

## SOD-323 ESD 静电保护二极管

### ■Features 特点

Un-directional 单向

ESD Protection 静电保护

### ■Applications 应用

USB/GPIO 便携输入输出及图形接口

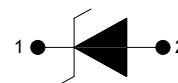
Industrial and Serve Robots 工业和服务机器人

Laptops and Desktops 便携和台式电脑

TV and Monitors 电视和监视器

Wearables 可穿戴电子产品

Handheld-wireless Systems 手持无线系统



### ■Device Marking 产品打标

|                      |     |     |     |     |     |     |     |
|----------------------|-----|-----|-----|-----|-----|-----|-----|
| V <sub>RWM</sub> (V) | 3.3 | 5   | 7   | 12  | 15  | 24  | 36  |
| Marking              | 03W | 05W | 07W | 12W | 15W | 24W | 36W |

### ■Absolute Maximum Ratings 最大额定值

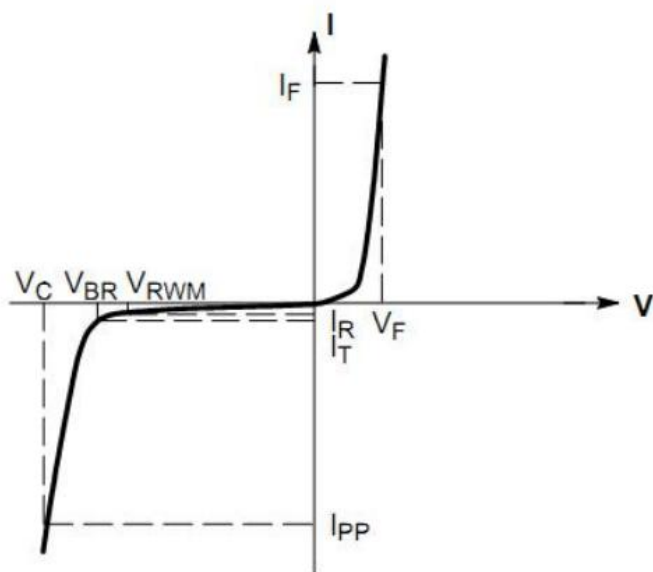
| Characteristic 特性参数                               | Symbol 符号        | Rat 额定值 | Unit 单位 |
|---------------------------------------------------|------------------|---------|---------|
| ESD (IEC61000-4-2 contact discharge)<br>@25°C接触放电 | V <sub>ESD</sub> | ±30     | KV      |
| ESD (IEC61000-4-2 air discharge)<br>@25°C空气放电     | V <sub>ESD</sub> | ±30     | KV      |
| Peak Pulse Power @25°C峰值脉冲功率                      | P <sub>PK</sub>  | 350     | W       |
| Forward Voltage 正向电压@I <sub>F</sub> =10mA         | V <sub>F</sub>   | 0.8     | V       |
| Lead Temperature 管脚温度                             | T <sub>L</sub>   | 260     | °C      |
| Lead Solder Time 管脚焊接时间                           | T <sub>L</sub>   | 10      | S       |
| Operating Temperature 工作温度                        | T <sub>op</sub>  | -40~85  | °C      |
| Junction Temperature 结温                           | T <sub>J</sub>   | -55~125 | °C      |
| Storage Temperature 储存温度                          | T <sub>stg</sub> | -55~150 | °C      |

