

## SOT-23 ESD 静电保护二极管

### ■ Features 特点

Bidirectional ESD Protection 双向静电保护

Operating voltage 工作电压: 7V or 12V

### ■ Applications 应用

Portable electronics 便携式电子产品

Control & monitoring systems 控制与监视系统

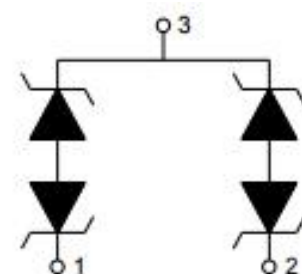
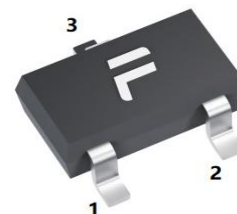
Cellular handsets and accessories 蜂窝手机及配件

Servers, notebooks, and desktop PCs bus protection

服务器、笔记本及台式机总线保护

### ■ Device Marking 产品打标

FSNC712=712



### ■ Absolute Maximum Ratings 最大额定值

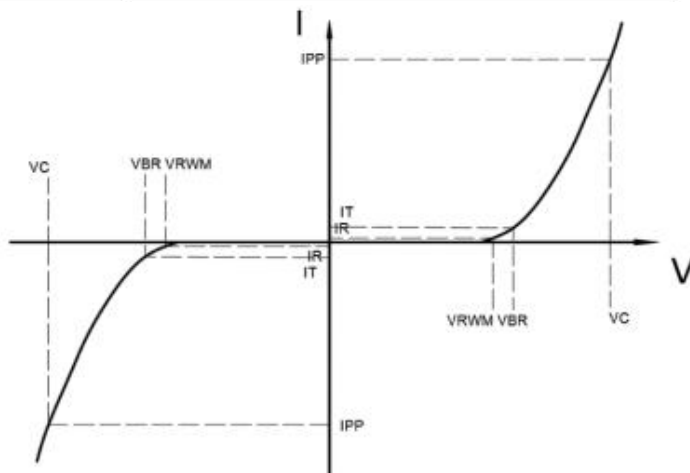
| Characteristic 特性参数                           | Symbol 符号 | Rat 额定值  | Unit 单位 |
|-----------------------------------------------|-----------|----------|---------|
| ESD (IEC61000-4-2 contact discharge)@25°C接触放电 | $V_{ESD}$ | $\pm 8$  | KV      |
| ESD (IEC61000-4-2 air discharge) @25°C空气放电    | $V_{ESD}$ | $\pm 15$ | KV      |
| Peak Pulse Current @25°C峰值脉冲电流                | $I_{PP}$  | 24       | A       |
| Peak Pulse Power @25°C峰值脉冲功率                  | $P_{PK}$  | 400      | 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

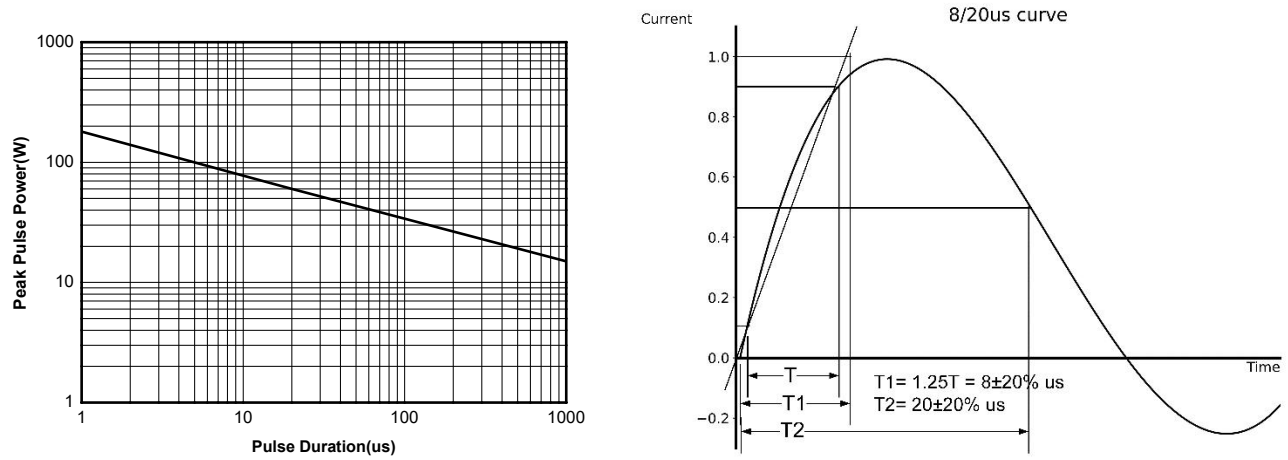
( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^{\circ}\text{C}$ )

