

# PJSD03TM ~ PJSD15TM

## ESD PROTECTION DIODES

### FEATURES

- IEC61000-4-2(ESD):  $\pm 30\text{kV}$  Air,  $\pm 30\text{kV}$  Contact  
( $\pm 15\text{kV}$  Air,  $\pm 15\text{kV}$  Contact for 15V)
- IEC61000-4-4(EFT): 40A(5/50nS)
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

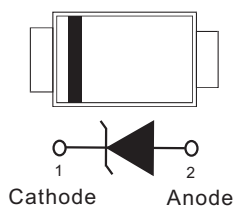
### MECHANICAL DATA

Case: SOD-923, Plastic

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

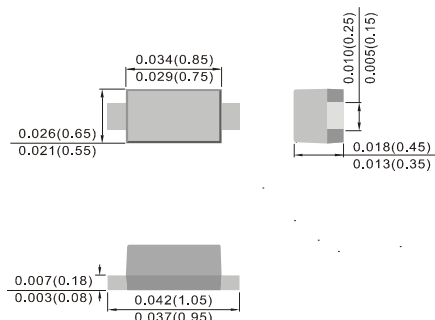
Polarity: Color band denotes cathode end

Approx.Weight: 0.00002 ounce, 0.0005 gram



### SOD-923

Unit : inch(mm)



### MAXIMUM RATINGS

| Rating                                                  | Symbol                            | Value        | Units |
|---------------------------------------------------------|-----------------------------------|--------------|-------|
| Peak Pulse Power Dissipation (8/20 $\mu$ s Waveform)    | P <sub>PP</sub>                   | 40           | W     |
| Lead Solder Temperature-Maximum<br>(10 Second Duration) | T <sub>L</sub>                    | 260          | °C    |
| Operating Junction and Storage Temperature Range        | T <sub>J</sub> , T <sub>STG</sub> | -55 to + 150 | °C    |

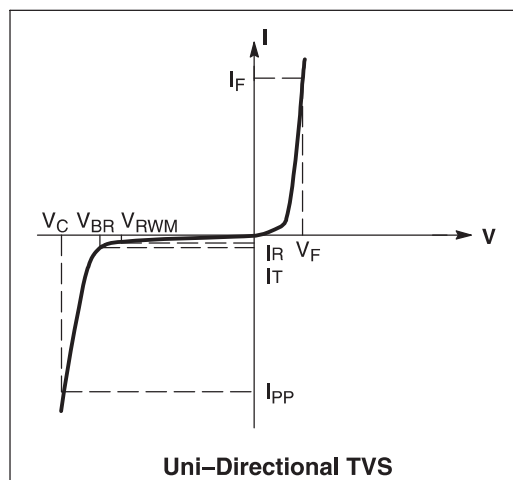
Stresses exceeding Maximum Ratings may damage the device. Maximum Rating are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Note : 1.FR-4 = 70 x 60 x 1mm.

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

| Parameter                                        | Symbol           |
|--------------------------------------------------|------------------|
| Maximum Reverse Peak Pulse Current               | I <sub>PP</sub>  |
| Clamping Voltage@I <sub>PP</sub>                 | V <sub>C</sub>   |
| Working Peak Reverse Voltage                     | V <sub>RWM</sub> |
| Maximum Reverse Leakage Current@V <sub>RWM</sub> | I <sub>R</sub>   |
| Breakdown Voltage @ I <sub>T</sub>               | V <sub>BR</sub>  |
| Test Current                                     | I <sub>T</sub>   |
| Forward Current                                  | I <sub>F</sub>   |
| Forward Voltage@I <sub>F</sub>                   | V <sub>F</sub>   |
| Peak Pulse Power Dissipation                     | P <sub>PP</sub>  |
| Max.Capacitance@V <sub>R</sub> =0 and f=1MHz     | C <sub>J</sub>   |



### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted, V<sub>F</sub>=1.1V Max.@I<sub>F</sub>=10mA)

