

## SOT-23 SCR 可控硅

### ■ Features 特点

PNPN Silicon Controllable rectifier 硅可控整流器

Sensitive Gate Trigger 灵敏的门极触发

Glass passivated Process 玻璃钝化工艺

### ■ Applications 应用

General Purpose Switching 通用开关

Solid State Relay 固态继电器

Phase Control 相位控制

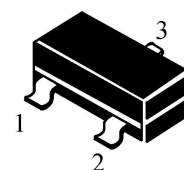


### SOT-23

1. Cathod (K)

2. Gate (G)

3. Anode (A)



### ■ Absolute Maximum Ratings 最大额定值

| Characteristic<br>特性参数                                                                                                | Symbol<br>符号                        | Value<br>额定值                                          | Unit<br>单位       |
|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------|------------------|
| Peak Repetitive Off-State Voltage<br>(T <sub>J</sub> =-40°C to 110°C, Sine Wave, 50 to 60 Hz, Gate Open)<br>峰值可重复断态耐压 | V <sub>DRM</sub> , V <sub>RRM</sub> | MCR100-4<br>200<br>MCR100-6<br>400<br>MCR100-8<br>600 | V                |
| On-State RMS Current<br>通态均方根电流                                                                                       | I <sub>T(RMS)</sub>                 | 0.8                                                   | A                |
| On-State Average Current<br>通态平均电流                                                                                    | I <sub>T(AV)</sub>                  | 0.5                                                   | A                |
| Peak Non-Repetitive Surge Current @25°C<br>峰值不可重复浪涌电流                                                                 | I <sub>TSM</sub>                    | 8                                                     | A                |
| Circuit Fusing Considerations(t=10ms)<br>电路保险指数                                                                       | I <sup>2</sup> t                    | 0.35                                                  | A <sup>2</sup> s |
| Peak Gate Current-Forward (Pulse Width ≤1 us)<br>正向门极峰值电流                                                             | I <sub>GM</sub>                     | 1                                                     | A                |
| Peak Gate Voltage-Reverse (Pulse Width ≤ 1 μs)<br>反向门极峰值电压                                                            | V <sub>GRM</sub>                    | 5                                                     | V                |
| Forward Peak Gate Power (Pulse Width ≤ 1 μs)<br>正向门极峰值功率                                                              | P <sub>GM</sub>                     | 0.1                                                   | W                |
| Forward Average Gate Power (t=8.3ms)<br>正向门极平均功率                                                                      | P <sub>G(AV)</sub>                  | 0.1                                                   | W                |
| Operating Junction/Storage Temperature<br>结温和储存温度                                                                     | T <sub>stg</sub>                    | -40~125                                               | °C               |

