

## SOD-323 ESD 静电保护二极管

### ■ Features 特点

Bidirectional 双向

Ultra-low Capacitance 超低电容

### ■ Applications 应用

USB Ports U 盘接口

Smart phones 智能手机

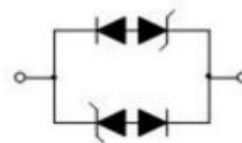
Wearables 可穿戴电子产品

High-speed data lines 高速数据线

Ethernet 10/100/1000 Base T 以太网



### ■ Internal Schematic Diagram 内部结构



### ■ Device Marking 产品打标

GBLC15C=EC

### ■ Absolute Maximum Ratings 最大额定值

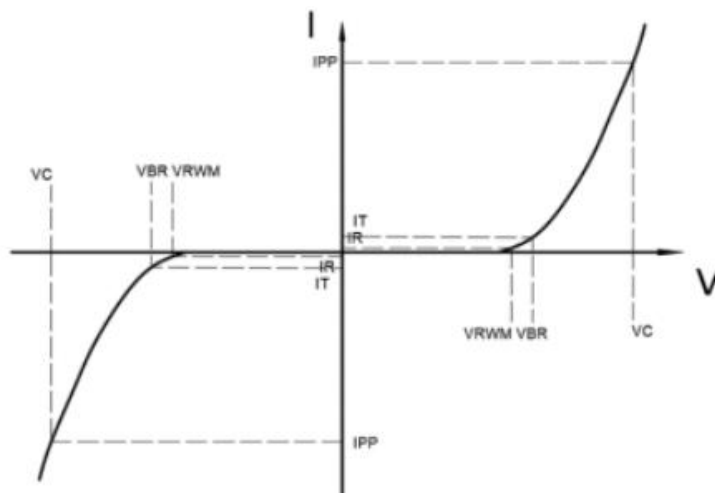
| Characteristic 特性参数                               | Symbol 符号 | Rat 额定值  | Unit 单位 |
|---------------------------------------------------|-----------|----------|---------|
| ESD (IEC61000-4-2 contact discharge)<br>@25°C接触放电 | $V_{ESD}$ | $\pm 30$ | KV      |
| ESD (IEC61000-4-2 air discharge)<br>@25°C空气放电     | $V_{ESD}$ | $\pm 30$ | KV      |
| Peak Pulse Power @25°C峰值脉冲功率                      | $P_{PK}$  | 350      | W       |
| Peak Pulse Current @25°C峰值脉冲电流                    | $I_{PP}$  | 13       | A       |
| 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

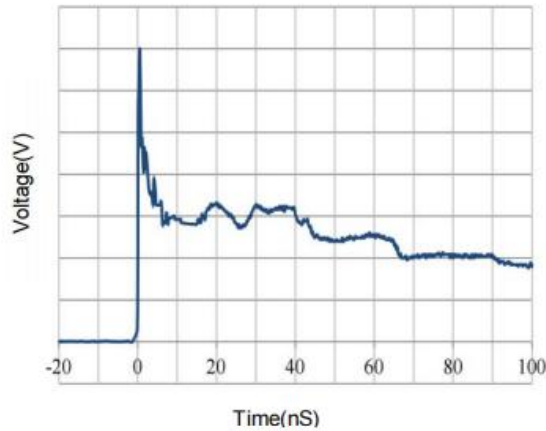
( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^{\circ}\text{C}$ )

| 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 | $V_{\text{RWM}}$   |            |            | 15         | V             |                                                          |
| Reverse Breakdown Voltage<br>反向击穿电压 | $V_{\text{R(BR)}}$ | 16.5       | 17.5       | 19.5       | V             | $I_{\text{T}}=1\text{mA}$                                |
| Reverse Leakage Current<br>反向漏电流    | $I_{\text{R}}$     |            |            | 0.2        | $\mu\text{A}$ | $V_{\text{RWM}}=15\text{V}$                              |
| Clamping Voltage<br>钳位电压            | $V_{\text{C}}$     |            | 20         | 23         | V             | $I_{\text{PP}}=1\text{A}, t_{\text{p}}=8/20\mu\text{s}$  |
| Clamping Voltage<br>钳位电压            | $V_{\text{C}}$     |            | 30         | 35         | V             | $I_{\text{PP}}=13\text{A}, t_{\text{p}}=8/20\mu\text{s}$ |
| Diode Capacitance<br>二极管电容          | $C_{\text{D}}$     |            | 0.6        | 1          | pF            | $V_{\text{R}}=0\text{V}, f=1\text{MHz}$                  |

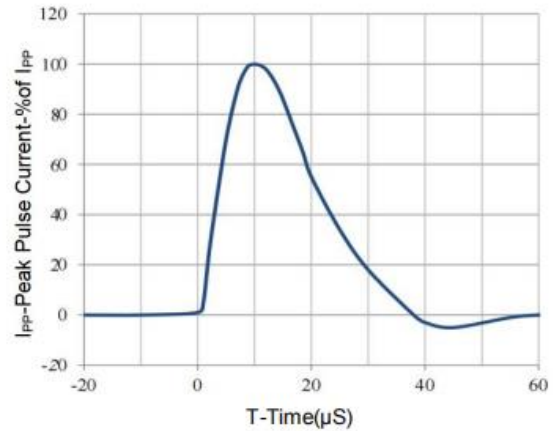
|                    |                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------|
| $V_{\text{RWM}}$   | Reverse Working Voltage<br>反向工作电压  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



