



# PJSD05CTS

## BI-DIRECTIONAL ESD PROTECTION DIODE

This Penta has been designed to Protect Sensitive Equipment against ESD and to prevent Latch-Up events in CMOS circuitry operating at 5Vdc and below. This offers an integrated solution to protect up to data line where the board space is a premium.

### SPECIFICATION FEATURES

- 100W Power Dissipation (8/20 $\mu$ s Waveform)
- Low Leakage Current, Maximum of 0.5 $\mu$ A@5Vdc
- Very low Clamping voltage
- IEC 61000-4-2 ESD 15kV air, 8kV Contact Compliance
- In compliance with EU RoHS 2002/95/EC directivess

### APPLICATIONS

- Video I/O ports protection
- Set Top Boxes
- Portable Instrumentation
- Case : SOD-523 plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx Weight : 0.0014 grams
- Marking : RS

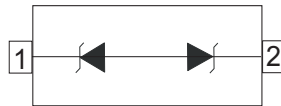
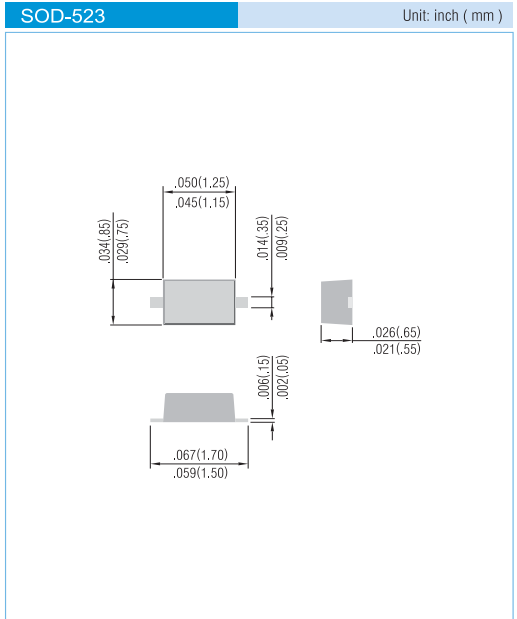


Fig.130



### MAXIMUM RATINGS

| Rating   | Symbol                            | Value      | Units |
|--|-----------------------------------|------------|-------|
| Peak Pulse Power (8/20 $\mu$ s Waveform)         | P <sub>PP</sub>                   | 100        | W     |
| Peak Pulse Current (8/20 $\mu$ s Waveform)       | I <sub>PP</sub>                   | 5.0        | A     |
| ESD Voltage (HBM)                                | V <sub>ESD</sub>                  | >25        | kV    |
| Operating Junction and Storage Temperature Range | T <sub>J</sub> , T <sub>STG</sub> | -55 to 150 | °C    |

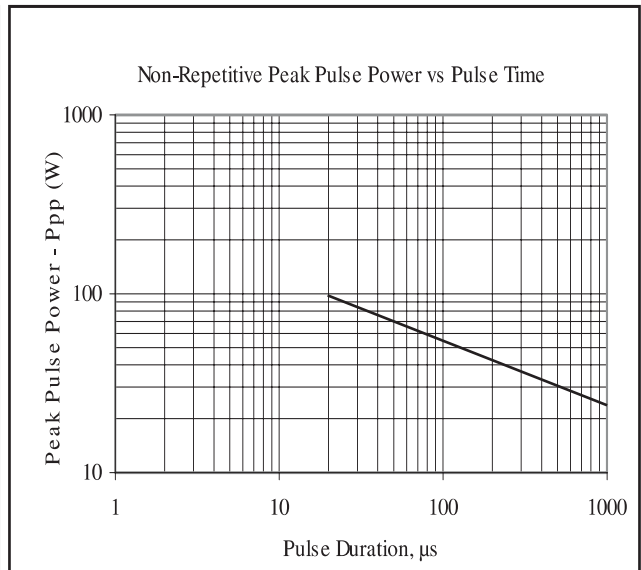
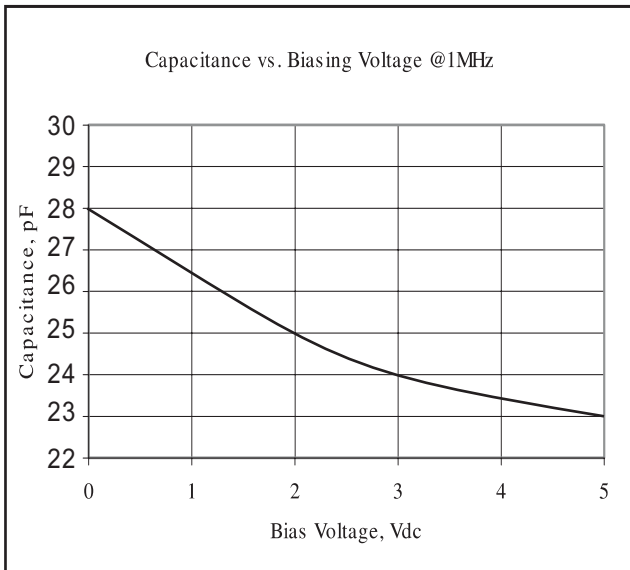
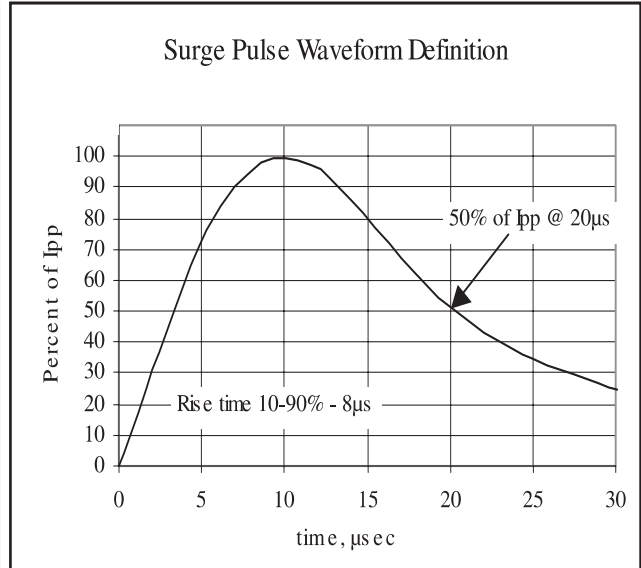
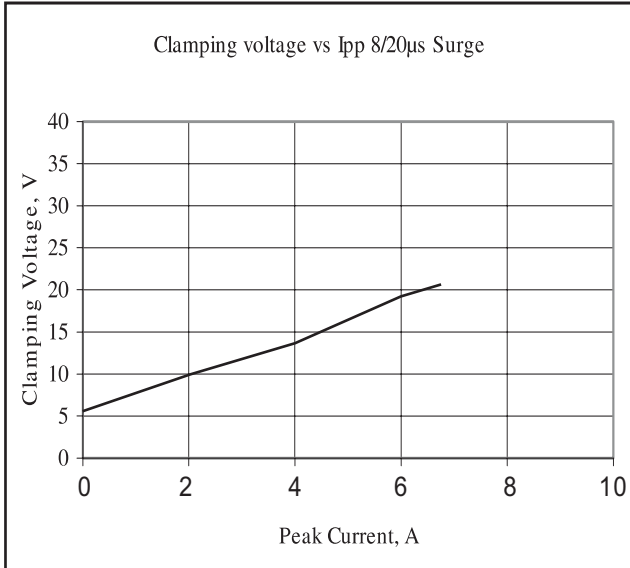
### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

