



# PJE5UFN10A-AU

## Ultra Low Capacitance TVS/ESD Protection

**V<sub>RWM</sub>**

**5 V**

### Features

- IEC61000-4-2(ESD): ±15kV Air, ±8kV Contact Compliance
- IEC61000-4-4(EFT): 20A(5/50nS)
- IEC61000-4-5(Lightning): 2.5A(8/20μS)
- Low leakage current, maximum 1μA at rated voltage
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2011/65/EU directive.
- Green molding compound as per IEC61249 Std.  
(Halogen Free)

### Mechanical Data

- Case: DFN2510-10L, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00004 ounces, 0.0011 grams
- Marking: JE5U

### Applications

- USB3.0 Data Line Protection
- High Definition Multi-Media Interface Protection
- Monitors and Flat Panel Displays Notebook computers
- Video Line Protection & Base Stations
- 10/100/1000 Ethernet
- HDSL, IDSL Secondary IC Side Protection
- Control Signal Lines Protection

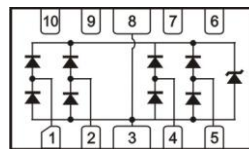
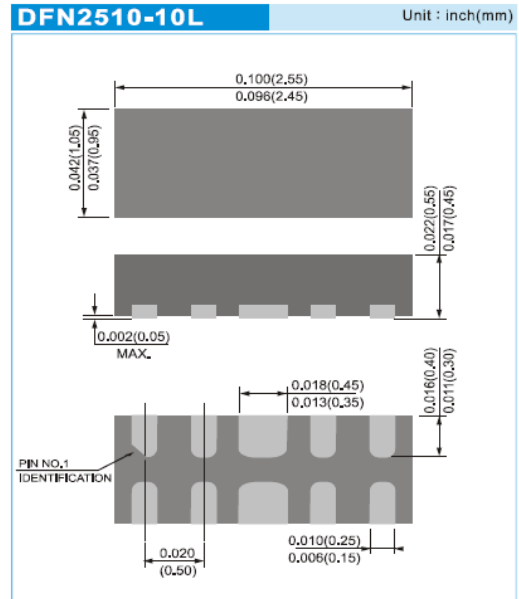


Fig.175(Top View)

### Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

| PARAMETER                            | SYMBOL           | LIMIT       | UNITS |
|--------------------------------------|------------------|-------------|-------|
| ESD IEC61000-4-2(Air)                | V <sub>ESD</sub> | ±15         | kV    |
| ESD IEC61000-4-2(Contact)            |                  | ±8          |       |
| Operating Junction Temperature Range | T <sub>J</sub>   | -55 to +150 | °C    |
| Storage Temperature Range            | T <sub>STG</sub> | -55 to +150 | °C    |



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

| PARAMETER                                | SYMBOL    | TEST CONDITION   | MIN. | TYP. | MAX. | UNITS         |
|--|-----------|--|------|------|------|---------------|
| Reverse Stand-Off Voltage                | $V_{RWM}$ | -  | -    | -    | 5    | V             |
| Reverse Breakdown Voltage                | $V_{BR}$  | $I_{BR}=1\text{mA}$ ,<br>Between any I/O pins<br>to GND              | 6    | -    | 9    | V             |
| Reverse leakage current                  | $I_R$     | $V_R=5\text{V}$ ,<br>any I/O pin to GND                              | -    | -    | 1    | $\mu\text{A}$ |
| Clamping Voltage                         | $V_{CL}$  | $I_{PP}=1\text{A}$ , $t_P=8/20\mu\text{s}$ ,<br>any I/O pin to GND   | -    | 9.5  | 12   | V             |
|  |           | $I_{PP}=2.5\text{A}$ , $t_P=8/20\mu\text{s}$ ,<br>any I/O pin to GND | -    | 11   | 13   |               |
| Clamping Voltage TLP <sup>(Note 1)</sup> | $V_{CL}$  | $I_{PP}=4\text{A}$ , $t_P=100\text{ns}$ ,<br>any I/O pin to GND      | -    | 12   | -    | V             |
|  |           | $I_{PP}=8\text{A}$ , $t_P=100\text{ns}$ ,<br>any I/O pin to GND      | -    | 14   | -    |               |
| Dynamic Resistance <sup>(Note 1)</sup>   | $R_{DYN}$ | $t_P=100\text{ns}$   | -    | 0.5  | -    | $\Omega$      |
| Off State Junction Capacitance           | $C_J$     | 0Vdc Bias $f=1\text{MHz}$ ,<br>Between any I/O pins<br>to GND        | -    | 0.6  | 0.8  | pF            |
|  |           | 0Vdc Bias $f=1\text{MHz}$ ,<br>Between any I/O pins                  | -    | 0.35 | 0.4  |               |