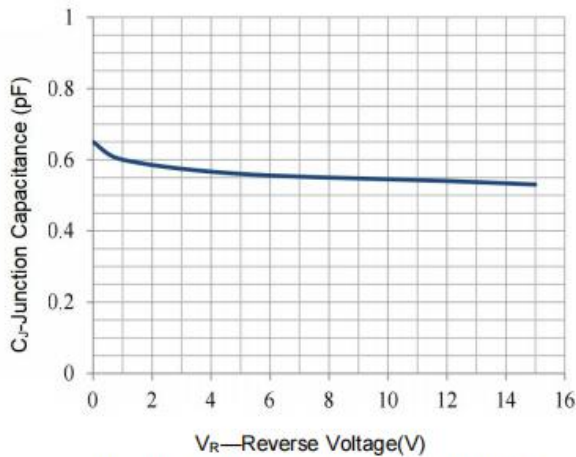
■ Typical Characteristic Curve 典型特性曲线



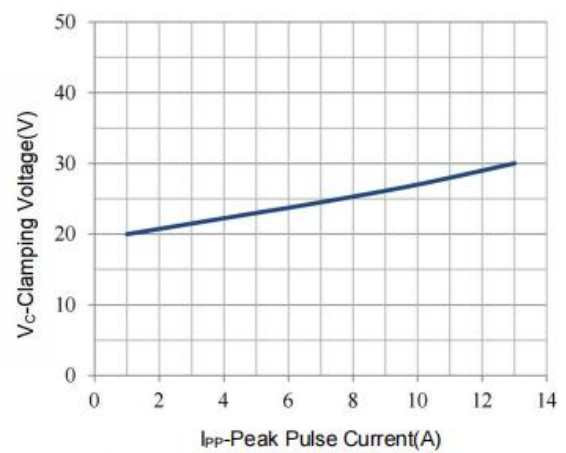
IEC61000-4-2 Pulse Waveform



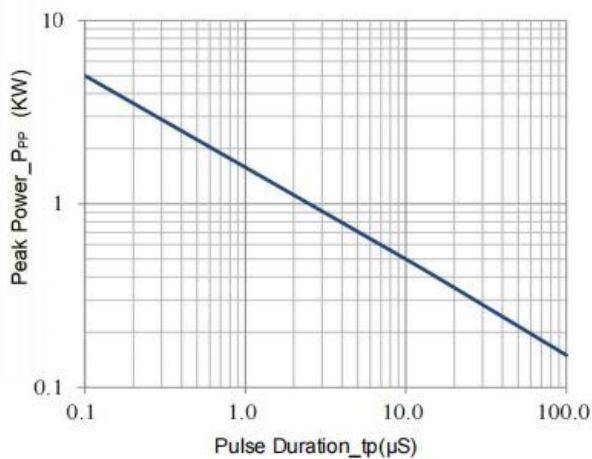
IEC61000-4-5 8X20 $\mu$ S Pulse Waveform



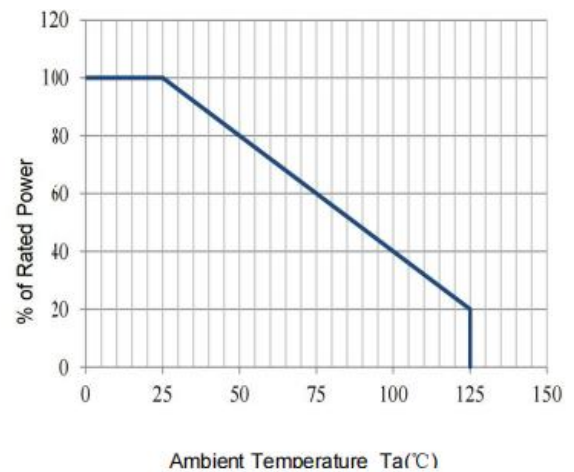
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current

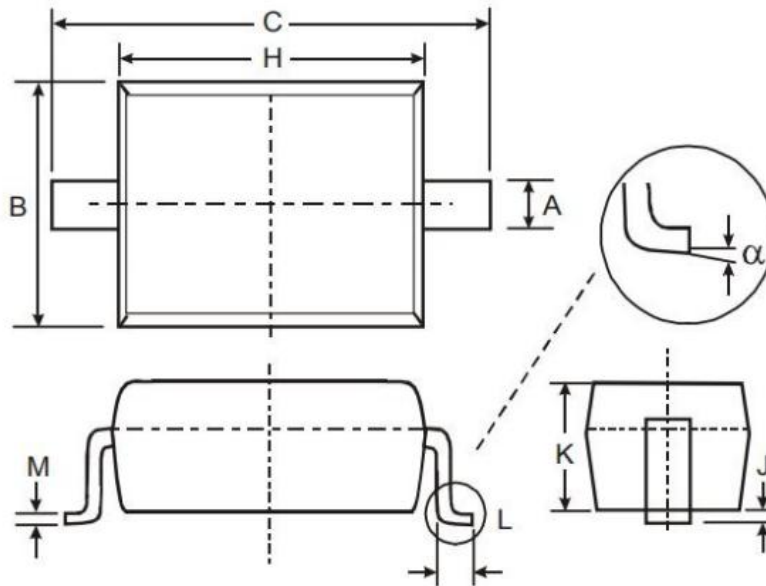


Peak Pulse Power vs. Pulse Time



Power Derating Curve

■ Dimension 外形封装尺寸



| SYMBOL   | DIMENSIONS |      |
|----------|------------|------|
|          | MIN        | MAX  |
| A        | 0.25       | 0.40 |
| B        | 1.20       | 1.40 |
| C        | 2.35       | 2.75 |
| H        | 1.50       | 1.80 |
| J        | 0.01       | 0.15 |
| K        | 0.75       | 1.05 |
| L        | 0.20       | 0.40 |
| M        | 0.08       | 0.25 |
| $\alpha$ | 0°         | 8°   |