

## PJSLC05-AU~PJSLC24-AU

### ULTRA LOW CAPACITANCE SINGLE TVS FOR HIGH SPEED DATA LINES

This Transient Voltage Suppressor is intended to Protect Sensitive Equipment against Electrostatic Discharge and Transient Events as well to offer a Minimum insertion loss in high speed data communication transmission line ports used in Portable Consumer, Computing and Networking Applications.

#### SPECIFICATION FEATURES

- Working Peak Reverse Voltage Range-5,12,15 and 24V
- Maximum Leakage Current of 5 $\mu$ A
- IEC61000-4-2 Compliance 15kV Air, 8kV Contact Discharge
- IEC61000-4-5 17 Amps peak, 8/20 $\mu$ s Waveform
- Lead free in compliance with EU RoHS2.0 (2011/65/EU & directive)
- Green molding compound as per IEC61249 Std. . (Halogen Free)
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified

#### MECHANICAL DATA

Case: SOT-23, Plastic

Terminals: Solderable per MIL-STD-750, Method 2026

Approx. Weight: 0.008gram

Marking:

| PJSLC05-AU | PJSLC12-AU | PJSLC15-AU | PJSLC24-AU |
|------------|------------|------------|------------|
| T1S        | S12        | S15        | S24        |

#### APPLICATIONS

Mobile Phones and accessories

Universal Serial Bus (USB1.1 and 2.0) Applications

Portable Consumer Electronics

Instrumentation Equipment

Ethernet 10,100 and 1000 Base Port Protection

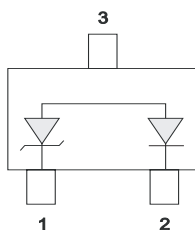
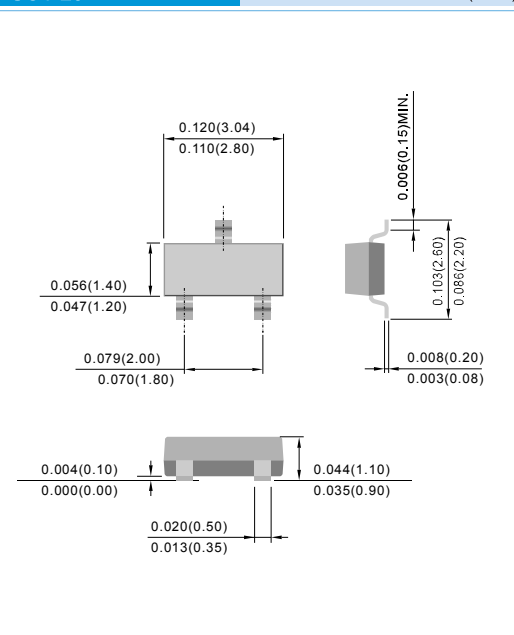


Fig. 24

#### SOT-23

Unit: inch ( mm )



#### MAXIMUM RATINGS

| RATING                                   | SYMBOL           | VALUE       | UNITS |
|--|------------------|-------------|-------|
| Peak Pulse Power 8/20 $\mu$ s Waveform   | P <sub>PP</sub>  | 400         | W     |
| Peak Pulse Power 8/20 $\mu$ s Waveform   | I <sub>PP</sub>  | 17          | A     |
| ESD Voltage (HBM)                        | V <sub>ESD</sub> | >25         | kV    |
| Operating Temperature Range              | T <sub>J</sub>   | -55 to +125 | °C    |
| Storage Thermal Resistance               | T <sub>STG</sub> | -55 to +150 | °C    |
| Lead Soldering Temperature (max 10 secs) | T <sub>L</sub>   | 260         | °C    |