| 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 | $V_{\text{RWM}}$   |            |            | 7/12       | V             |                                                          |
| Reverse Breakdown Voltage<br>反向击穿电压 | $V_{\text{R(BR)}}$ | 7.5/13.3   |            |            | V             | $I_{\text{T}}=1\text{mA}$                                |
| Reverse Leakage Current<br>反向漏电流    | $I_{\text{R}}$     |            |            | 1          | $\mu\text{A}$ | $V_{\text{R}}=V_{\text{RWM}}$                            |
| Clamping Voltage<br>钳位电压            | $V_{\text{C}}$     |            | 32         |            | V             | $I_{\text{PP}}=15\text{A}, t_{\text{p}}=8/20\mu\text{s}$ |
| Clamping Voltage<br>钳位电压            | $V_{\text{C}}$     |            | 19         |            | V             | $I_{\text{PP}}=24\text{A}, t_{\text{p}}=8/20\mu\text{s}$ |
| Junction Capacitance<br>结电容         | $C_{\text{J}}$     |            | 55         |            | pF            | $V_{\text{R}}=0\text{V}, f=1\text{MHz}$                  |

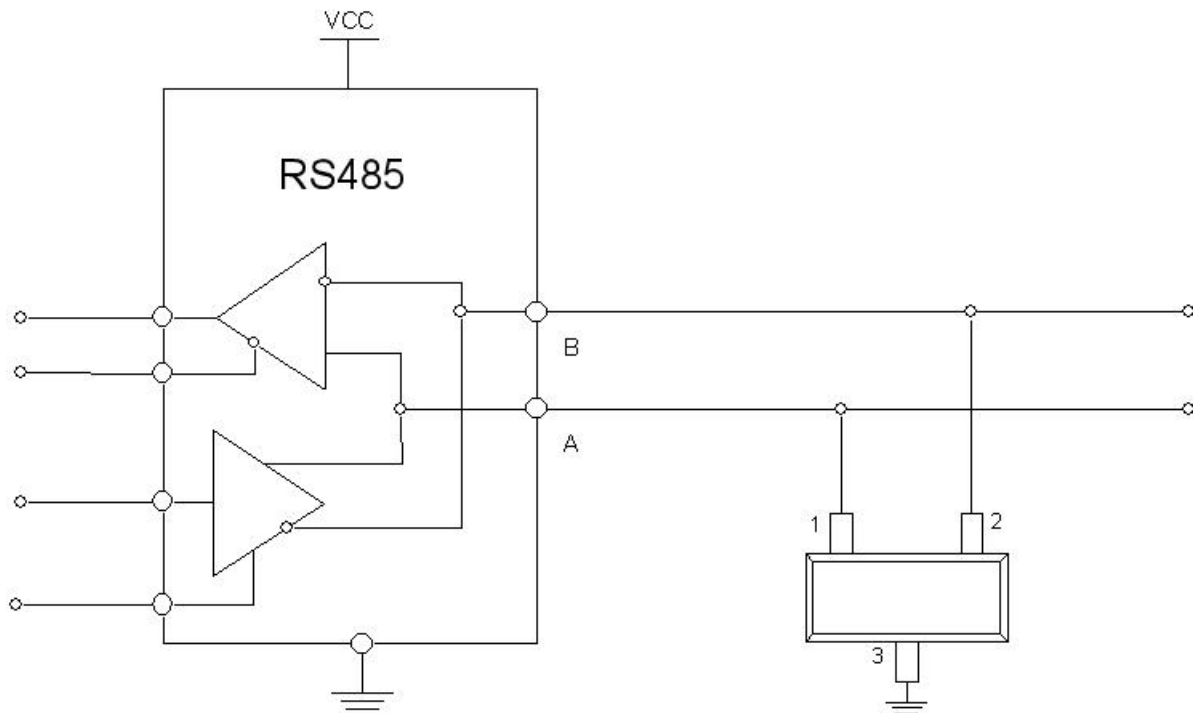
| Symbol           | Parameters                                 |
|------------------|--------------------------------------------|
| $V_{\text{RWM}}$ | Peak Reverse Working Voltage               |
| $I_{\text{R}}$   | Reverse Leakage Current @ $V_{\text{RWM}}$ |
| $V_{\text{BR}}$  | Breakdown Voltage @ $I_{\text{T}}$         |
| $I_{\text{T}}$   | 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 @ $I_{\text{F}}$           |



