

## SOT-23 ESD 静电保护二极管

### ■Features 特点

Two Un-directional Lines 两个单向

Or Bidirectional 或双向

ESD Protection 静电保护

### ■Applications 应用

Computer 计算机

Set-top box 机顶盒

Control & Monitoring 控制和监视器

Communication System 通信系统

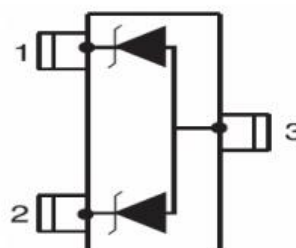
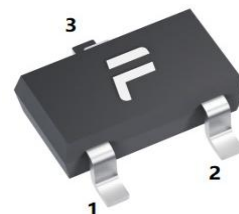
### ■Internal Schematic Diagram 内部结构

### ■Device Marking 产品打标

|              |     |     |     |     |     |     |     |
|--------------|-----|-----|-----|-----|-----|-----|-----|
| $V_{RWM}(V)$ | 3.3 | 5   | 7   | 12  | 15  | 24  | 36  |
| Marking      | M03 | M05 | M07 | M12 | M15 | M24 | M36 |

### ■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                      | $P_{PK}$  | 450      | W       |
| Forward Voltage 正向电压@ $I_F=10mA$                  | $V_F$     | 0.8      | V       |
| 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                        | $T_{op}$  | -40~125  | °C      |
| Junction Temperature 结温                           | $T_J$     | -55~150  | °C      |
| Storage Temperature 储存温度                          | $T_{stg}$ | -55~150  | °C      |

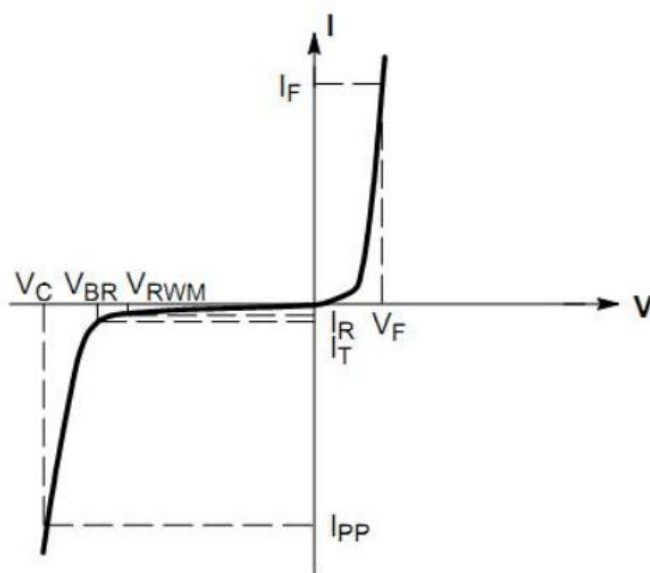


## ■ Electrical Characteristics 电特性

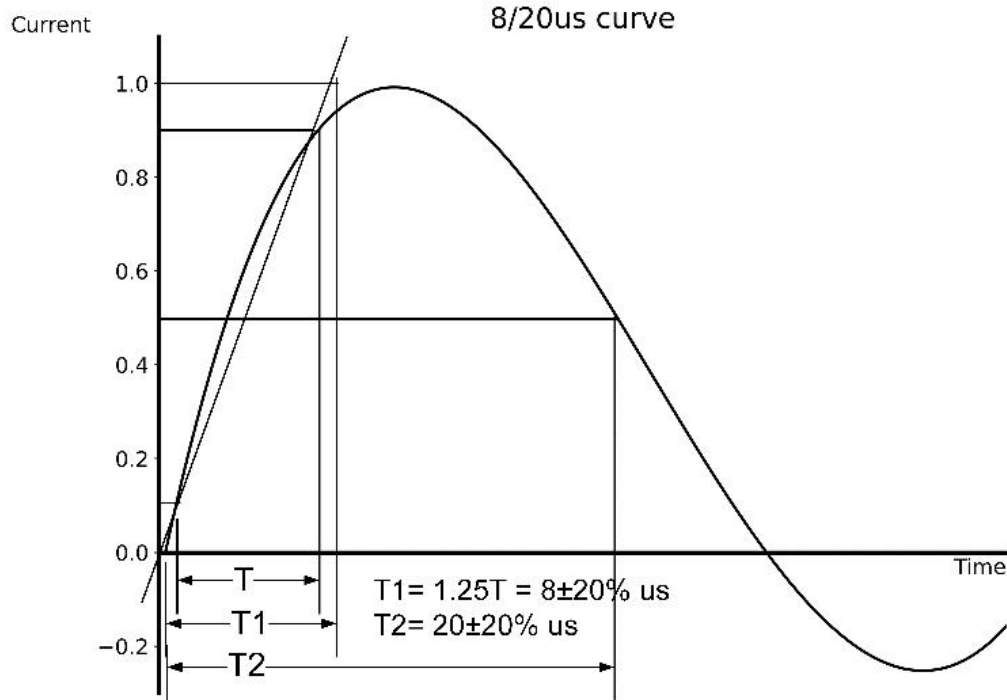
( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^{\circ}\text{C}$ )

| Part No.型号   | $V_{\text{RWM}}$ (V) | $V_{\text{R(BR)}}$ (V) | $V_{\text{C}}(\text{V})@I_{\text{T}}=1\text{A}$ | $I_{\text{PP}}(\text{A})$ | $V_{\text{C}}(\text{V})@I_{\text{T}}=I_{\text{PP}}$ | $I_{\text{R}}(\mu\text{A})$ | $C_{\text{J}}(\text{pF})$ |
|--------------|----------------------|------------------------|-------------------------------------------------|---------------------------|-----------------------------------------------------|-----------------------------|---------------------------|
| FSNC23T3V2U  | 3.3                  | 4.5                    | 9                                               | 32                        | 18                                                  | 1.0                         | 300                       |
| FSNC23T5V2U  | 5                    | 6                      | 9                                               | 30                        | 18                                                  | 1.0                         | 220                       |
| FSNC23T5V2UC | 5                    | 6                      | 9                                               | 16                        | 20                                                  | 1.0                         | 220                       |
| FSNC23T7V2U  | 7                    | 7.5                    | 9                                               | 25                        | 20                                                  | 1.0                         | 180                       |
| FSNC23T12V2U | 12                   | 13.5                   | 18                                              | 15                        | 28                                                  | 1.0                         | 100                       |
| FSNC23T15V2U | 15                   | 16.5                   | 22                                              | 11                        | 33                                                  | 1.0                         | 80                        |
| FSNC23T24V2U | 24                   | 26.5                   | 33                                              | 6                         | 48                                                  | 1.0                         | 60                        |
| FSNC23T36V2U | 36                   | 40                     | 55                                              | 3                         | 65                                                  | 1.0                         | 50                        |

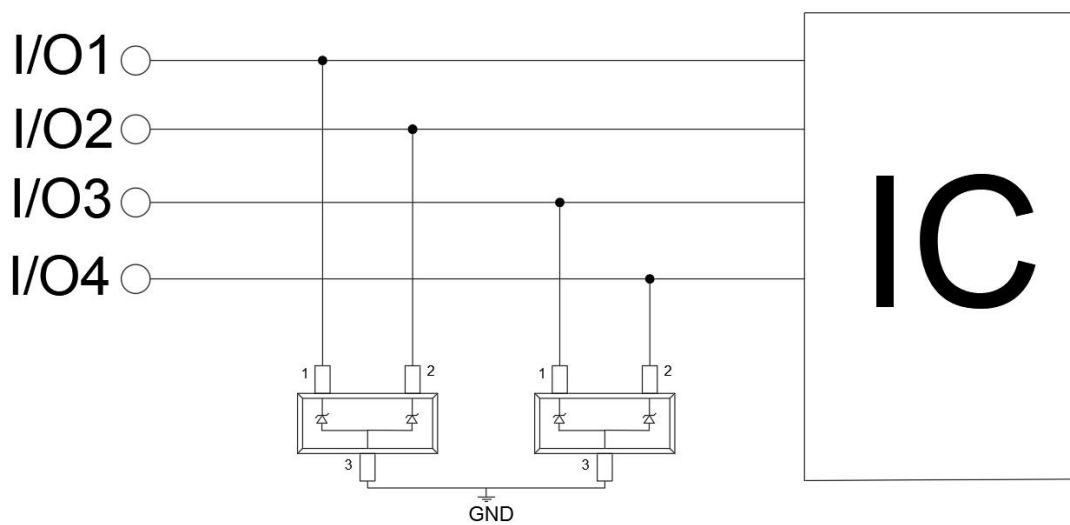
|                    |                                                                                                        |
|--------------------|--------------------------------------------------------------------------------------------------------|
| $V_{\text{RWM}}$   | Reverse Working Voltage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



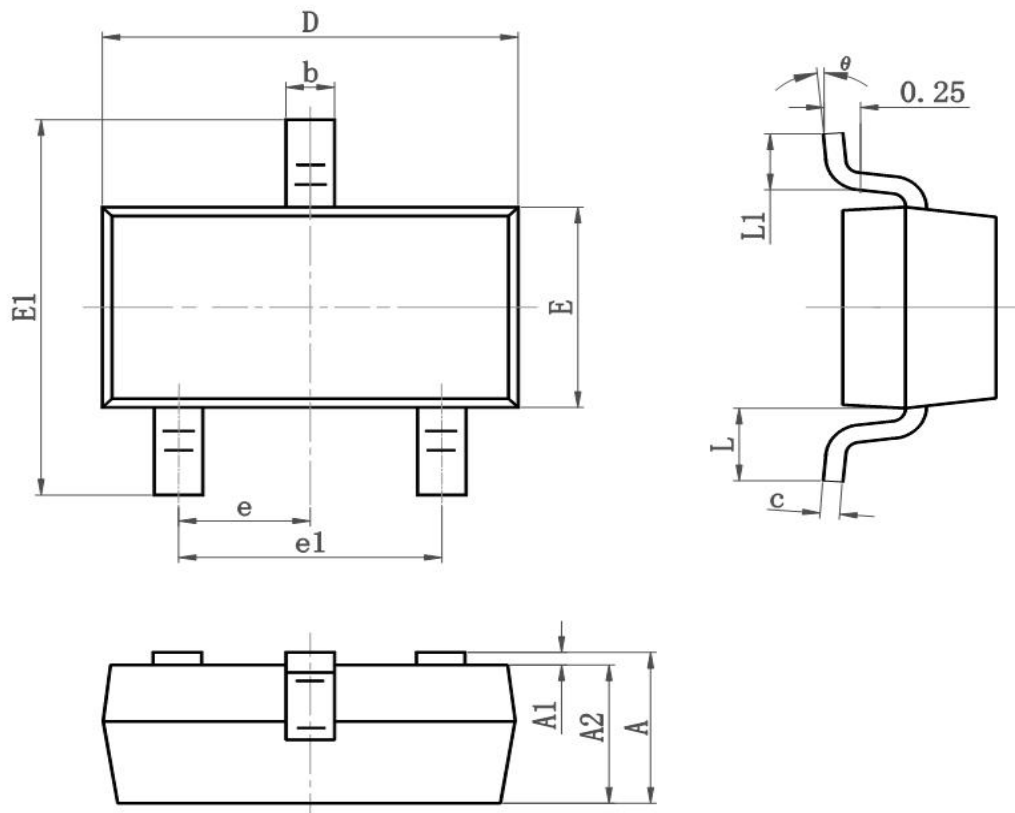
■ Typical Characteristic Curve 典型特性曲线



■ 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      | 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°    |