| Parameter                       | Symbol           | Conditions           | Min. | Typ. | Max. | Units   |
|---------------------------------|------------------|----------------------|------|------|------|---------|
| Reverse Stand-Off Voltage       | V <sub>WRM</sub> |                      | -    | -    | 5.0  | V       |
| Reverse Breakdown Voltage       | V <sub>BR</sub>  | I <sub>BR</sub> =1mA | 5.78 | -    | 7.82 | V       |
| Reverse Leakage Current         | I <sub>R</sub>   | V <sub>R</sub> =3.5V | -    | -    | 0.5  | $\mu$ A |
| Clamping Voltage (8/20 $\mu$ s) | V <sub>C</sub>   | I <sub>PP</sub> =1A  | -    | -    | 12   | V       |
| Clamping Voltage (8/20 $\mu$ s) | V <sub>C</sub>   | I <sub>PP</sub> =4A  | -    | -    | 15   | V       |
| Off State Junction Capacitance  | C <sub>J</sub>   | 0 Vdc Bias f=1MHz    | -    | -    | 30   | pF      |
| Off State Junction Capacitance  | C <sub>J</sub>   | 5 Vdc Bias f=1MHz    | -    | -    | 25   | pF      |



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## TYPICAL CHARACTERISTICS



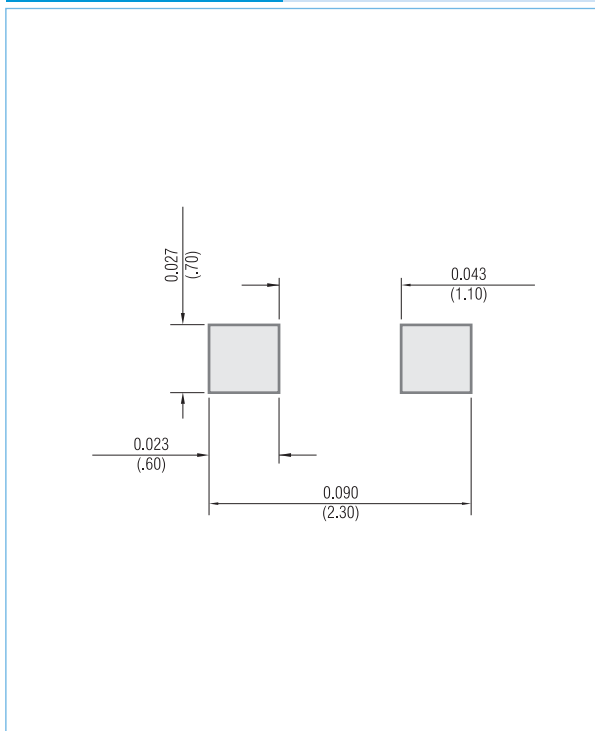


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## MOUNTING PAD LAYOUT

SOD-523

Unit: inch ( mm )



## ORDER INFORMATION

- Packing information
  - T/R - 12K per 13" plastic Reel
  - T/R - 5K per 7" plastic Reel

## LEGAL STATEMENT

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