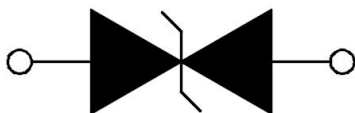
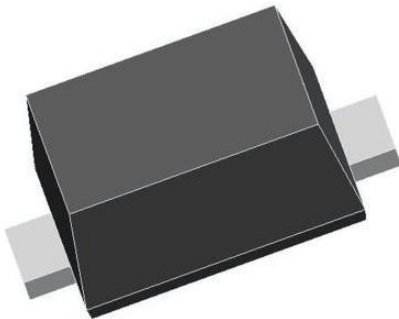


## Features

- 2-pin lead-less package
- Junction capacitance (Max value: 0.5pF)
- Peak Pulse current (8/20 $\mu$ s) Max:5A
- IEC61000-4-2 (ESD)  $\pm$ 15kV (air),  $\pm$ 15kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:5V
- RoHS Compliant

## Appearance & Symbo



Bi-directional

## Marking Information



5S=Marking Code

## Mechanical Characteristics

- Package: SOD-523
- Lead Finish:Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

## Applications

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

## Absolute Maximum Ratings (T=25°C, RH=45%-75%, unless otherwi

| Parameters                                                     | Symbol           | Value       | Unit |
|----------------------------------------------------------------|------------------|-------------|------|
| Peak Pulse Power (tp=8/20μs waveform)                          | P <sub>PP</sub>  | 125         | W    |
| Peak Pulse Current (8/20μs)                                    | I <sub>PP</sub>  | 5           | A    |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | V <sub>ESD</sub> | ±15<br>±15  | 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> |                                              |     |     | 5   | V    |
| Reverse Breakdown Voltage | V <sub>BR</sub>  | I <sub>R</sub> = 1mA                         | 6   |     | 10  | V    |
| Reverse Leakage Current   | I <sub>R</sub>   | V <sub>R</sub> = 5V                          |     |     | 0.2 | μA   |
| Clamping voltage          | V <sub>C</sub>   | I <sub>PP</sub> = 1A, T <sub>P</sub> =8/20us |     |     | 12  | V    |
| Clamping voltage          | V <sub>C</sub>   | I <sub>PP</sub> = 5A, T <sub>P</sub> =8/20us |     |     | 25  | V    |
| Junction capacitance      | C <sub>J</sub>   | V <sub>R</sub> =0V, f =1MHz                  |     | 0.3 | 0.5 | pF   |

