

# MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

## ESD5B5.0ST1G-MS

Product specification

**FEATURES**

- IEC61000-4-2 (ESD)  $\pm 30\text{kV}$  (Contact),  $\pm 30\text{kV}$  (Air)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Peak power dissipation: 128W (8/20 $\mu\text{s}$ )
- Protects one I/O line
- Low clamping voltage
- Working voltages : 5V
- Low leakage current


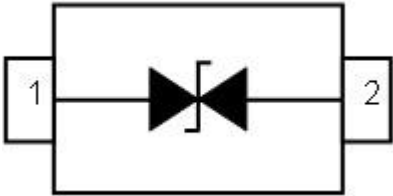

**MACHANICAL DATA**

- SOD-523 package
- Terminals: Tin plated, solderable per
- MIL-STD-750, method 2026
- Packaging: Tape and Reel
- Reel size: 7 inch
- MSL1

**APPLICATIONS**

- High Speed Line :USB1.0/2.0, VGA, DVI, SDI,
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

**Reference News**

| PACKAGE OUTLINE   | PIN CONFIGURATION   | Marking   |
|---|---|---|
|  |  |  |
| <p>SOD-523</p>  |   |   |

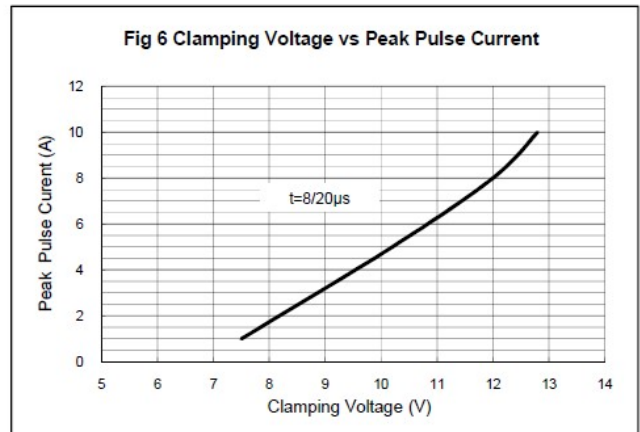
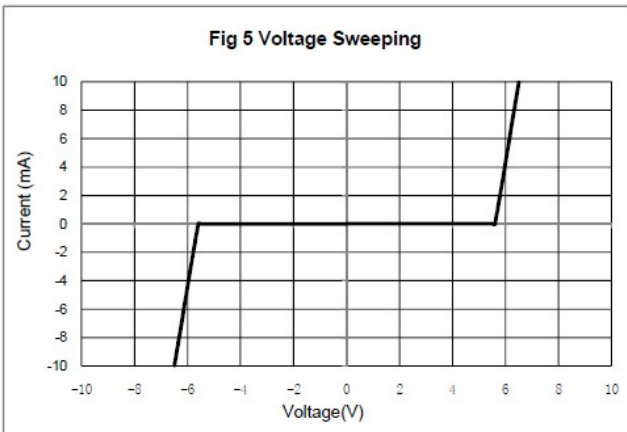
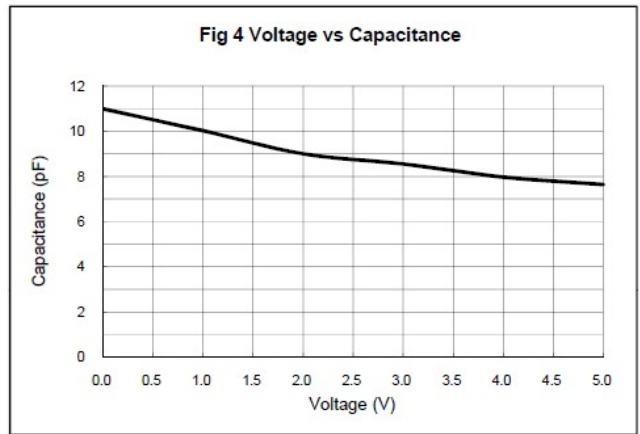
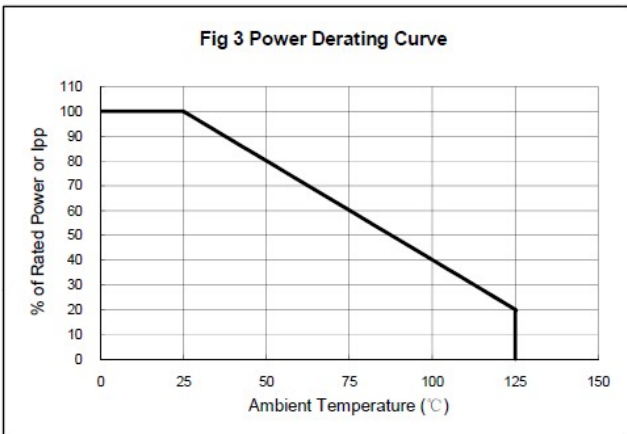
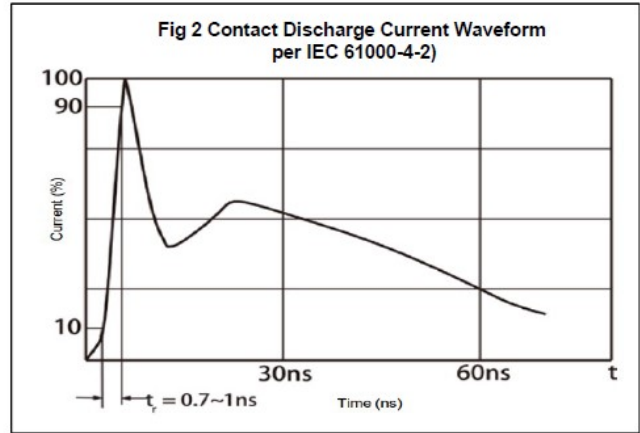
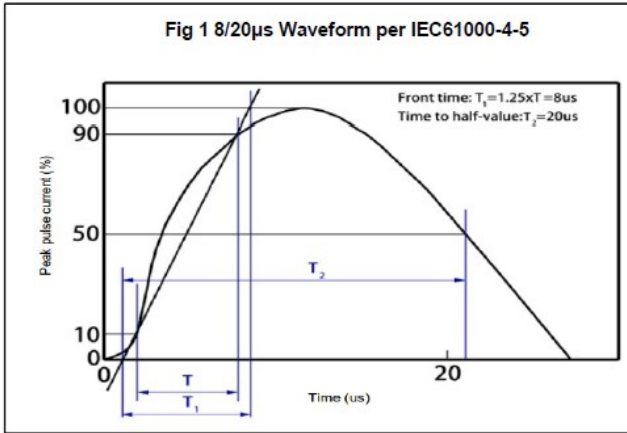
**ABSOLUTE MAXIMUM RATING**

| Symbol           | Parameter                       | Value   | Units |
|------------------|---------------------------------|---------|-------|
| V <sub>ESD</sub> | ESD per IEC 61000-4-2 (Contact) | ±30     | kV    |
|                  | ESD per IEC 61000-4-2 (Air)     | ±30     |       |
| P <sub>PP</sub>  | Peak Pulse Power (8/20μs)       | 128     | W     |
| T <sub>OPT</sub> | Operating Temperature           | -40~150 | °C    |
| T <sub>STG</sub> | Storage Temperature             | -40~150 | °C    |

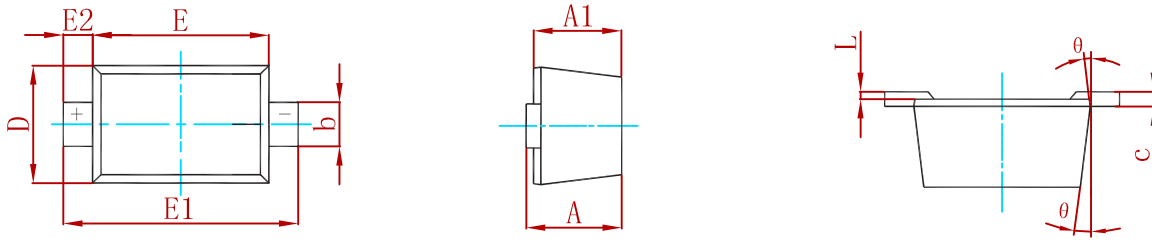
**ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C)**

| Symbol           | Parameter                 | Test Condition                                   | Min | Typ | Max  | Units |
|------------------|---------------------------|--|-----|-----|------|-------|
| V <sub>RWM</sub> | Reverse Working Voltage   |  |     |     | 5.0  | V     |
| V <sub>BR</sub>  | Reverse Breakdown Voltage | I <sub>T</sub> = 1mA                             | 5.6 |     | 9.0  | V     |
| I <sub>R</sub>   | Reverse Leakage Current   | V <sub>RWM</sub> = 5V                            |     |     | 0.1  | μA    |
| V <sub>C</sub>   | Clamping Voltage          | I <sub>PP</sub> = 5A, t <sub>p</sub> = 8/20μs    |     |     | 11.6 | V     |
| V <sub>C</sub>   | Clamping Voltage          | I <sub>PPmax</sub> = 8A, t <sub>p</sub> = 8/20μs |     |     | 16.0 | V     |
| C <sub>J</sub>   | Junction Capacitance      | V <sub>R</sub> = 0V, f = 1MHz                    |     | 10  | 15   | pF    |

**ELECTRICAL CHARACTERISTICS CURVE**

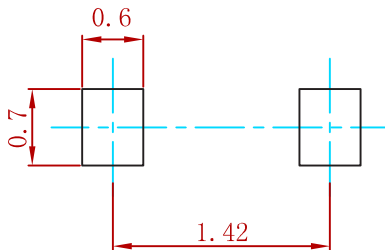


**PACKAGE MECHANICAL DATA**



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 0.510                     | 0.770 | 0.020                | 0.031 |
| A1     | 0.500                     | 0.700 | 0.020                | 0.028 |
| b      | 0.250                     | 0.350 | 0.010                | 0.014 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 0.750                     | 0.850 | 0.030                | 0.033 |
| E      | 1.100                     | 1.300 | 0.043                | 0.051 |
| E1     | 1.500                     | 1.700 | 0.059                | 0.067 |
| E2     | 0.200 REF                 |       | 0.008 REF            |       |
| L      | 0.010                     | 0.070 | 0.001                | 0.003 |
| θ      | 7° REF                    |       | 7° REF               |       |

**Suggested Pad Layout**



- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05\text{mm}$ .
  3. The pad layout is for reference purposes only.

**REEL SPECIFICATION**

| P/N             | PKG     | QTY  |
|-----------------|---------|------|
| ESD5B5.0ST1G-MS | SOD-523 | 3000 |

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