

◆ **Features:**

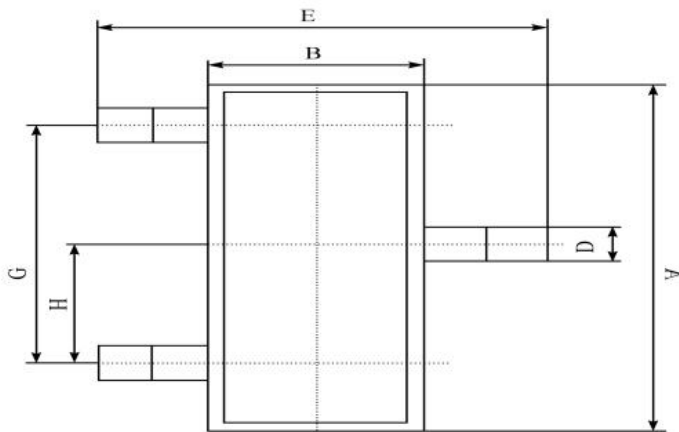
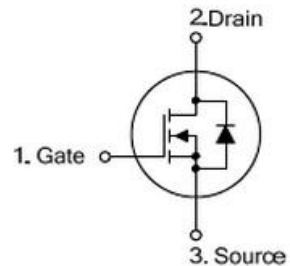
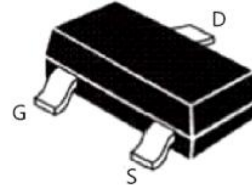
- ◇ Fast switching speed  
开关速度快
- ◇ High input impedance and low level drive  
高输入阻抗和低电平驱动
- ◇ Improved dv/dt capability, high ruggedness  
提高 dv/dt 能力, 高耐用性

◆ **Applications**

- ◇ High efficiency switch mode power supplies  
高效率开关电源
- ◇ Power factor correction  
功率因数校正
- ◇ Electronic lamp ballast  
电子整流器

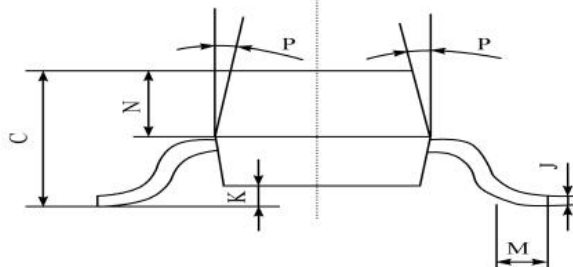


**SOT-23**



| SOT-23 |             |
|--------|-------------|
| A      | 2.90 ± 0.10 |
| B      | 1.30 ± 0.10 |
| C      | 1.00 ± 0.10 |
| D      | 0.40 ± 0.10 |
| E      | 2.40 ± 0.20 |
| G      | 1.90 ± 0.10 |
| H      | 0.95 ± 0.05 |
| J      | 0.13 ± 0.05 |
| K      | 0.00-0.10   |
| M      | ≥ 0.2       |
| N      | 0.60 ± 0.10 |
| P      | 7 ± 2°      |

(UNIT): mm



**◆ Absolute Maximum Ratings (Tc=25°C)**

| Symbol           | Parameters                                       | Ratings    | Unit |
|------------------|--|------------|------|
| V <sub>DSS</sub> | Drain-Source Voltage<br>漏源电压                     | <b>30</b>  | V    |
| V <sub>GS</sub>  | Gate-Source Voltage-Continuous<br>栅源电压           | <b>±12</b> | V    |
| I <sub>D</sub>   | Drain Current-Continuous (Note 2)<br>漏极持续电流      | <b>5.8</b> | A    |
| I <sub>DM</sub>  | Drain Current-Single Plused (Note 1)<br>漏极单次脉冲电流 | <b>22</b>  | A    |
| P <sub>D</sub>   | Power Dissipation (Note 2)<br>功率损耗               | <b>2</b>   | W    |
| T <sub>j</sub>   | Max.Operating junction temperature<br>最大结温       | <b>150</b> | °C   |