**■Electrical Characteristics 电特性**

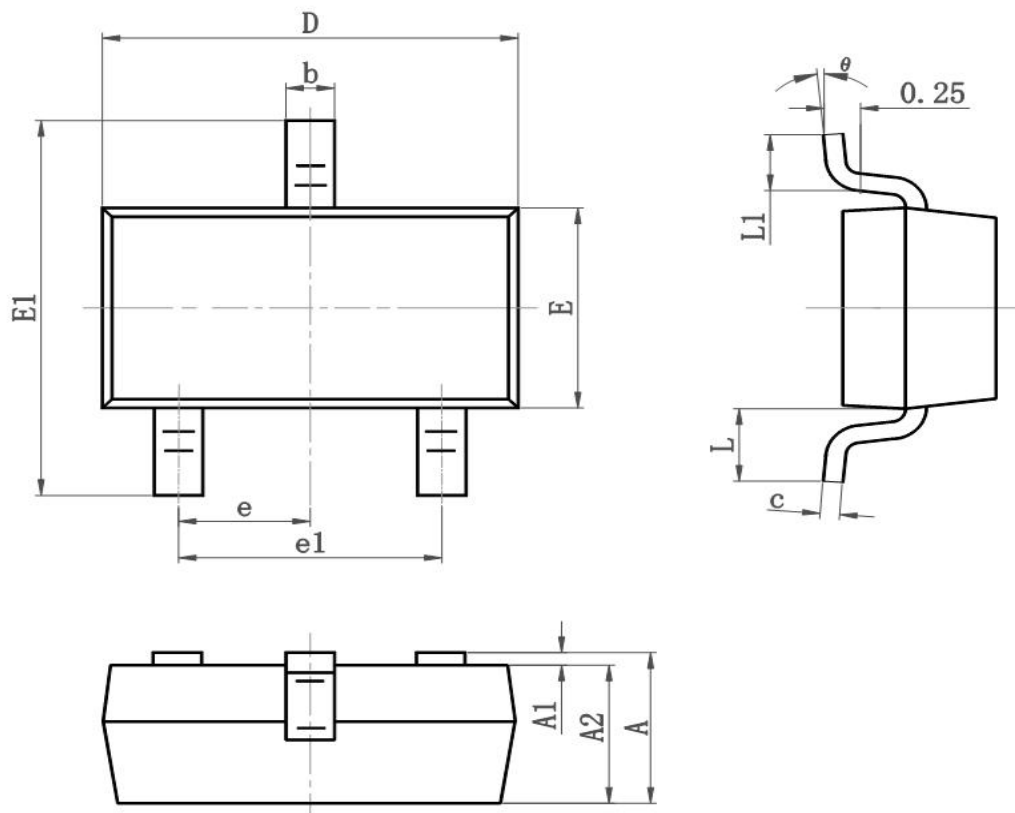
 (T<sub>A</sub>=25℃ unless otherwise noted 如无特殊说明, 温度为 25℃)

| Characteristic Parameters<br>特性参数         | Symbol<br>符号     | Min<br>最小值                                  | Max<br>最大值 | Unit<br>单位 | Condition<br>条件                     |
|-------------------------------------------|------------------|---------------------------------------------|------------|------------|-------------------------------------|
| Peak Forward Blocking Current<br>峰值正向漏电流  | I <sub>DRM</sub> | T <sub>c</sub> =25℃<br>T <sub>c</sub> =110℃ | 5<br>100   | μA         | V <sub>D</sub> =V <sub>DRM</sub>    |
| Peak Reverse Blocking Current<br>峰值反向漏电流  | I <sub>RRM</sub> | T <sub>c</sub> =25℃<br>T <sub>c</sub> =110℃ | 5<br>100   | μA         | V <sub>R</sub> =V <sub>RRM</sub>    |
| Peak Forward On-State Voltage<br>峰值正向通态电压 | V <sub>TM</sub>  |                                             | 1.6        | V          | I <sub>TM</sub> =1A                 |
| Gate Trigger Current<br>触发电流              | I <sub>GT</sub>  | 5                                           | 200        | μA         | V <sub>AK</sub> =7V                 |
| Gate Trigger Voltage<br>触发电压              | V <sub>GT</sub>  |                                             | 0.8        | V          | I <sub>TM</sub> =0.8A               |
| Holding Current<br>维持电流                   | I <sub>H</sub>   |                                             | 3          | mA         | I <sub>T</sub> =50mA                |
| Latch Current<br>擎住电流                     | I <sub>L</sub>   |                                             | 5          | mA         | I <sub>G</sub> =1.2I <sub>GT</sub>  |
| Off-state Voltage Change<br>断态电压临界上升率     | dv/dt            | 10                                          |            | V/μS       | V <sub>D</sub> =2/3V <sub>DRM</sub> |
| Gate Nun Trigger Voltage<br>门极不触发电压       | V <sub>GD</sub>  | 0.1                                         |            | V          | V <sub>D</sub> =V <sub>DRM</sub>    |

**■Device Marking 产品打标**

| Type | MCR100-4 | MCR100-6 | MCR100-8 |
|------|----------|----------|----------|
| Mark | 100-4    | 100-6    | 100-8    |

■ 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°    |