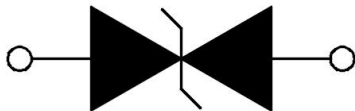
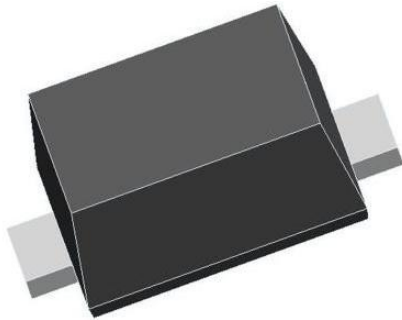


### Features

- 2-pin lead-less package
- Junction capacitance (Max value: 20pF)
- Peak Pulse current (8/20 $\mu$ s) Max:8A
- IEC61000-4-2 (ESD)  $\pm$ 30kV (air),  $\pm$ 30kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:5V
- RoHS Compliant



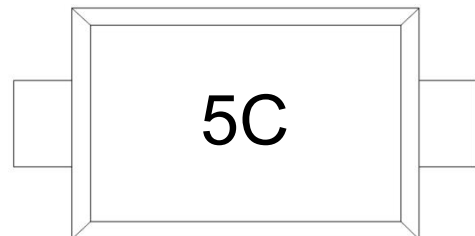
**Bi-directional**

### 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
- Tape Reel :3000pcs

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

### Marking Information



5C =Marking Code

Absolute Maximum Ratings (T=25°C, RH=45%-75%, unless otherwise noted)

| Parameters                                                     | Symbol           | Value       | Unit |
|----------------------------------------------------------------|------------------|-------------|------|
| Peak Pulse Power (tp=8/20μs waveform)                          | P <sub>PP</sub>  | 120         | W    |
| Peak Pulse Current (8/20μs)                                    | I <sub>PP</sub>  | 8           | A    |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | V <sub>ESD</sub> | ±30<br>±30  | 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                         | 5.6 |     | 8   | 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 |     |     | 10  | V    |
| Clamping voltage          | V <sub>C</sub>   | I <sub>PP</sub> = 8A, T <sub>P</sub> =8/20us |     |     | 15  | V    |
| Junction capacitance      | C <sub>J</sub>   | V <sub>R</sub> = 0V, f = 1MHz                |     |     | 20  | pF   |