**◆ Electrical characteristics (Tc=25°C unless otherwise noted)**

| Symbo<br>l                    | Parameters  | Min        | Typ        | Max         | Units | Conditions  |
|-------------------------------|---|------------|------------|-------------|-------|---|
| <b>Static Characteristics</b> |   |            |            |             |       |   |
| B <sub>V</sub> DSS            | Drain-Source Breakdown<br>VoltageCurrent (Note 1)<br>漏极击穿电压 | <b>30</b>  | --         | --          | V     | I <sub>D</sub> =250μA,<br>V <sub>GS</sub> =0V, T <sub>J</sub> =25°C |
| V <sub>GS(th)</sub>           | Gate Threshold Voltage<br>栅极开启电压                            | <b>0.6</b> | <b>0.9</b> | <b>1.5</b>  | V     | V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA            |
| R <sub>DS(on)</sub>           | Drain-Source On-Resistance<br>漏源导通电阻                        | --         | <b>21</b>  | <b>28</b>   | mΩ    | V <sub>GS</sub> =10V, I <sub>D</sub> =5.8A                          |
| I <sub>GSS</sub>              | Gate-Body Leakage Current<br>栅极漏电流                          | --         | --         | <b>±100</b> | nA    | V <sub>GS</sub> =±12V, V <sub>DS</sub> =0                           |
| I <sub>DSS</sub>              | Zero Gate Voltage Drain Current<br>零栅极电压漏极电流                | --         | --         | <b>1</b>    | μA    | V <sub>DS</sub> =30V, V <sub>GS</sub> =0                            |
| g <sub>fs</sub>               | Forward Transconductance<br>正向跨导                            | --         | <b>25</b>  | --          | S     | V <sub>DS</sub> =5V, I <sub>D</sub> =5.8A                           |

| Switching Characteristics |  |    |            |             |               |  |
|---------------------------|--|----|------------|-------------|---------------|--|
| $T_{d(on)}$               | Turn-On Delay Time<br>开启延迟时间   | -- | <b>4</b>   | --          | ns            | $V_{DS}=10V, I_D=5A,$<br>$R_G=2.7\Omega, V_{GS}=10V$<br>(Note 2) |
| $T_r$                     | Rise Time<br>上升时间  | -- | <b>15</b>  | --          | ns            |  |
| $T_{d(off)}$              | Turn-Off Delay Time<br>关闭延迟时间  | -- | <b>22</b>  | --          | ns            |  |
| $T_f$                     | Fall Time<br>下降时间  | -- | <b>5</b>   | --          | ns            |  |
| $Q_g$                     | Total Gate Charge<br>栅极总电荷   | -- | <b>10</b>  | --          | nC            | $V_{DS}=10V, V_{GS}=10V$<br>$I_D=5A$ (Note 2)                    |
| $Q_{gs}$                  | Gate-Source Charge<br>栅源极电荷  | -- | <b>0.5</b> | --          | nC            |  |
| $Q_{gd}$                  | Gate-Drain Charge<br>栅漏极电荷   | -- | <b>1</b>   | --          | nC            |  |
| Dynamic Characteristics   |  |    |            |             |               |  |
| $C_{iss}$                 | Input Capacitance<br>输入电容  | -- | <b>450</b> | --          | pF            | $V_{DS}=25V, V_{GS}=0,$<br>$f=1MHz$                              |
| $C_{oss}$                 | Output Capacitance<br>输出电容   | -- | <b>90</b>  | -           | pF            |  |
| $C_{rss}$                 | Reverse Transfer Capacitance<br>反向传输电容                                   | -- | <b>35</b>  | --          | pF            |  |
| $I_S$                     | Continuous Drain-Source Diode<br>Forward Current (Note 2)<br>二极管导通正向持续电流 | -- | --         | <b>5.8</b>  | A             |  |
| $V_{SD}$                  | Diode Forward On-Voltage<br>二极管正向导通电压                                    | -- | --         | <b>1.2</b>  | V             | $I_S=1A, V_{GS}=0$   |
| $R_{th(j-c)}$             | Thermal Resistance, Junction to Case<br>结到外壳的热阻                          | -- | --         | <b>62.5</b> | $^{\circ}C/W$ |  |

Note 1: Repetitive Rating : Pulse width limited by maximum junction temperature

Note 2: Pulse test: PW  $\leq$  300us , duty cycle  $\leq$  2%.