

## SOD-323 ESD 静电保护二极管

### ■ Features 特点

Bi-directional ESD Protection 双向静电保护  
Low reverse clamping voltage 低反向钳位电压  
Low leakage current 低漏电流  
Fast response time 快速响应时间  
Marking 印字: 05C



### ■ Applications 应用

Computer 计算机  
High speed data lines 高速数据线  
Communication System 通信系统



### ■ Absolute Maximum Ratings 最大额定值

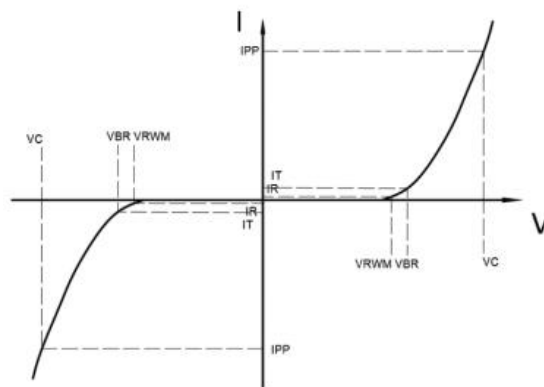
| Characteristic 特性参数                               | Symbol 符号 | Rat 额定值  | Unit 单位 |
|---------------------------------------------------|-----------|----------|---------|
| ESD (IEC61000-4-2 contact discharge)<br>@25°C接触放电 | $V_{ESD}$ | $\pm 30$ | KV      |
| ESD (IEC61000-4-2 air discharge) @25°C<br>空气放电    | $V_{ESD}$ | $\pm 30$ | KV      |
| Peak Pulse Current @25°C峰值脉冲电流                    | $I_{PP}$  | 20       | A       |
| Peak Pulse Power @25°C峰值脉冲功率                      | $P_{PK}$  | 350      | 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 | $V_{\text{R(BR)}}$ | 5.6        |            | 8          | V             | $I_{\text{T}}=1\text{mA}$                                |
| Reverse Leakage Current<br>反向漏电流    | $I_{\text{R}}$     |            |            | 0.5        | $\mu\text{A}$ | $V_{\text{RWM}}=\pm 5\text{V}$                           |
| Forward Voltage<br>正向电压             | $V_{\text{F}}$     | 0.2        | 0.8        | 1.2        | V             | $I_{\text{F}}=10\text{mA}$                               |
| Clamping Voltage<br>钳位电压            | $V_{\text{C}}$     |            | 8          |            | V             | $I_{\text{PP}}=1\text{A}, t_{\text{p}}=8/20\mu\text{s}$  |
| Clamping Voltage<br>钳位电压            | $V_{\text{C}}$     |            | 16         |            | V             | $I_{\text{PP}}=20\text{A}, t_{\text{p}}=8/20\mu\text{s}$ |
| Junction Capacitance<br>结电容         | $C_{\text{J}}$     |            | 50         |            | pF            | $V_{\text{R}}=0\text{V}, f=1\text{MHz}$                  |

| Symbol           | Parameters                                 |
|------------------|--------------------------------------------|
| $V_{\text{RWM}}$ | Peak Reverse Working Voltage               |
| $I_{\text{R}}$   | Reverse Leakage Current @ $V_{\text{RWM}}$ |
| $V_{\text{BR}}$  | Breakdown Voltage @ $I_{\text{T}}$         |
| $I_{\text{T}}$   | Test Current                               |
| $I_{\text{PP}}$  | Maximum Reverse Peak Pulse Current         |
| $V_{\text{C}}$   | Clamping Voltage @ $I_{\text{PP}}$         |
| $I_{\text{F}}$   | Forward Current                            |
| $V_{\text{F}}$   | Forward Voltage @ $I_{\text{F}}$           |



## ■ Typical Characteristic Curve 典型特性曲线

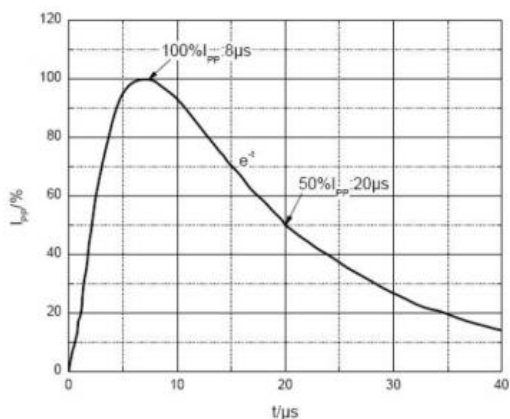


Figure 1: Pulse Waveform

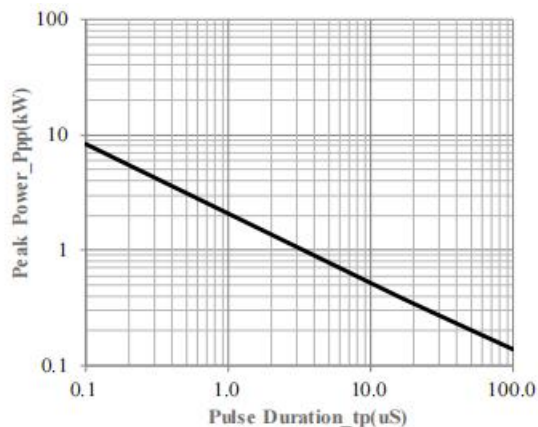


Figure 2: Peak Power Characteristics

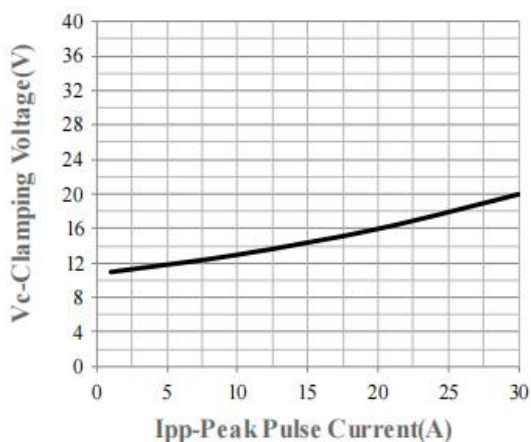


Figure 3: Clamp Voltage Characteristics

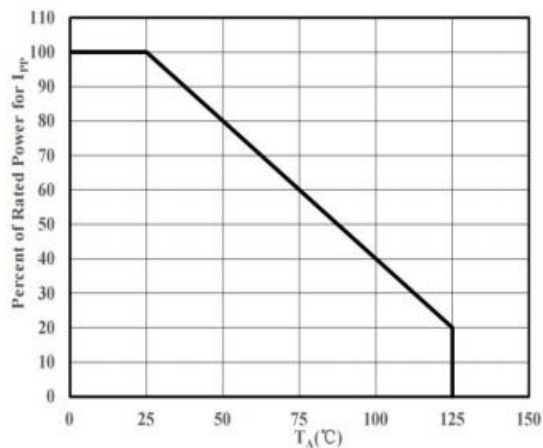


Figure 4: Power Characteristics

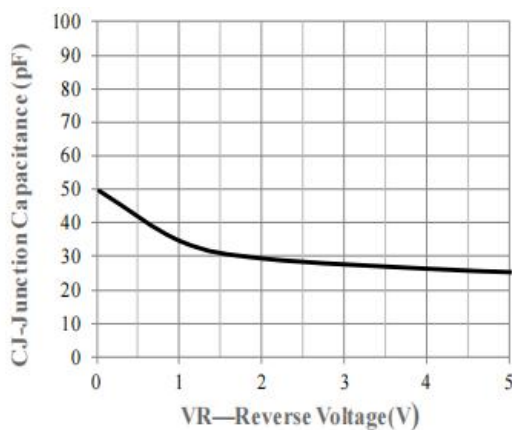
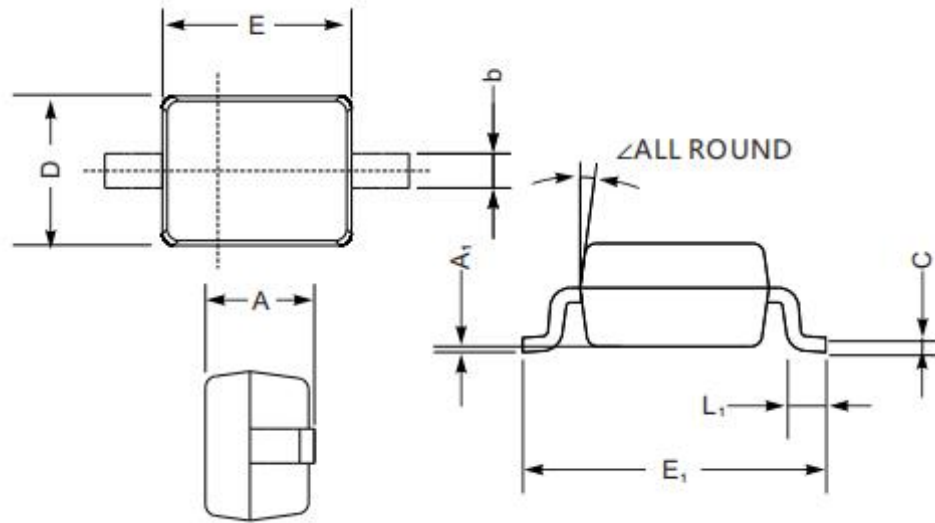


Figure 5: Capacitance Characteristics

■ Dimension 外形封装尺寸



SOD-323 mechanical data

| UNIT |     | A   | C    | D   | E   | E <sub>1</sub> | b    | L <sub>1</sub> | A <sub>1</sub> | ∠  |
|------|-----|-----|------|-----|-----|----------------|------|----------------|----------------|----|
| mm   | max | 1.1 | 0.15 | 1.4 | 1.8 | 2.75           | 0.4  | 0.45           | 0.2            | 9° |
|      | min | 0.8 | 0.08 | 1.2 | 1.4 | 2.55           | 0.25 | 0.2            | —              |    |
| mil  | max | 43  | 5.9  | 55  | 70  | 108            | 16   | 16             | 8              |    |
|      | min | 32  | 3.1  | 47  | 63  | 100            | 9.8  | 7.9            | —              |    |