## Typical Characteristics

FIG1: Power rating derating curve



FIG2: pulse Waveform

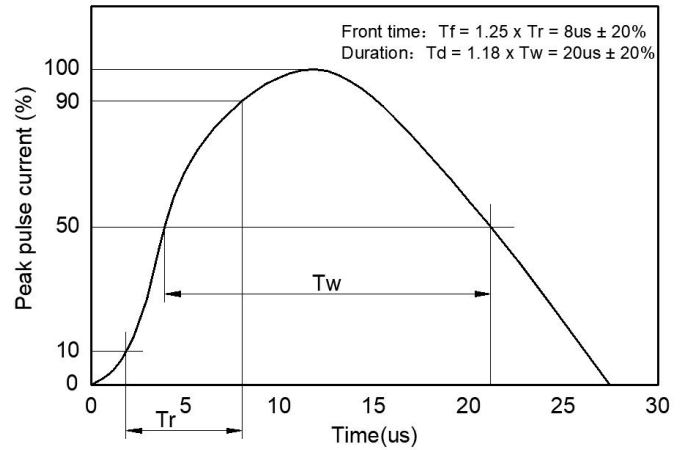


FIG3: Capacitance between terminals characteristics

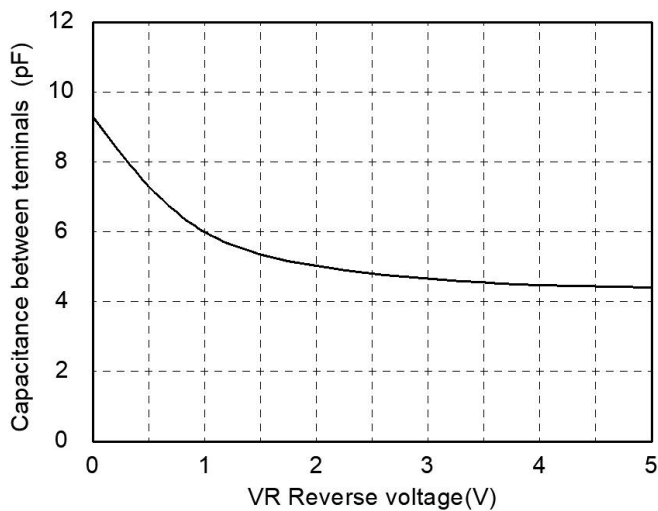
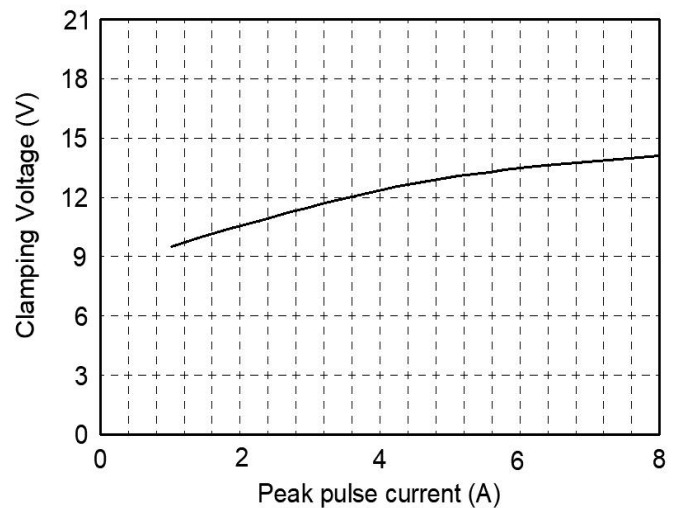
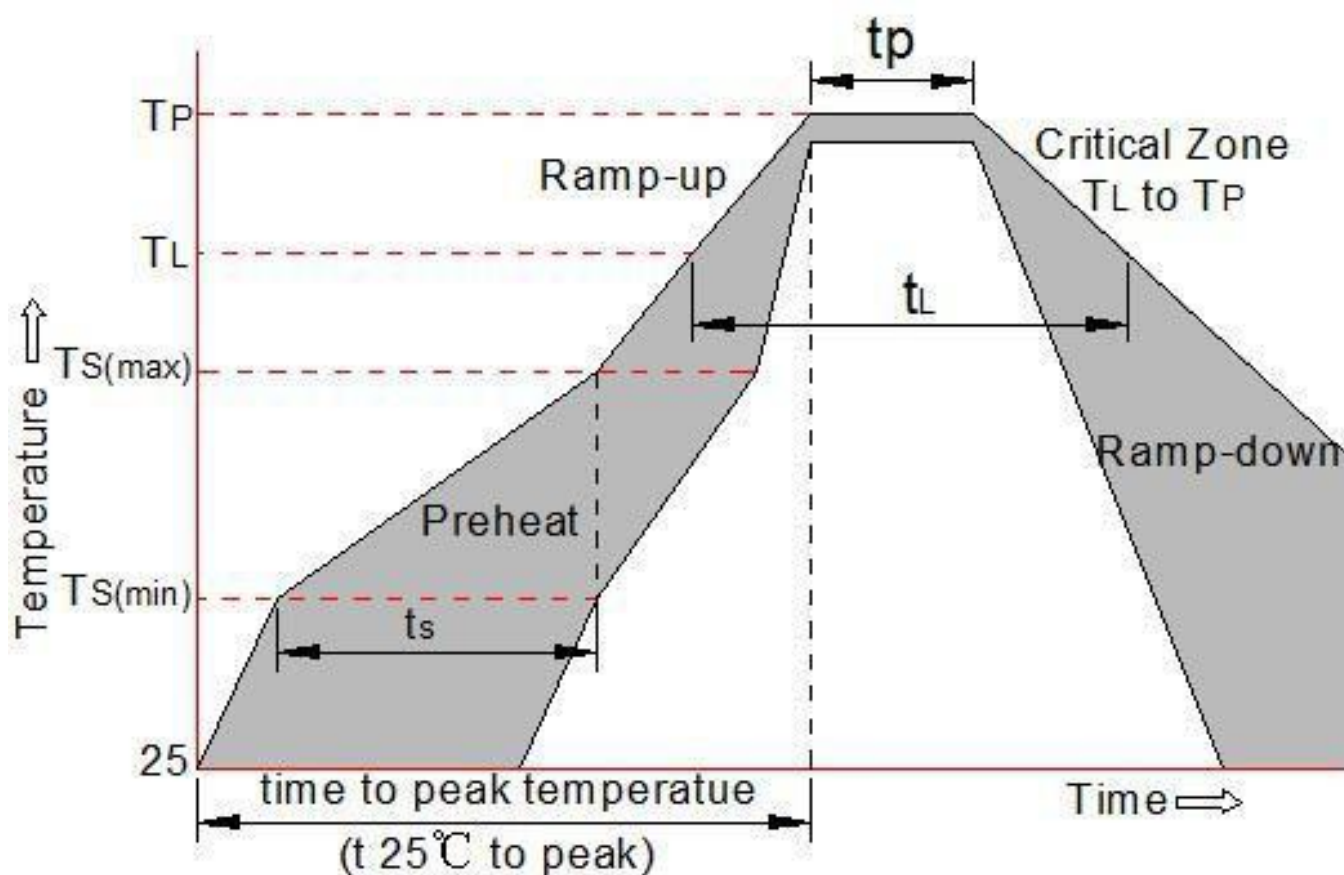


