

## SOD-523 ESD 静电保护二极管

### ■ Features 特点

Bi-directional ESD Protection 双向静电保护

Low capacitance 低电容

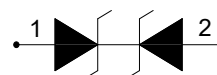
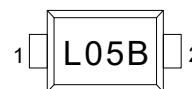
### ■ Applications 应用

USB 接口

Notebooks 笔记本电脑

HDMI 高清多媒体接口

Marking 印字: L05B



### ■ Internal Schematic Diagram 内部结构

### ■ Absolute Maximum Ratings 最大额定值

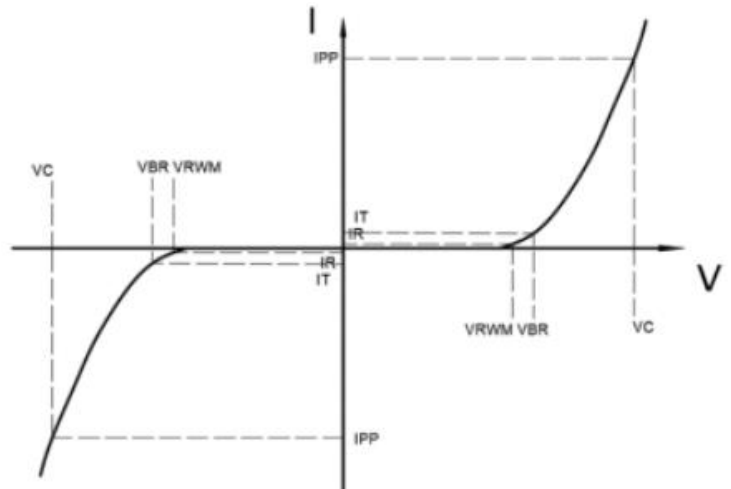
| Characteristic 特性参数                               | Symbol 符号 | Rat 额定值  | Unit 单位 |
|---------------------------------------------------|-----------|----------|---------|
| ESD (IEC61000-4-2 contact discharge)<br>@25°C接触放电 | $V_{ESD}$ | $\pm 10$ | KV      |
| ESD (IEC61000-4-2 air discharge) @25°C<br>空气放电    | $V_{ESD}$ | $\pm 15$ | KV      |
| Peak Pulse Current @25°C峰值脉冲电流                    | $I_{PP}$  | 4        | A       |
| Peak Pulse Power @25°C峰值脉冲功率                      | $P_{PK}$  | 80       | W       |
| Lead Temperature 管脚温度                             | $T_L$     | 260      | °C      |
| Lead Solder Time 管脚焊接时间                           | $T_L$     | 10       | S       |
| Operating Temperature 工作温度                        | $T_{op}$  | -40~85   | °C      |
| Junction Temperature 结温                           | $T_J$     | -55~125  | °C      |
| Storage Temperature 储存温度                          | $T_{stg}$ | -55~150  | °C      |

## ■ Electrical Characteristics 电特性

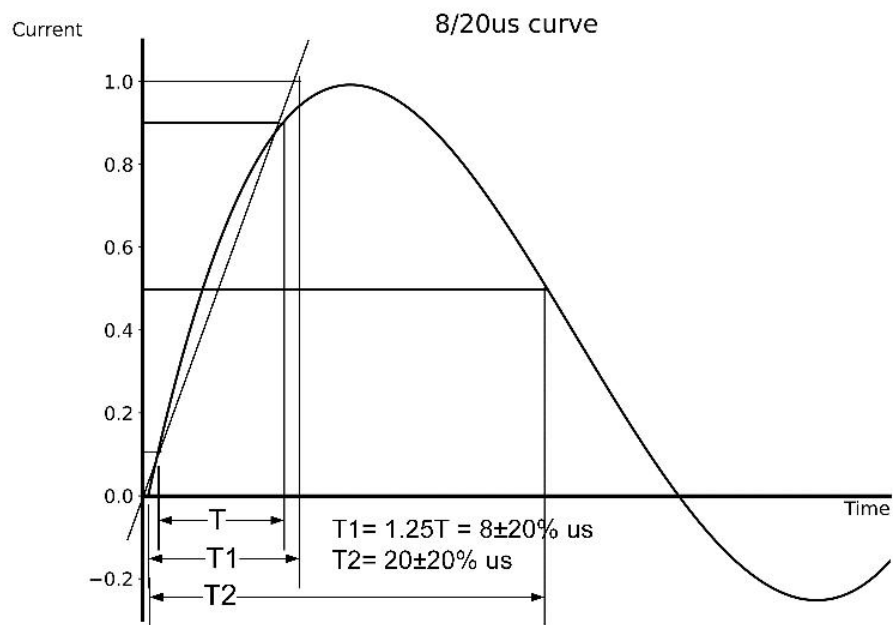
( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^{\circ}\text{C}$ )

