

## SOT-523 ESD 静电保护二极管

### ■Features 特点

Un-directional ESD Protection 单向静电保护

Low capacitance 低电容

### ■Applications 应用

USB / IEEE Interfaces 接口

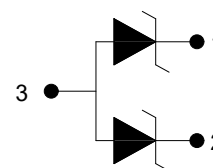
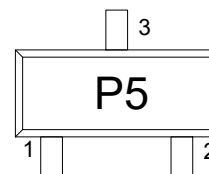
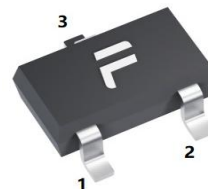
Notebooks 笔记本电脑

HDMI 高清多媒体接口

Marking 印字: P5

### ■Internal Schematic Diagram 内部结构

### ■Absolute Maximum Ratings 最大额定值



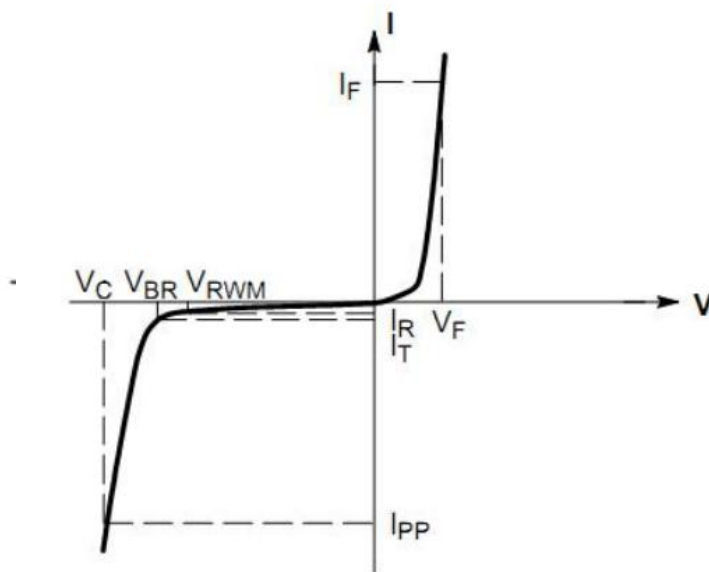
| Characteristic 特性参数                               | Symbol 符号 | Rat 额定值  | Unit 单位 |
|---------------------------------------------------|-----------|----------|---------|
| ESD (IEC61000-4-2 contact discharge)<br>@25°C接触放电 | $V_{ESD}$ | $\pm 15$ | KV      |
| ESD (IEC61000-4-2 air discharge) @25°C<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                      | $P_{PK}$  | 60       | 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                          | $T_{stg}$ | -55~125  | °C      |

## ■ Electrical Characteristics 电特性

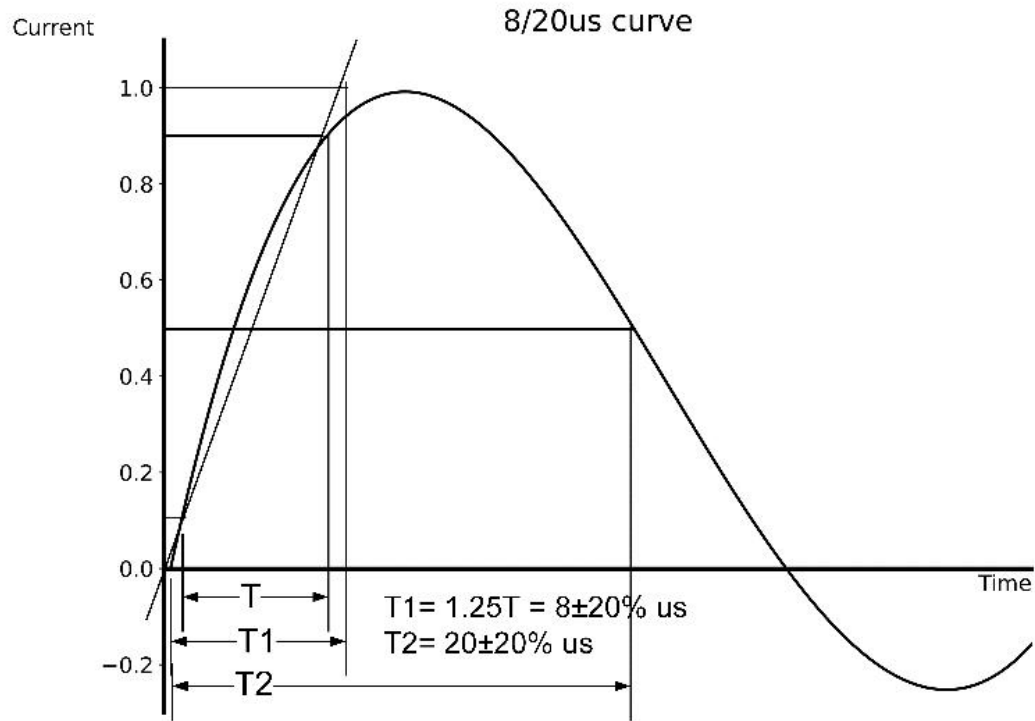
( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^{\circ}\text{C}$ )

| 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            | $V_{\text{C}}$     |            | 10         |            | V             | $I_{\text{PP}}=1\text{A}, t_{\text{p}}=8/20\mu\text{s}$ |
| Clamping Voltage<br>钳位电压            | $V_{\text{C}}$     |            | 15         |            | V             | $I_{\text{PP}}=4\text{A}, t_{\text{p}}=8/20\mu\text{s}$ |
| Junction Capacitance<br>结电容         | $C_{\text{J}}$     |            | 0.6        |            | pF            | $V_{\text{R}}=0\text{V}, f=1\text{MHz}$                 |

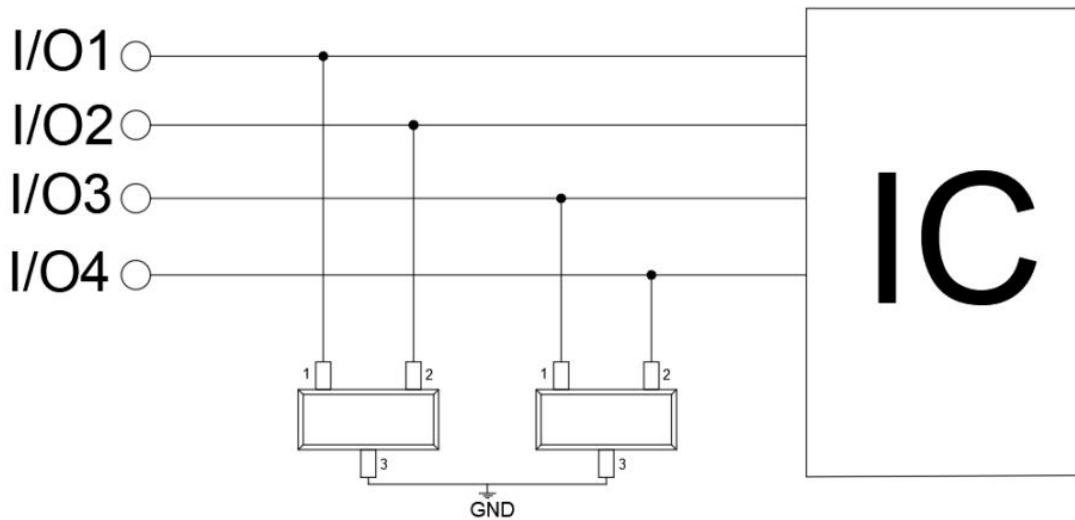
|                    |                                                                                                  |
|--------------------|--------------------------------------------------------------------------------------------------|
| $V_{\text{RWM}}$   | Reverse Working Voltage<br>反向工作电压                                                                |
| $V_{\text{R(BR)}}$ | 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                                                               |
| $C_{\text{J}}$     | Junction Capacitance 结电容<br>$V_{\text{IO}}=0\text{V}, V_{\text{P-P}}=30\text{mV}, f=1\text{MHz}$ |



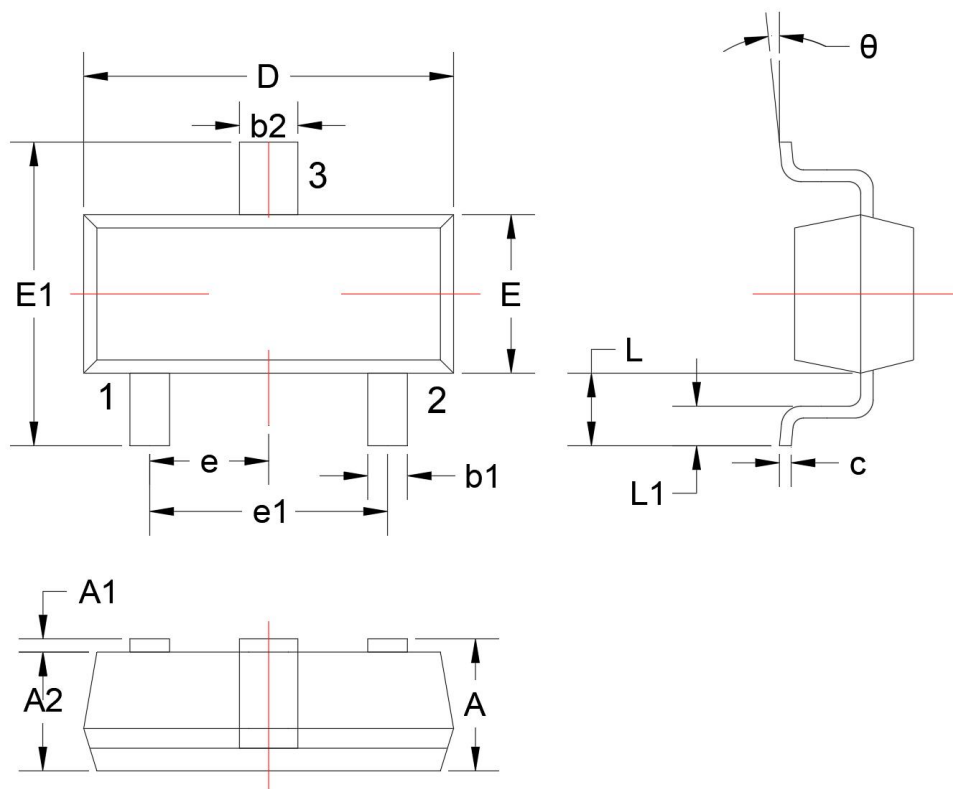
■ Typical Characteristic Curve 典型特性曲线



■ Typical Application 典型应用



■ Dimension 外形封装尺寸



| Dimensions in Millimeters |       |       |          |          |       |
|---------------------------|-------|-------|----------|----------|-------|
| Symbol                    | Min.  | Max.  | Symbol   | Min.     | Max.  |
| A                         | 0.700 | 0.900 | e1       | 0.900    | 1.100 |
| A1                        | 0.00  | 0.100 | e        | 0.500TYP |       |
| A2                        | 0.700 | 0.800 | L        | 0.400REF |       |
| b1                        | 0.150 | 0.250 | L1       | 0.260    | 0.460 |
| b2                        | 0.250 | 0.350 | $\theta$ | 0°       | 8°    |
| c                         | 0.100 | 0.200 |          |          |       |
| D                         | 1.500 | 1.700 |          |          |       |
| E                         | 0.700 | 0.900 |          |          |       |
| E1                        | 1.450 | 1.750 |          |          |       |