

## 900V N-CHANNEL MOSFET

### ◆ Features:

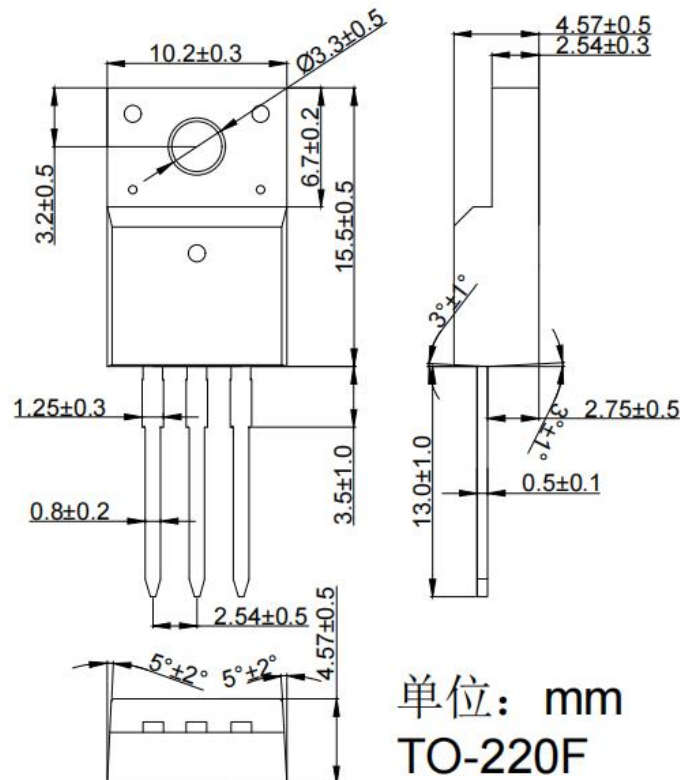
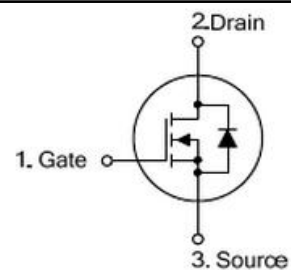
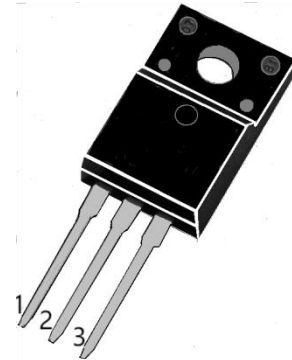
- ✧ Fast switching speed  
开关速度快
- ✧ High input impedance and low level drive  
高输入阻抗和低电平驱动
- ✧ Avalanche energy tested  
雪崩能量测试
- ✧ Improved dv/dt capability, high ruggedness  
提高 dv/dt 能力, 高耐用性

### ◆ 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



**TO-220F**



单位: mm  
TO-220F

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

| Symbol           | Parameters                                            | Ratings | Unit |
|------------------|-------------------------------------------------------|---------|------|
| V <sub>DSS</sub> | Drain-Source Voltage<br>漏源电压                          | 900     | V    |
| V <sub>GS</sub>  | Gate-Source Voltage-Continuous<br>栅源电压                | ±30     | V    |
| I <sub>D</sub>   | Drain Current-Continuous (Note 2) (Tc=25°C)<br>漏极持续电流 | 6       | A    |
| I <sub>DM</sub>  | Drain Current-Single Plused (Note 1)<br>漏极单次脉冲电流      | 24      | A    |
| P <sub>D</sub>   | Power Dissipation (Note 2)<br>功率损耗                    | 45      | W    |
| T <sub>j</sub>   | Max.Operating junction temperature<br>最大结温            | 150     | °C   |