| Characteristic Parameters<br>特性参数   | Symbol<br>符号       | Min<br>最小值 | Typ<br>典型值 | Max<br>最大值 | Unit<br>单位    | Condition<br>条件                                         |
|-------------------------------------|--------------------|------------|------------|------------|---------------|---------------------------------------------------------|
| Reverse Stand-off Voltage<br>反向工作电压 | $V_{\text{RWM}}$   |            |            | 5          | V             |                                                         |
| Reverse Breakdown Voltage<br>反向击穿电压 | $V_{\text{R(BR)}}$ | 6          |            |            | V             | $I_{\text{T}}=1\text{mA}$                               |
| Reverse Leakage Current<br>反向漏电流    | $I_{\text{R}}$     |            |            | 1          | $\mu\text{A}$ | $V_{\text{RWM}}=5\text{V}$                              |
| Clamping Voltage<br>钳位电压            | $V_{\text{C}}$     |            | 12         |            | V             | $I_{\text{PP}}=1\text{A}, t_{\text{p}}=8/20\mu\text{s}$ |
| Clamping Voltage<br>钳位电压            | $V_{\text{C}}$     |            | 18         |            | V             | $I_{\text{PP}}=4\text{A}, t_{\text{p}}=8/20\mu\text{s}$ |
| Diode Capacitance<br>二极管电容          | $C_{\text{D}}$     |            | 0.35       |            | pF            | $V_{\text{R}}=0\text{V}, f=1\text{MHz}$                 |

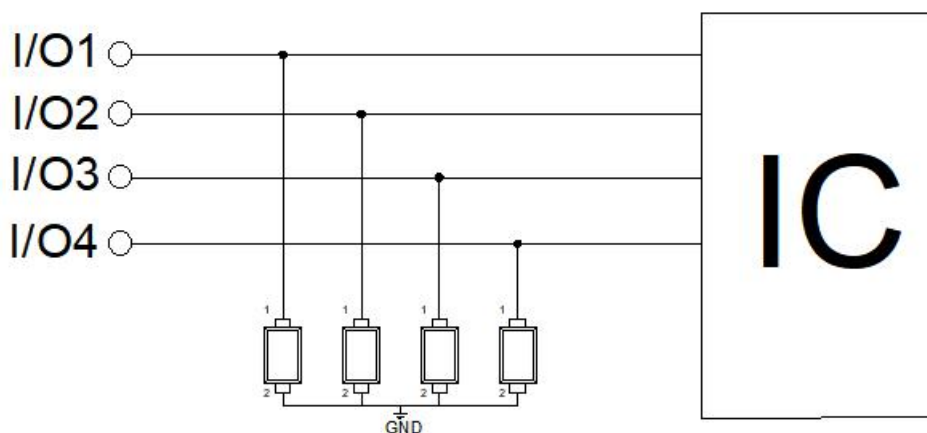
|                    |                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------|
| $V_{\text{RWM}}$   | Reverse Working Voltage<br>反向工作电压                                                               |
| $V_{\text{R(BR)}}$ | Reverse Breakdown Voltage<br>反向击穿电压@ $I_{\text{T}}=1\text{mA}$                                  |
| $I_{\text{T}}$     | Test Current<br>测试电流                                                                            |
| $I_{\text{R}}$     | Reverse Leakage Current<br>反向漏电流@ $V_{\text{RWM}}$                                              |
| $V_{\text{C}}$     | Clamping Voltage<br>钳位电压                                                                        |
| $I_{\text{PP}}$    | Reverse Peak Pulse Current<br>浪涌电流                                                              |
| $C_{\text{D}}$     | Diode Capacitance 二极管电容<br>$V_{\text{I0}}=0\text{V}, V_{\text{P-P}}=30\text{mV}, f=1\text{MHz}$ |