NOTES :

1. Testing using Transmission Line Pulse (TLP) conditions:  $Z_0 = 50\Omega$ ,  $t_P = 100\text{ ns}$ .



# PJE5UFN10A-AU

## TYPICAL CHARACTERISTIC CURVES

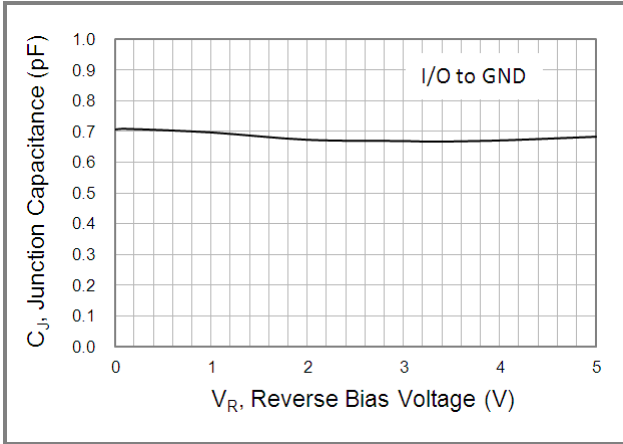


Fig.1 Typical Junction Capacitance

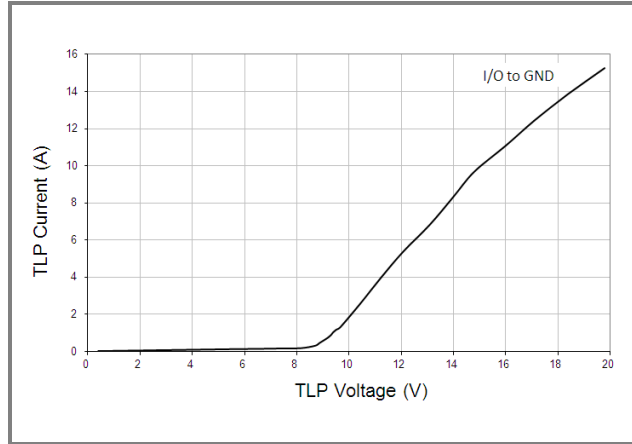


Fig.2 Transmission Line Pulsing (TLP) Measurement

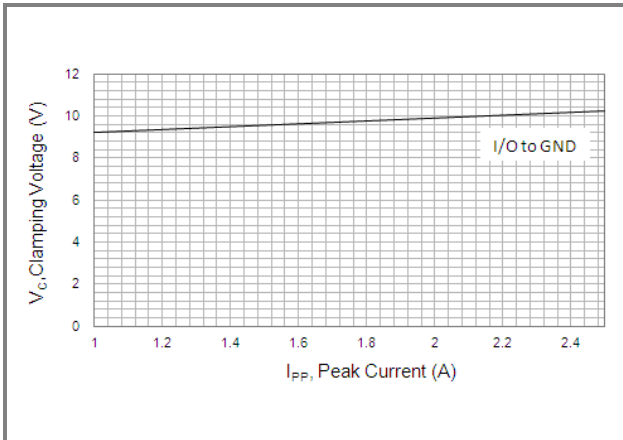


Fig.3 Typical Peak Clamping Voltage(8/20µs)