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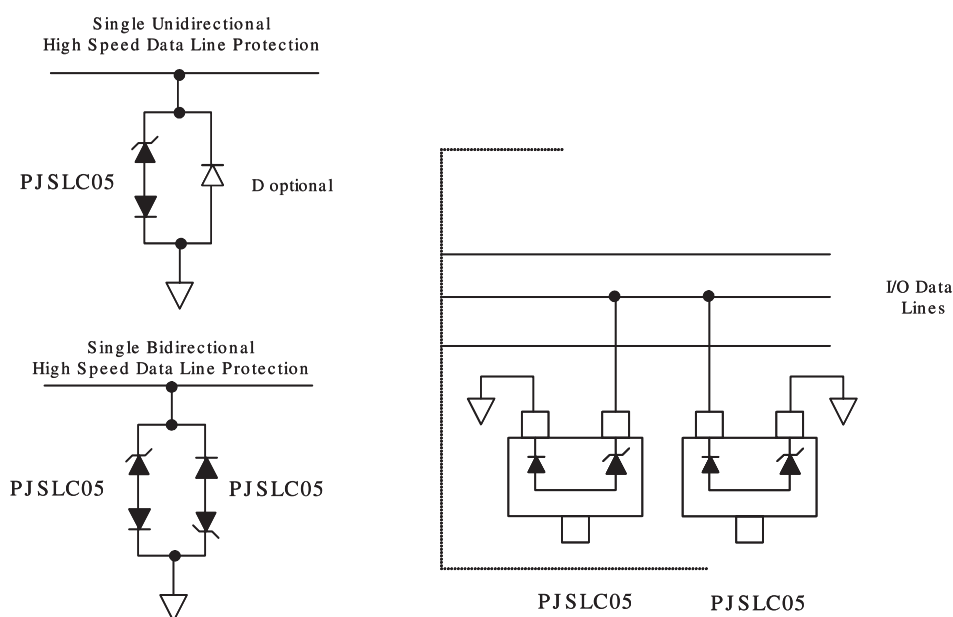
### ELECTRICAL CHARACTERISTICS T<sub>J</sub>=25°C

| PJSLC05-AU                     |                  |   |      |     |     |       |
|--------------------------------|------------------|---|------|-----|-----|-------|
| Parameter                      | Symbol           | Condition                                 | Min  | Typ | Max | Units |
| Reverse Stand-Off Voltage      | V <sub>WRM</sub> |   | -    | -   | 5   | V     |
| Reverse Breakdown Voltage      | V <sub>BR</sub>  | I <sub>BR</sub> =1mA                      | 6    | -   | -   | V     |
| Reverse Leakage Current        | I <sub>R</sub>   | V <sub>R</sub> =5V                        | -    | -   | 5   | μA    |
| Clamping Voltage (8x20 μsec)   | V <sub>C</sub>   | I <sub>PP</sub> =1Amps                    | -    | -   | 9.8 | V     |
| Clamping Voltage (8x20 μsec)   | V <sub>C</sub>   | I <sub>PP</sub> =5Amps                    | -    | -   | 11  | V     |
| Off State Junction Capacitance | C <sub>J</sub>   | 0 Vdc Bias f=1MHz<br>Between pins 1 and 2 | -    | -   | 1.2 | pF    |
| PJSLC12-AU                     |                  |   |      |     |     |       |
| Parameter                      | Symbol           | Condition                                 | Min  | Typ | Max | Units |
| Reverse Stand-Off Voltage      | V <sub>WRM</sub> |   | -    | -   | 12  | V     |
| Reverse Breakdown Voltage      | V <sub>BR</sub>  | I <sub>BR</sub> =1mA                      | 13.3 | -   | -   | V     |
| Reverse Leakage Current        | I <sub>R</sub>   | V <sub>R</sub> =12V                       | -    | -   | 1   | μA    |
| Clamping Voltage (8x20 μsec)   | V <sub>C</sub>   | I <sub>PP</sub> =1Amps                    | -    | -   | 19  | V     |
| Clamping Voltage (8x20 μsec)   | V <sub>C</sub>   | I <sub>PP</sub> =5Amps                    | -    | -   | 24  | V     |
| Off State Junction Capacitance | C <sub>J</sub>   | 0 Vdc Bias f=1MHz<br>Between pins 1 and 2 | -    | -   | 1.2 | pF    |
| PJSLC15-AU                     |                  |   |      |     |     |       |
| Parameter                      | Symbol           | Condition                                 | Min  | Typ | Max | Units |
| Reverse Stand-Off Voltage      | V <sub>WRM</sub> |   | -    | -   | 15  | V     |
| Reverse Breakdown Voltage      | V <sub>BR</sub>  | I <sub>BR</sub> =1mA                      | 16.7 | -   | -   | V     |
| Reverse Leakage Current        | I <sub>R</sub>   | V <sub>R</sub> =15V                       | -    | -   | 1   | μA    |
| Clamping Voltage (8x20 μsec)   | V <sub>C</sub>   | I <sub>PP</sub> =1Amps                    | -    | -   | 24  | V     |
| Clamping Voltage (8x20 μsec)   | V <sub>C</sub>   | I <sub>PP</sub> =5Amps                    | -    | -   | 30  | V     |
| Off State Junction Capacitance | C <sub>J</sub>   | 0 Vdc Bias f=1MHz<br>Between pins 1 and 2 | -    | -   | 1.2 | pF    |

## PJSLC05-AU~PJSLC24-AU

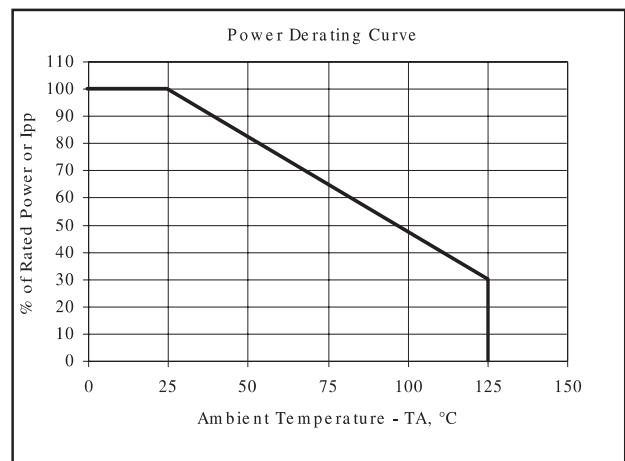
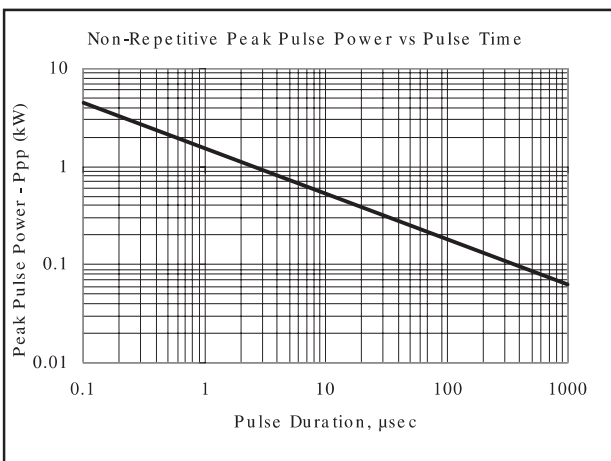
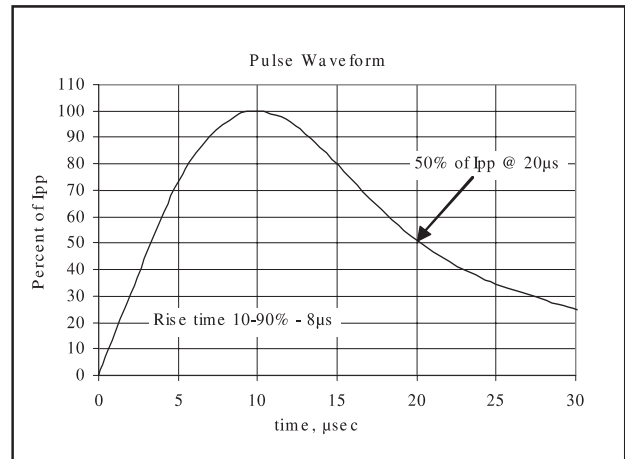
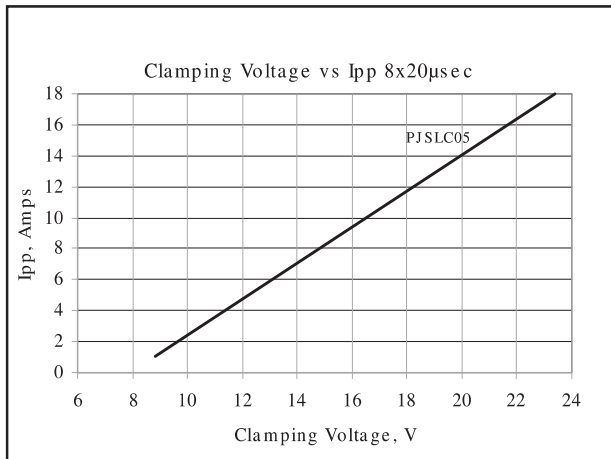
| PJSLC24-AU                         |           |   |      |     |     |         |
|------------------------------------|-----------|---|------|-----|-----|---------|
| Parameter                          | Symbol    | Condition                                 | Min  | Typ | Max | Units   |
| Reverse Stand-Off Voltage          | $V_{WRM}$ |   | -    | -   | 24  | V       |
| Reverse Breakdown Voltage          | $V_{BR}$  | $I_{BR}=1mA$                              | 26.7 | -   | -   | V       |
| Reverse Leakage Current            | $I_R$     | $V_R=24V$                                 | -    | -   | 1   | $\mu A$ |
| Clamping Voltage (8x20 $\mu sec$ ) | $V_C$     | $I_{PP}=1Amps$                            | -    | -   | 43  | V       |
| Clamping Voltage (8x20 $\mu sec$ ) | $V_C$     | $I_{PP}=5Amps$                            | -    | -   | 55  | V       |
| Off State Junction Capacitance     | $C_J$     | 0 Vdc Bias f=1MHz<br>Between pins 1 and 2 | -    | -   | 1.2 | pF      |