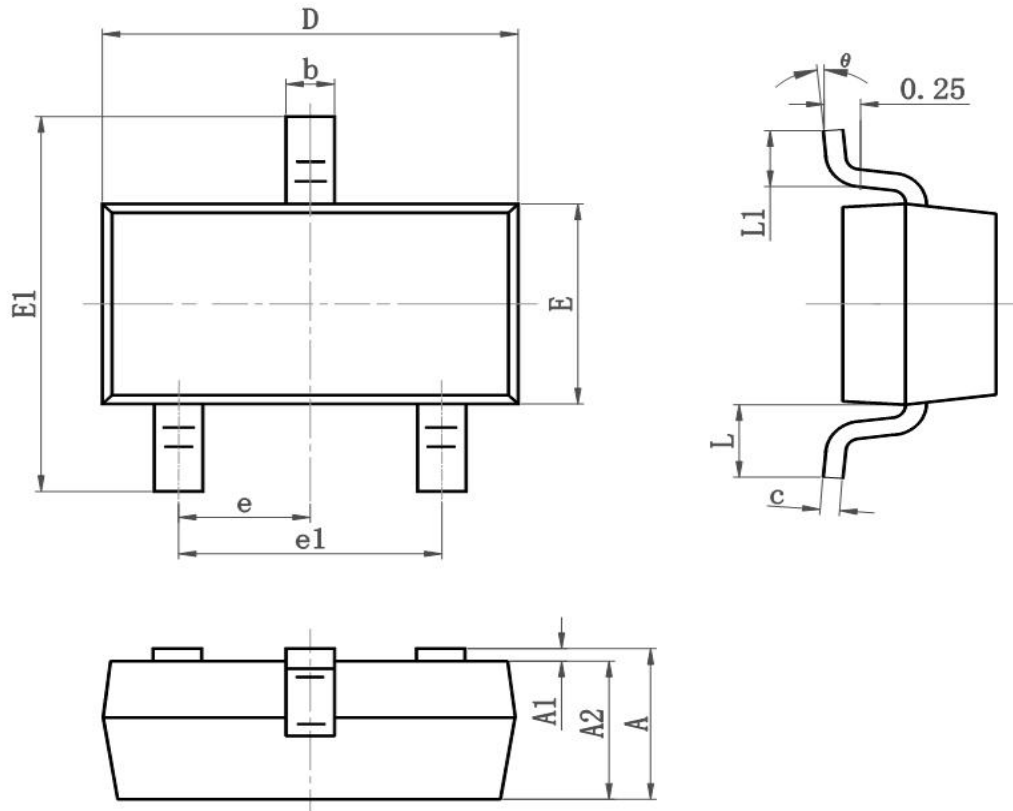
## ■ Typical Characteristic Curve 典型特性曲线



## ■ 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      | 0.900                     | 1.150 | 0.035                | 0.045 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.900                     | 1.050 | 0.035                | 0.041 |
| b      | 0.300                     | 0.500 | 0.012                | 0.020 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 2.800                     | 3.000 | 0.110                | 0.118 |
| E      | 1.200                     | 1.400 | 0.050                | 0.055 |
| E1     | 2.250                     | 2.550 | 0.089                | 0.100 |
| e      | 0.900                     | 1.00  | 0.035                | 0.039 |
| e1     | 1.800                     | 2.000 | 0.071                | 0.079 |
| L      | 0.500                     | 0.600 | 0.020                | 0.024 |
| L1     | 0.300                     | 0.500 | 0.012                | 0.020 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |