

## 1-Line Bidirectional ESD Protection Diode



### General description

The SLESD5LM5.0CS is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time , make these parts ideal for ESD protection on designs where board space is at a premium.

### Features and benefits

- Low Capacitance 2.8 pF(Typ)
- Reverse stand-off voltage: 5V Max
- Low leakage current: nA Level
- Response time is typically < 1 ns
- IEC61000-4-2 Level 4 ESD Protection

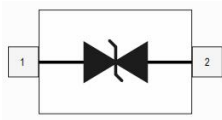
### Application information

- Cellular Handsets & Accessories
- Digital Cameras
- Peripherals
- Keypads, Side Keys, USB 2.0,LCD Displays
- MP3 Players
- Portable Instrumentation
- Notebooks & Desktop Computers

### Ordering information

| Device        | Package | Packaging        | Reel Size |
|---------------|---------|------------------|-----------|
| SLESD5LM5.0CS | SOD523  | 3000/Tape & Reel | 7 Inch    |

### Schematic & Pin configuration

| Mimensions                                                                          | Circuit Diagram                                                                      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |

## Maximum Ratings ( $T_A = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

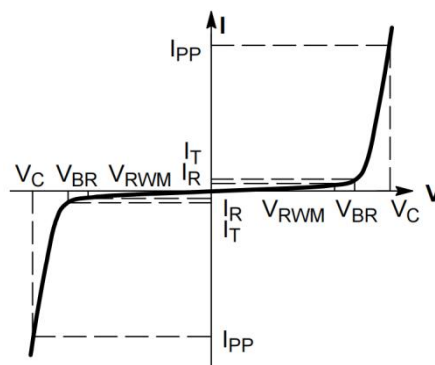
| Parameter                                                    | Symbol    | Value       | Unit               |
|--------------------------------------------------------------|-----------|-------------|--------------------|
| Peak Pulse Power ( $T_p = 8/20\text{ }\mu\text{s}$ )         | $P_{PPM}$ | 53          | W                  |
| Rated Peak Pulse Current ( $T_p = 8/20\text{ }\mu\text{s}$ ) | $I_{PPM}$ | 3.5         | A                  |
| ESD voltage IEC 61000-4-2 (air discharge)                    | $V_{ESD}$ | 15          | kV                 |
| ESD voltage IEC 61000-4-2 (contact discharge)                | $V_{ESD}$ | 8           | kV                 |
| Operating Temperature Range                                  | $T_L$     | 260         | $^{\circ}\text{C}$ |
| Maximum lead temperature for soldering during 10s            | $T_{stg}$ | -55 to +150 | $^{\circ}\text{C}$ |
| Storage Temperature Range                                    | $T_{OP}$  | -40 to +125 | $^{\circ}\text{C}$ |