### TYPICAL APPLICATION CONFIGURATIONS



## PJSLC05-AU~PJSLC24-AU

### TYPICAL CHARACTERISTIC CURVES

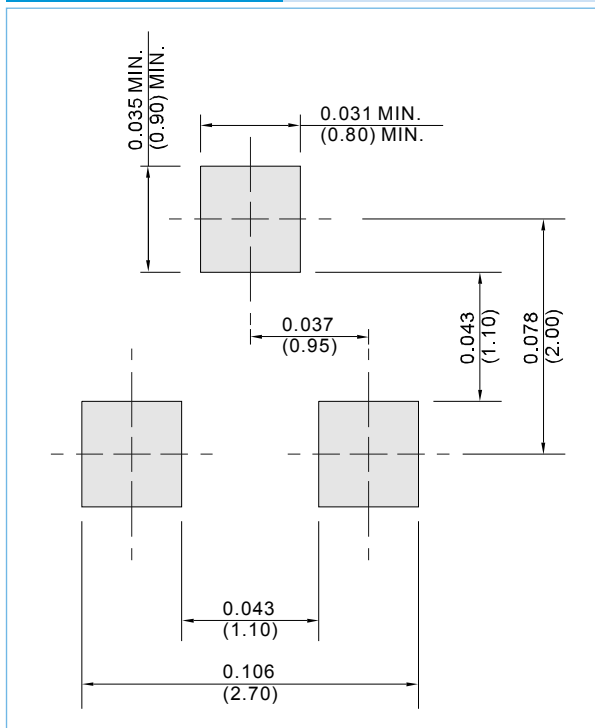


# PJSLC05-AU~PJSLC24-AU

## MOUNTING PAD LAYOUT

SOT-23

Unit: inch ( mm )



## ORDER INFORMATION

- Packing information

T/R - 12K per 13" plastic Reel

T/R - 3K per 7" plastic Reel

## PJSLC05-AU~PJSLC24-AU

### Part No\_packing code\_Version

PJSLC05-AU\_R1\_000A1

PJSLC05-AU\_R2\_000A1

For example :

**RB500V-40\_R2\_00001**

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

| 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>             | HF                        | <b>0</b>             | serial number                         |
| Tape and Reel (T/R)                  | <b>R</b>             | 7"                               | <b>1</b>             | RoHS                      | <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>             |                           |                      |                                       |



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