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

| Symbo<br>l                    | Parameters                                                  | Min | Typ | Max  | Units | Conditions                                                          |
|-------------------------------|-------------------------------------------------------------|-----|-----|------|-------|---------------------------------------------------------------------|
| <b>Static Characteristics</b> |                                                             |     |     |      |       |                                                                     |
| B <sub>VDSS</sub>             | Drain-Source Breakdown<br>VoltageCurrent (Note 1)<br>漏极击穿电压 | 900 | --  | --   | 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                            | 2.0 | --  | 4.0  | 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                        | --  | 2.0 | 2.5  | Ω     | V <sub>GS</sub> =10V, I <sub>D</sub> =1A                            |
| I <sub>GSS</sub>              | Gate-Body Leakage Current<br>栅极漏电流                          | --  | --  | ±100 | nA    | V <sub>GS</sub> =±30V, V <sub>DS</sub> =0                           |
| I <sub>DSS</sub>              | Zero Gate Voltage Drain Current<br>零栅极电压漏极电流                | --  | --  | 1    | μA    | V <sub>DS</sub> =900V, V <sub>GS</sub> =0                           |
| g <sub>fs</sub>               | Forward Transconductance<br>正向跨导                            | --  | 9.0 | --   | S     | V <sub>DS</sub> =40V, I <sub>D</sub> =2A                            |

**2SK3565-OSEN****900V N-CHANNEL MOSFET**

| Switching Characteristics |                                                                         |    |      |      |      |                                                                               |
|---------------------------|-------------------------------------------------------------------------|----|------|------|------|-------------------------------------------------------------------------------|
| T <sub>d (on)</sub>       | Turn-On Delay Time<br>开启延迟时间                                            | -- | 78   | --   | ns   | V <sub>DS</sub> =200V, I <sub>D</sub> =3A,<br>R <sub>G</sub> =50Ω（Note 2）     |
| T <sub>r</sub>            | Rise Time<br>上升时间                                                       | -- | 30   | --   | ns   |                                                                               |
| T <sub>d (off)</sub>      | Turn-Off Delay Time<br>关闭延迟时间                                           | -- | 174  | --   | ns   |                                                                               |
| T <sub>f</sub>            | Fall Time<br>下降时间                                                       | -- | 67   | --   | ns   |                                                                               |
| Q <sub>g</sub>            | Total Gate Charge<br>栅极总电荷                                              | -- | 33   | --   | nC   | V <sub>DS</sub> =400V,<br>V <sub>GS</sub> =10V,<br>I <sub>D</sub> =5A（Note 2） |
| Q <sub>gs</sub>           | Gate-Source Charge<br>栅源极电荷                                             | -- | 20   | --   | nC   |                                                                               |
| Q <sub>gd</sub>           | Gate-Drain Charge<br>栅漏极电荷                                              | -- | 14   | --   | nC   |                                                                               |
| Dynamic Characteristics   |                                                                         |    |      |      |      |                                                                               |
| C <sub>iss</sub>          | Input Capacitance<br>输入电容                                               | -- | 1200 | --   | pF   | V <sub>DS</sub> =25V, V <sub>GS</sub> =0,<br>f=1MHz                           |
| C <sub>oss</sub>          | Output Capacitance<br>输出电容                                              | -- | 110  | --   | pF   |                                                                               |
| C <sub>rss</sub>          | Reverse Transfer Capacitance<br>反向传输电容                                  | -- | 26   | --   | pF   |                                                                               |
| I <sub>S</sub>            | Continuous Drain-Source Diode<br>Forward Current（Note 2）<br>二极管导通正向持续电流 | -- | --   | 6    | A    |                                                                               |
| V <sub>SD</sub>           | Diode Forward On-Voltage<br>二极管正向导通电压                                   | -- | --   | 1.3  | V    | I <sub>S</sub> =6A, V <sub>GS</sub> =0                                        |
| R <sub>th(j-c)</sub>      | Thermal Resistance, Junction to Case<br>结到外壳的热阻                         | -- | --   | 2.78 | °C/W |                                                                               |

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

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