## Electrical Characteristics ( $T_A = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

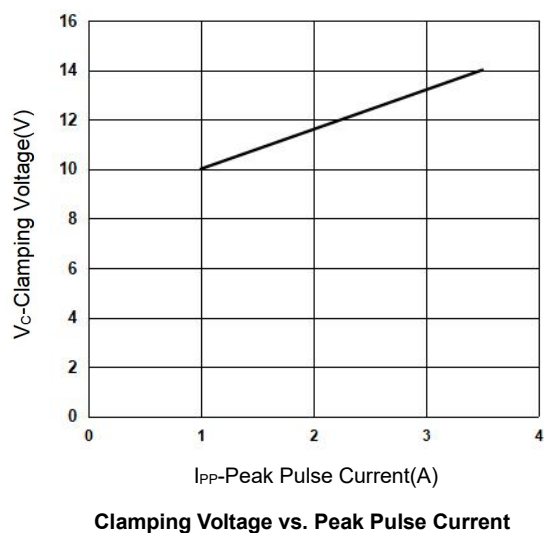
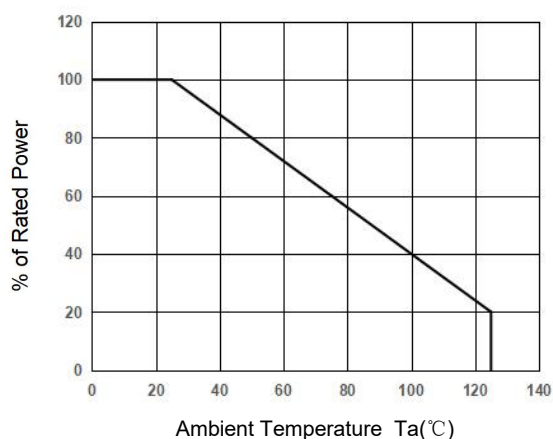
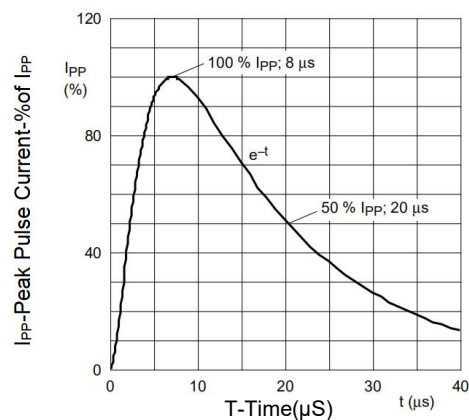
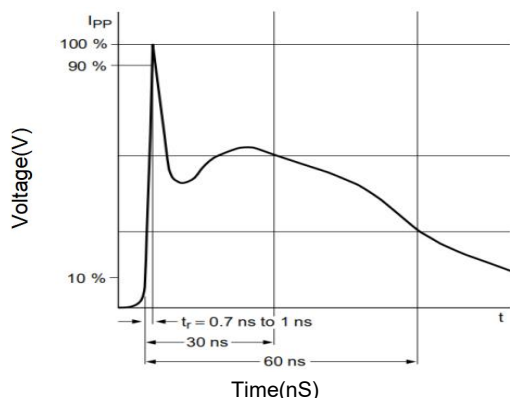
| Parameter                  | Symbol    | Min | Typ  | Max  | Unit | Condition                                             |
|----------------------------|-----------|-----|------|------|------|-------------------------------------------------------|
| Reverse Working Voltage    | $V_{RWM}$ | --  | --   | 5.0  | V    |                                                       |
| Breakdown Voltage          | $V_{BR}$  | 7.0 | --   | 9.0  | V    | $I_T = 1\text{mA}$                                    |
| Leakage Current $I_{Leak}$ | $I_R$     | --  | --   | 100  | nA   | $V_{RWM} = 5\text{V}$                                 |
| Clamping Voltage           | $V_C$     | --  | 10.0 | 12.0 | V    | $I_{PP} = 1.0\text{A}, T_p = 8/20\text{ }\mu\text{s}$ |
|                            |           | --  | 14.0 | 15.0 | V    | $I_{PP} = 3.5\text{A}, T_p = 8/20\text{ }\mu\text{s}$ |
| Junction Capacitance       | $C_j$     | --  | 2.8  | 3.2  | pF   | $V_R = 0\text{V}, f = 1\text{MHz}$                    |
|                            |           | --  | 2.0  | 2.5  | pF   | $V_R = 5.0\text{V}, f = 1\text{MHz}$                  |

## Portion Electronics Parameter

| Symbol    | Parameter                           |
|-----------|-------------------------------------|
| $I_{PP}$  | Reverse Peak Pulse Current          |
| $V_C$     | Clamping Voltage @ $I_{PP}$         |
| $V_{RWM}$ | Working Peak Reverse Voltage        |
| $I_R$     | Reverse Leakage Current @ $V_{RWM}$ |
| $V_{BR}$  | Breakdown Voltage @ $I_T$           |
| $I_T$     | $V_{BR}$ Test Current               |

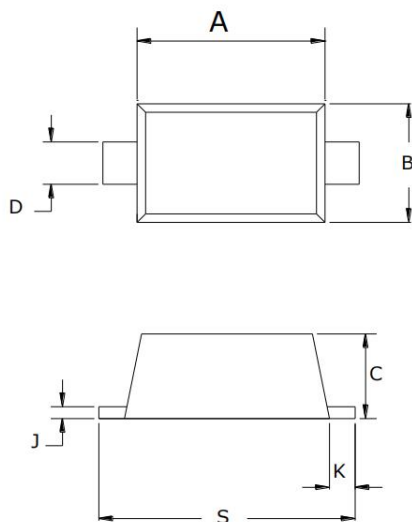


## Typical Performance Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise Specified)



## Package Outline Dimensions

### SOD523



| SYMBOL | Dimensions In Millimet |      |
|--------|------------------------|------|
|        | MIN                    | MAX  |
| A      | 1.10                   | 1.30 |
| B      | 0.70                   | 0.90 |
| C      | 0.50                   | 0.70 |
| D      | 0.25                   | 0.35 |
| J      | 0.07                   | 0.20 |
| K      | 0.15                   | 0.25 |
| S      | 1.50                   | 1.70 |

## Soldering Footprint (mm)