## Typical Characteristics

FIG1: Power rating derating curve

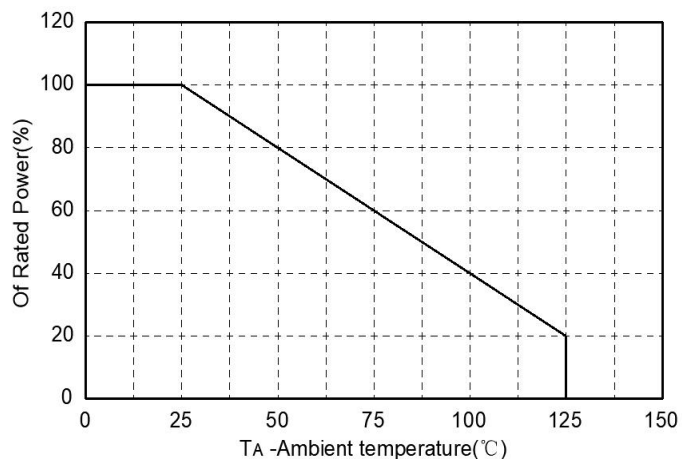


FIG2: pulse Waveform

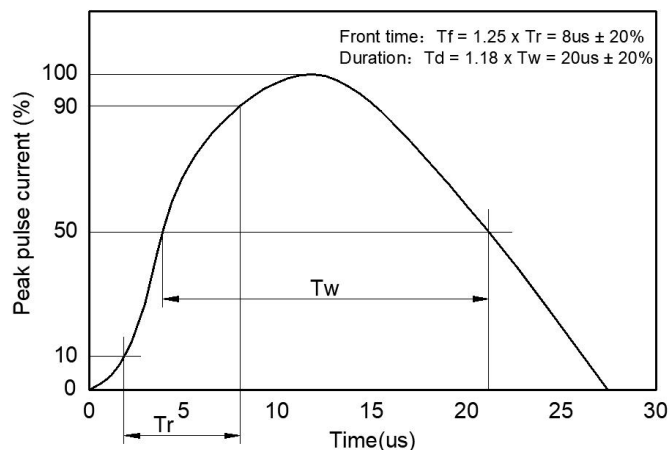


FIG3: Capacitance between terminals characteristics

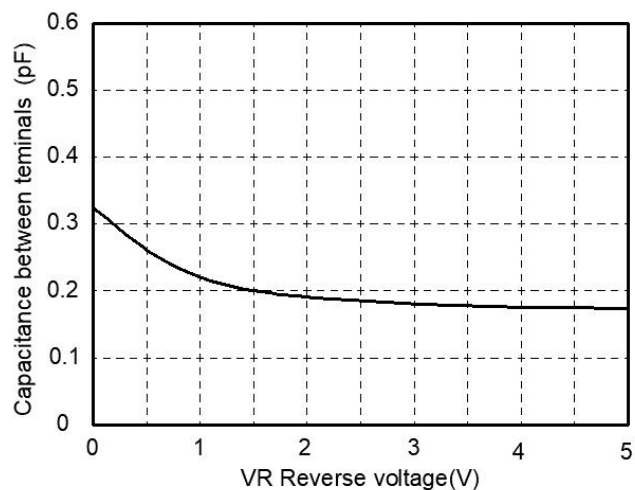
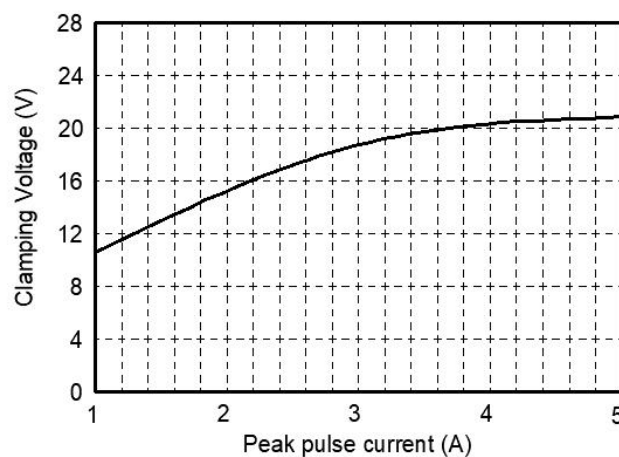
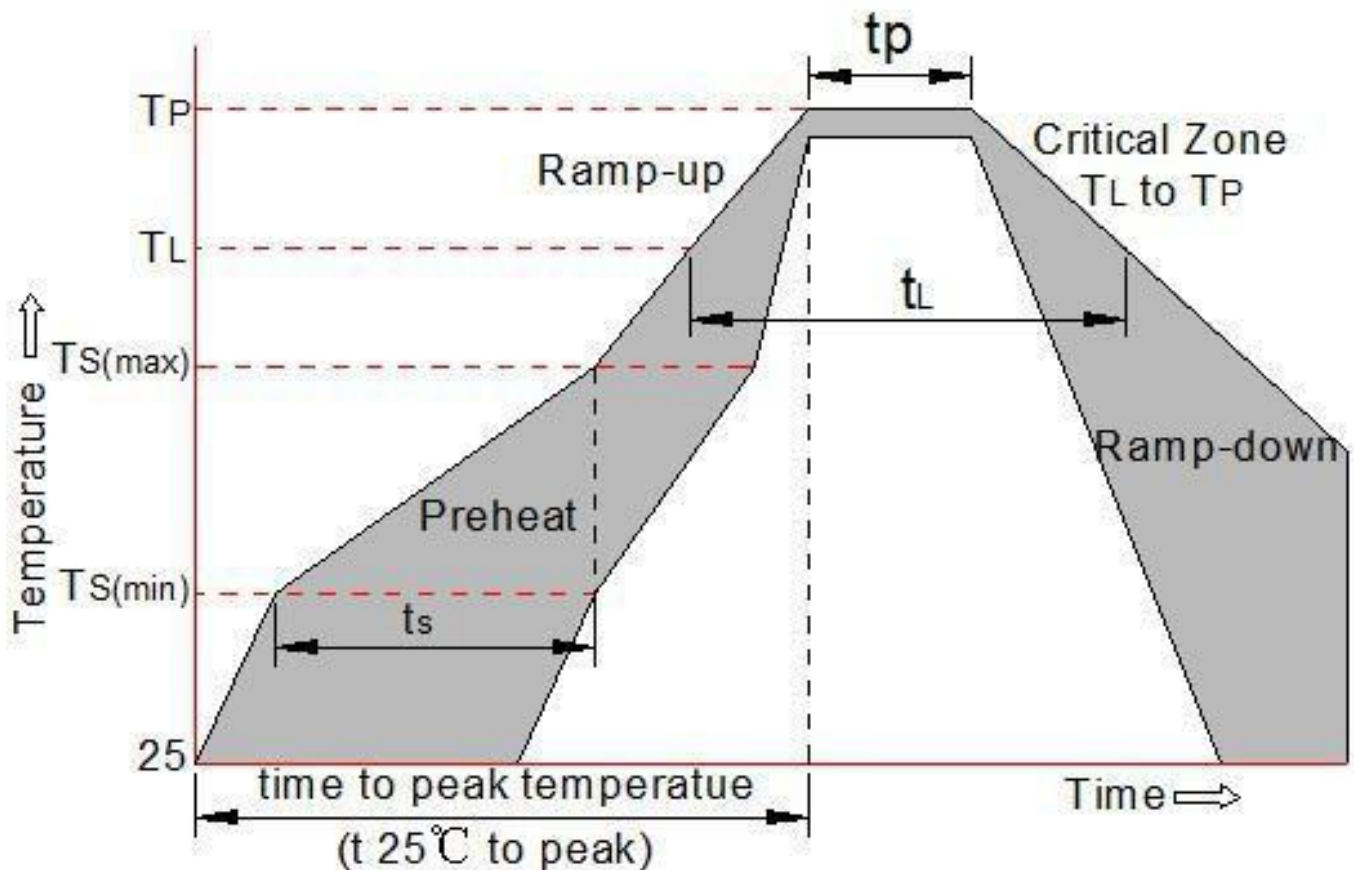


FIG4: Clamping Voltage vs. Peak Pulse Current

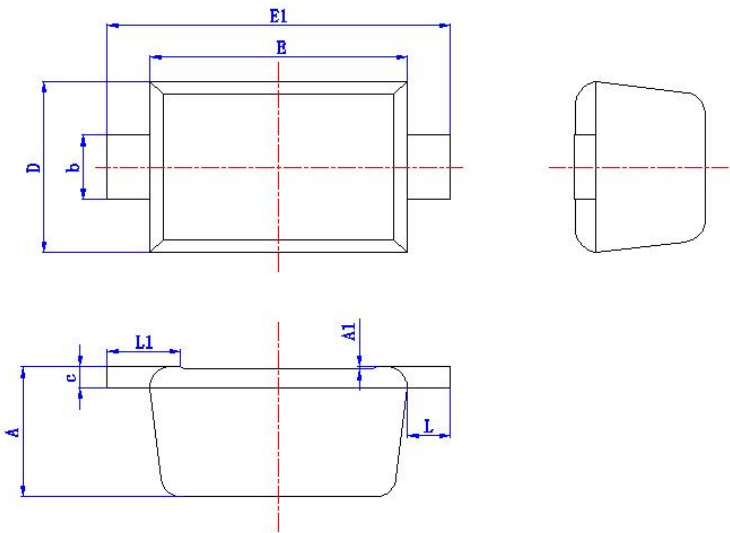


#### Soldering parameters

| 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                            |

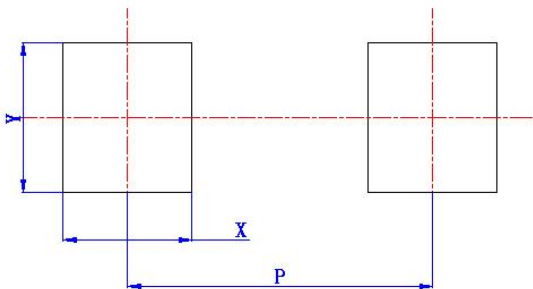


Package mechanical data



| Symbol | Dimension in Millimeters |      |
|--------|--------------------------|------|
|        | min                      | max  |
| A      | 0.50                     | 0.75 |
| A1     | 0                        | 0.05 |
| D      | 0.68                     | 0.95 |
| E      | 1.10                     | 1.35 |
| E1     | 1.50                     | 1.80 |
| b      | 0.25                     | 0.35 |
| c      | 0.08                     | 0.15 |
| L      | 0.13                     | 0.30 |
| L1     | (0.3)                    |      |

Suggested Land Pattern



| Symbol | Dimension in Millimeters |  |
|--------|--------------------------|--|
|        | typ                      |  |
| X      | (0.6)                    |  |
| Y      | (0.7)                    |  |
| P      | (1.42)                   |  |

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