## ■ Electrical Characteristics 电特性

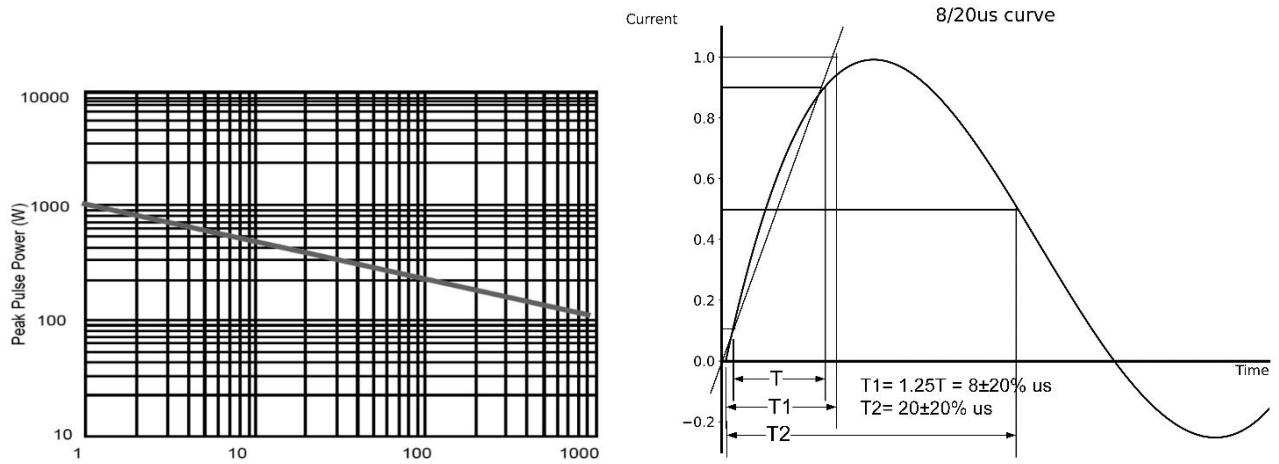
( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^{\circ}\text{C}$ )

| Part No.型号  | $V_{\text{RWM}}(\text{V})$ | $V_{\text{R(BR)}}(\text{V})$ | $V_{\text{C}}(\text{V})@I_{\text{T}}=1\text{A}$ | $I_{\text{PP}}(\text{A})$ | $V_{\text{C}}(\text{V})@I_{\text{T}}=I_{\text{PP}}$ | $I_{\text{R}}(\mu\text{A})$ | $C_{\text{J}}(\text{pF})$ |
|-------------|----------------------------|------------------------------|-------------------------------------------------|---------------------------|-----------------------------------------------------|-----------------------------|---------------------------|
| FSNC3D3V1U  | 3.3                        | 4.5                          | 8.0                                             | 24.0                      | 19.0                                                | 1.0                         | 300                       |
| FSNC3D5V1U  | 5.0                        | 6.5                          | 9.0                                             | 20.0                      | 20.0                                                | 1.0                         | 300                       |
| FSNC3D7V1U  | 7.0                        | 7.5                          | 10.0                                            | 15.0                      | 23.0                                                | 1.0                         | 200                       |
| FSNC3D12V1U | 12.0                       | 13.3                         | 19.0                                            | 12.0                      | 33                                                  | 1.0                         | 150                       |
| FSNC3D15V1U | 15.0                       | 16.5                         | 24                                              | 9.0                       | 50                                                  | 1.0                         | 120                       |
| FSNC3D24V1U | 24.0                       | 26.0                         | 38                                              | 6.0                       | 60                                                  | 1.0                         | 80                        |
| FSNC3D36V1U | 36.0                       | 38.0                         | 55                                              | 4.0                       | 70                                                  | 1.0                         | 50                        |

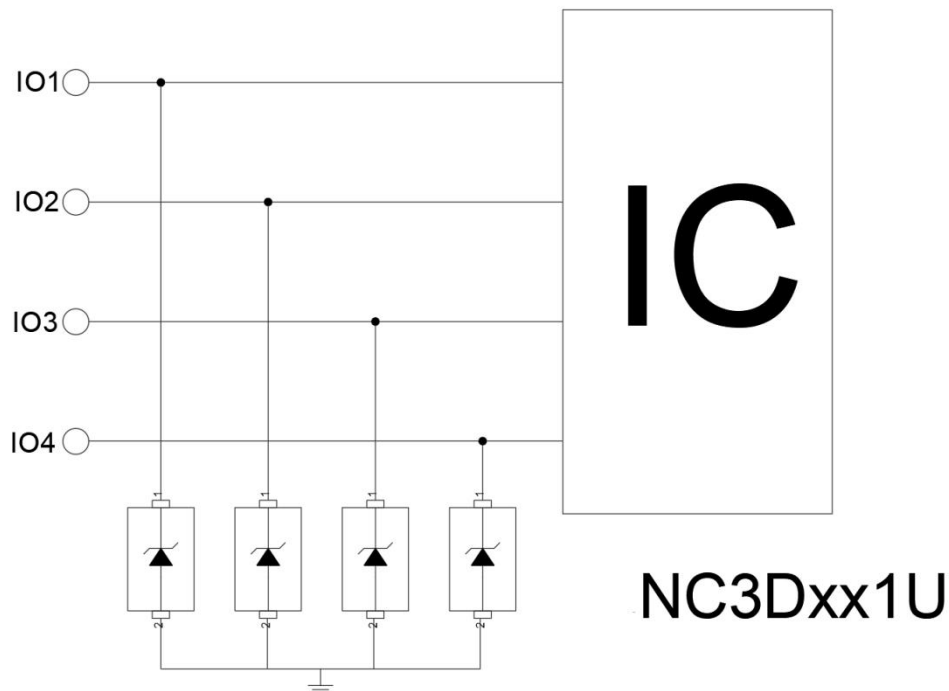
|                    |                                                                                                        |
|--------------------|--------------------------------------------------------------------------------------------------------|
| $V_{\text{RWM}}$   | Reverse Working Voltage<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>$V_{\text{IO}}=0\text{V}$ , $V_{\text{P-P}}=30\text{mV}$ , $f=1\text{MHz}$ |