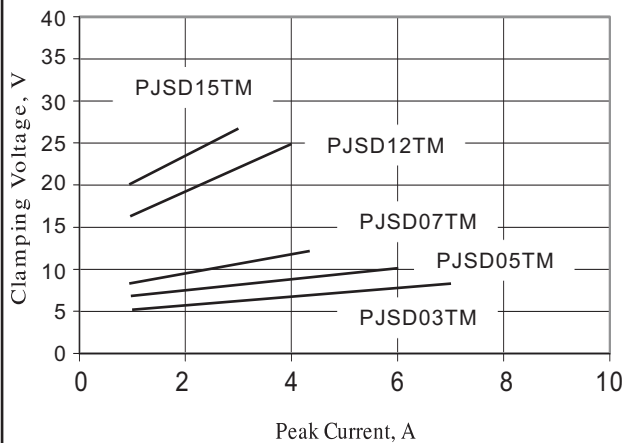
| Part Number | V <sub>RWM</sub> | I <sub>R</sub> @V <sub>RWM</sub> | V <sub>BR</sub> @I <sub>T</sub><br>(Note 2) | C <sub>J</sub><br>(Note 3) | V <sub>C</sub>    | I <sub>PP</sub> | I <sub>T</sub> | Marking |
|-------------|------------------|----------------------------------|---------------------------------------------|----------------------------|-------------------|-----------------|----------------|---------|
|             | Max.             | Max.                             | Min.                                        | Max.                       | Max Per<br>8x20μs |                 |                |         |
|             | V                | μA                               | V                                           | pF                         | V                 |                 |                |         |
| PJSD03TM    | 3.3              | 2.5                              | 5.4                                         | 50                         | 10                | 6               | 1.0            | h       |
| PJSD05TM    | 5                | 1                                | 6.2                                         | 35                         | 12                | 5               | 1.0            | b       |
| PJSD07TM    | 7                | 5                                | 7.5                                         | 30                         | 15                | 4               | 1.0            | c       |
| PJSD12TM    | 12               | 1                                | 13.3                                        | 18                         | 23                | 3               | 1.0            | d       |
| PJSD15TM    | 15               | 1                                | 17.0                                        | 15                         | 30                | 2               | 1.0            | e       |

Note : 2.V<sub>BR</sub> is measured with a pulse test current I<sub>T</sub> at an ambient temperature of 25°C

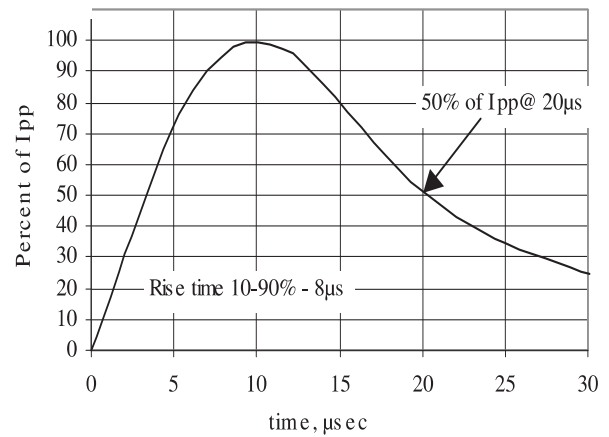
3.Capacitance at f=1MHz, V<sub>R</sub>=0V, T<sub>A</sub>=25°C

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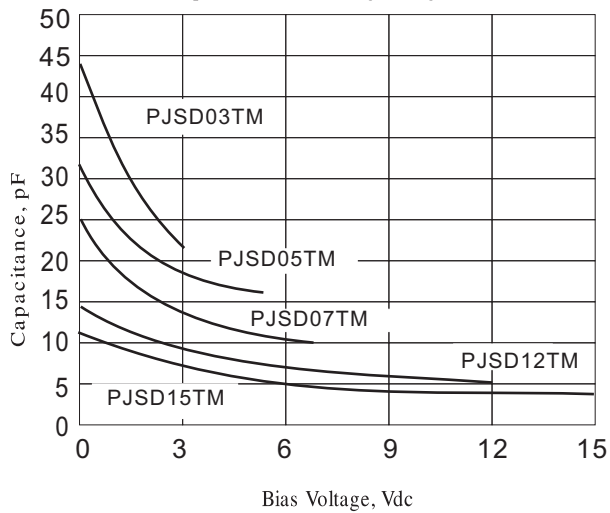
Clamping voltage vs Ipp8/20μs Surge