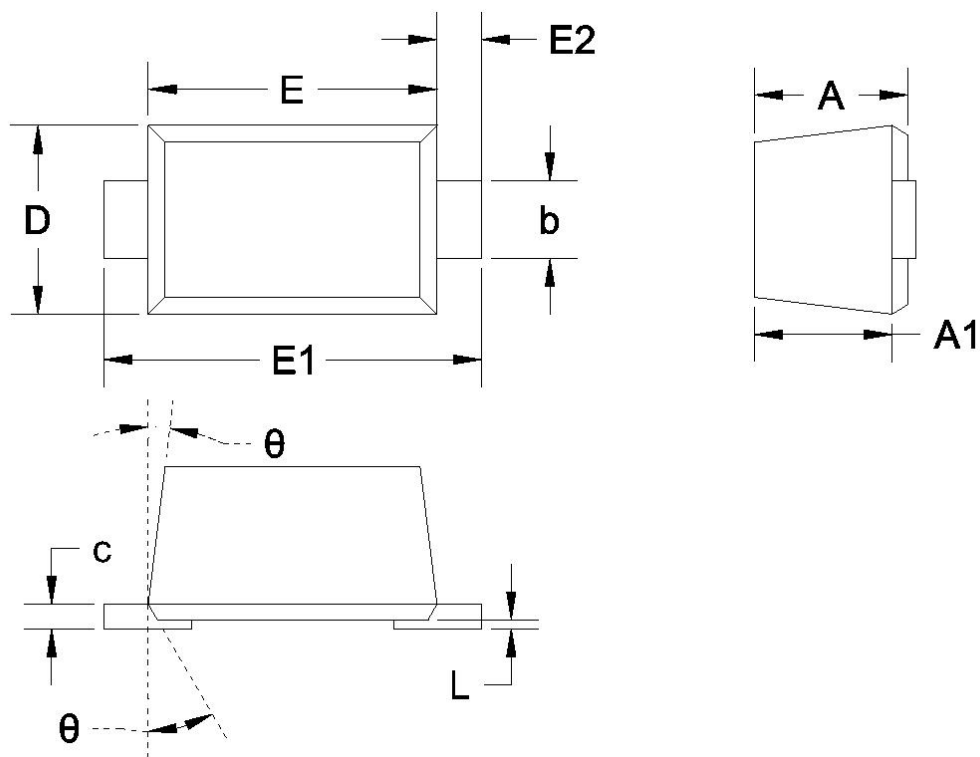
## ■ Typical Characteristic Curve 典型特性曲线



## ■ Typical Application 典型应用



■ Dimension 外形封装尺寸



| Unit mm | A    | A1   | b    | c    | D    | E    | E1   | E2   | L    | $\theta$ |
|---------|------|------|------|------|------|------|------|------|------|----------|
| Max.    | 0.77 | 0.70 | 0.35 | 0.15 | 0.85 | 1.30 | 1.70 | 0.20 | 0.07 | 7°       |
| Min.    | 0.51 | 0.50 | 0.25 | 0.08 | 0.75 | 1.10 | 1.50 | REF. | 0.01 | REF.     |