FIG4: Clamping Voltage vs. Peak Pulse Current

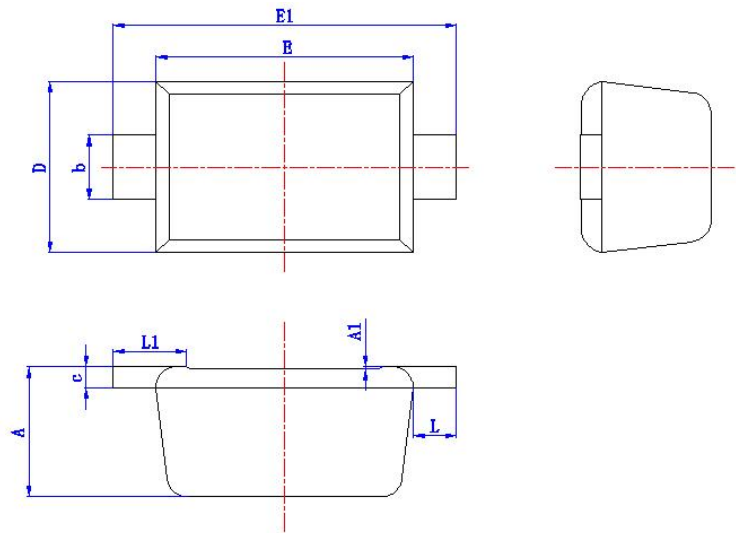


### Soldering parameters

| 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                              |

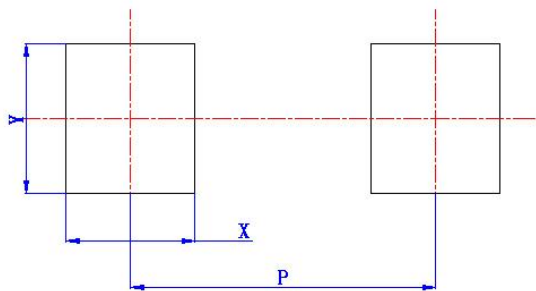


Package mechanical data



| Symbol | 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)                   |