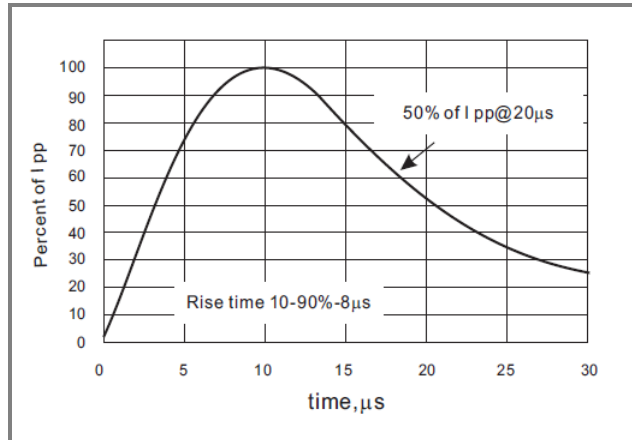


Fig.4 8/20µs Pulse Waveform



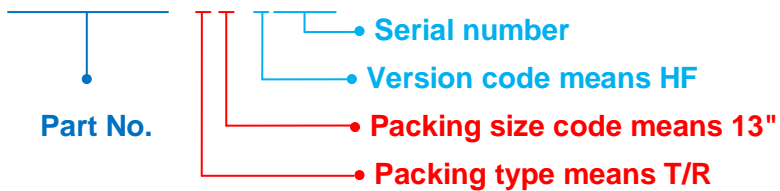
# PJE5UFN10A-AU

PART NO PACKING CODE VERSION

| Part No Packing Code   | Package Type | Packing Type       | Marking | Version      |
|------------------------|--------------|--------------------|---------|--------------|
| PJE5UFN10A-AU_R1_000A1 | DFN2510-10L  | 5K pcs / 7" reel   | JE5U    | Halogen free |
| PJE5UFN10A-AU_R2_000A1 | DFN2510-10L  | 12K pcs / 13" reel | JE5U    | Halogen free |

For example :

**RB500V-40\_R2\_00001**



| Packing Code <b>XX</b>               |                      |                                  |                      | Version Code <b>XXXXX</b> |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type                         | 1 <sup>st</sup> Code | Packing size code                | 2 <sup>nd</sup> Code | HF or RoHS                | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> Code |
| Tape and Ammunition Box (T/B)        | <b>A</b>             | N/A                              | <b>0</b>             | <b>HF</b>                 | <b>0</b>             | serial number                         |
| Tape and Reel (T/R)                  | <b>R</b>             | 7"                               | <b>1</b>             | <b>RoHS</b>               | <b>1</b>             | serial number                         |
| Bulk Packing (B/P)                   | <b>B</b>             | 13"                              | <b>2</b>             |                           |                      |                                       |
| Tube Packing (T/P)                   | <b>T</b>             | 26mm                             | <b>X</b>             |                           |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | <b>S</b>             | 52mm                             | <b>Y</b>             |                           |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | <b>L</b>             | PANASERT T/B CATHODE UP (PBCU)   | <b>U</b>             |                           |                      |                                       |
| FORMING                              | <b>F</b>             | PANASERT T/B CATHODE DOWN (PBCD) | <b>D</b>             |                           |                      |                                       |

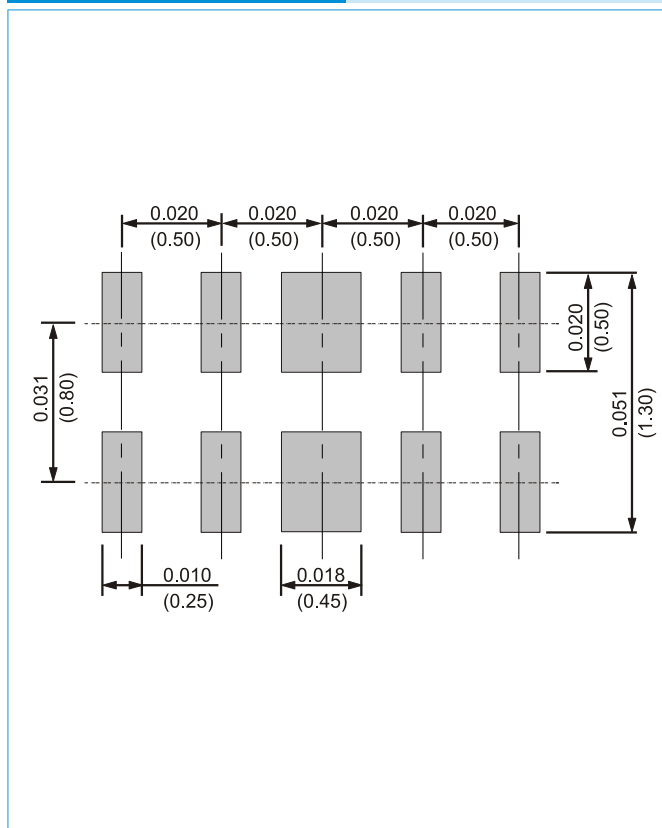


# PJE5UFN10A-AU

## MOUNTING PAD LAYOUT

DFN2510-10L

Unit : inch(mm)





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