pulse Current

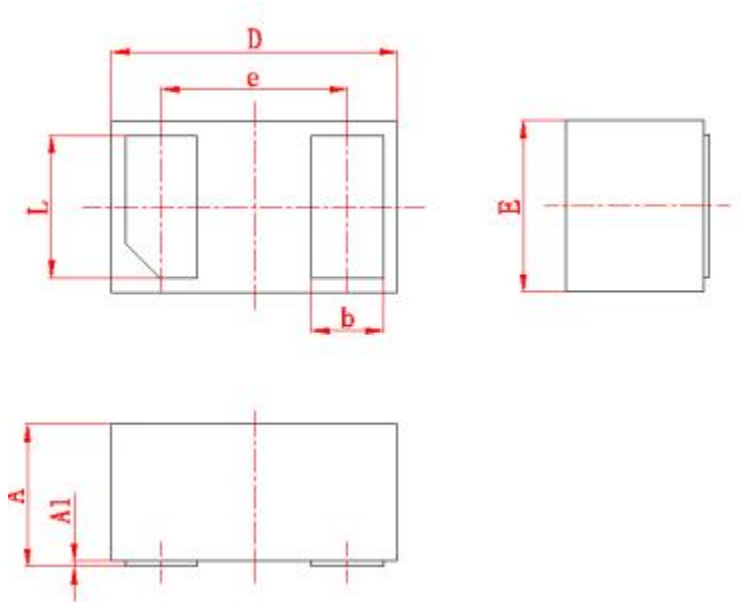


#### Soldering parameters

| 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                              |

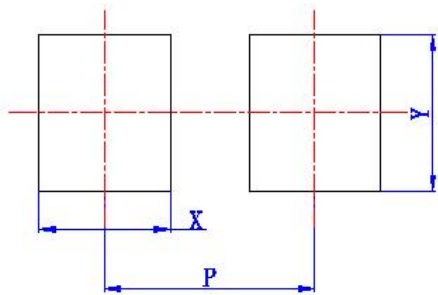


### Package mechanical data



| Symbol | Dimension in Millimeters |      |
|--------|--------------------------|------|
|        | min                      | max  |
| A      | 0.4                      | 0.5  |
| A1     | 0                        | 0.05 |
| D      | 0.9                      | 1.1  |
| E      | 0.55                     | 0.65 |
| e      | (0.65)                   |      |
| b      | 0.2                      | 0.3  |
| L      | 0.34                     | 0.55 |

### Suggested Land Pattern



| Symbol | Dimension in Millimeters |  |
|--------|--------------------------|--|
|        | typ                      |  |
| X      | (0.5)                    |  |
| Y      | (0.7)                    |  |
| P      | (0.8)                    |  |