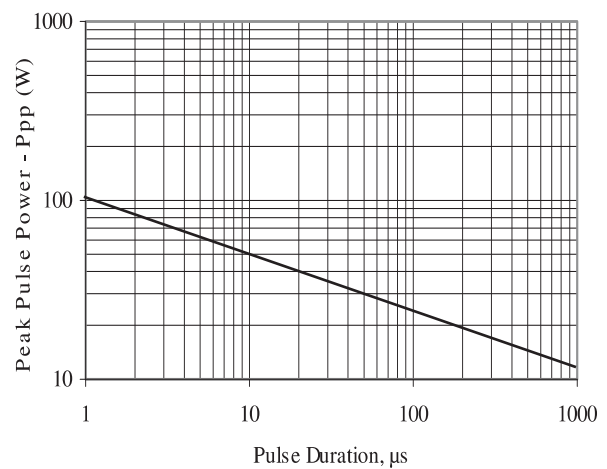
Surge Pulse Waveform Definition



Capacitance vs. Biasing Voltage @1MHz

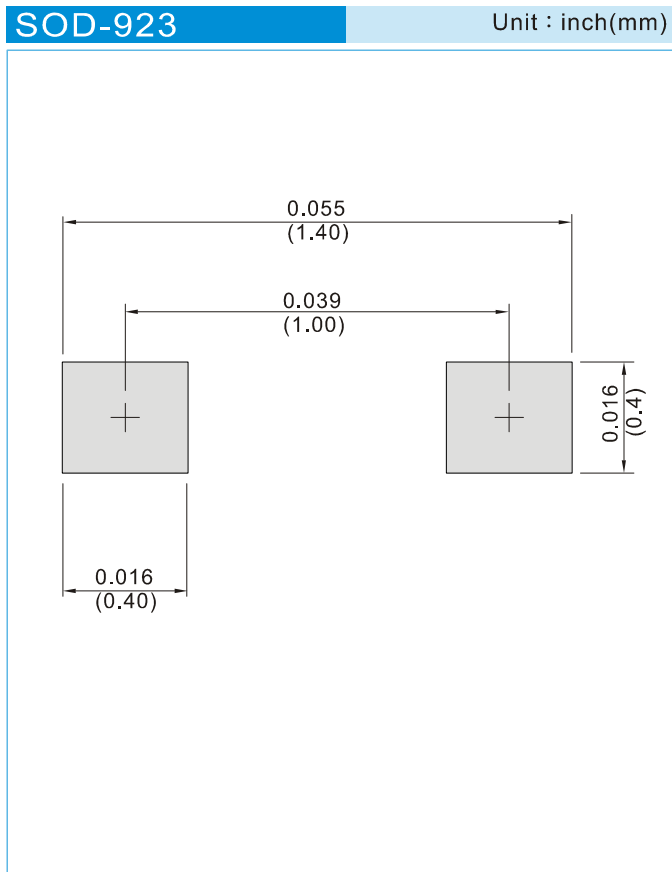


Non-Repetitive Peak Pulse Power vs Pulse Time



## PJSD03TM ~ PJSD15TM

### MOUNTING PAD LAYOUT



### ORDER INFORMATION

- Packing information  
T/R - 8K per 7" plastic Reel

## PJSD03TM ~ PJSD15TM

Part No\_packing code\_Version

PJSD03TM\_R1\_00001

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 XX                      |                      |                                  |                      | Version Code XXXXX |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|--------------------|----------------------|---------------------------------------|
| 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)        | A                    | N/A                              | 0                    | HF                 | 0                    | serial number                         |
| Tape and Reel (T/R)                  | R                    | 7"                               | 1                    | RoHS               | 1                    | serial number                         |
| Bulk Packing (B/P)                   | B                    | 13"                              | 2                    |                    |                      |                                       |
| Tube Packing (T/P)                   | T                    | 26mm                             | X                    |                    |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | S                    | 52mm                             | Y                    |                    |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | L                    | PANASERT T/B CATHODE UP (PBCU)   | U                    |                    |                      |                                       |
| FORMING                              | F                    | PANASERT T/B CATHODE DOWN (PBCD) | D                    |                    |                      |                                       |



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