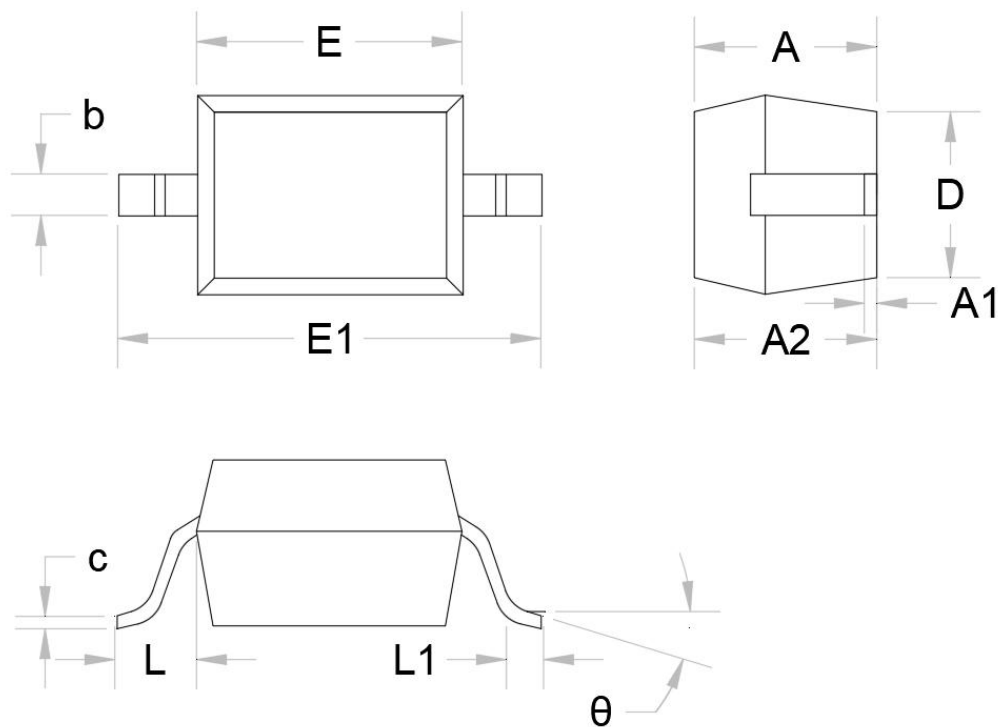
## ■ Typical Characteristic Curve 典型特性曲线



## ■ Typical Application 典型应用



■ **Dimension** 外形封装尺寸



| Symbol | Dimensions in Millimeters |       | Dimensions in Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min.                      | Max.  | Min.                 | Max.  |
| A      |                           | 1.000 |                      | 0.039 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.800                     | 0.900 | 0.031                | 0.035 |
| b      | 0.250                     | 0.350 | 0.010                | 0.014 |
| C      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E      | 1.600                     | 1.800 | 0.063                | 0.071 |
| E1     | 2.550                     | 2.750 | 0.100                | 0.108 |
| L      | 0.475REF                  |       | 0.019REF             |       |
| L1     | 0.250                     | 0.400 | 0.010                | 0.016 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |