# 2SK3699-OSEN

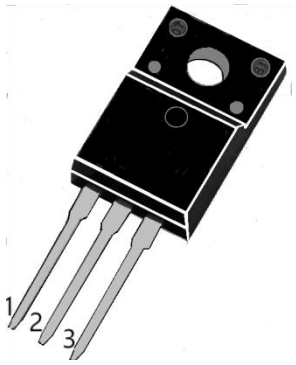
## 900V N-CHANNEL MOSFET

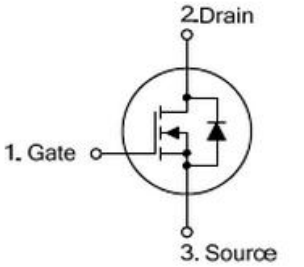
### ◆ Features:

- ✧ 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

RoHS COMPLIANT

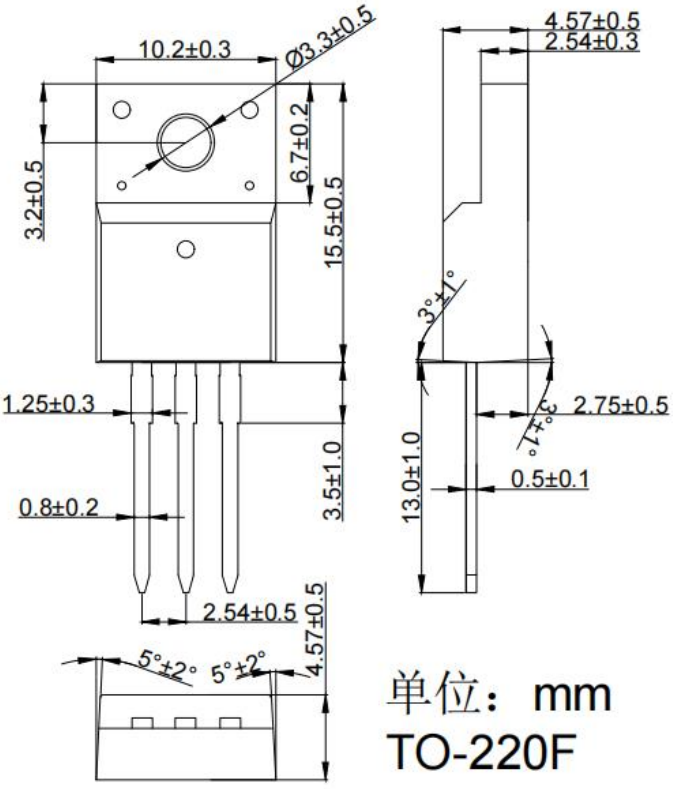
**TO-220F**




### ◆ 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




单位：mm

TO-220F

OSEN欧芯

**2SK3699-OSEN**

**900V N-CHANNEL MOSFET**

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

| Symbol | Parameters | Ratings | Unit |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage<br>漏源电压 | **900** | V |
| $V_{GS}$ | Gate-Source Voltage-Continuous<br>栅源电压 | **±30** | V |
| $I_D$ | Drain Current-Continuous（Note 2）(Tc=25°C)<br>漏极持续电流 | **3.7** | A |
| $I_{DM}$ | Drain Current-Single Plused（Note 1）<br>漏极单次脉冲电流 | **14.8** | A |
| $P_D$ | Power Dissipation （Note 2）<br>功率损耗 | **43** | W |
| $T_j$ | Max.Operating junction temperature<br>最大结温 | **150** | ℃ |

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

| Symbol | Parameters | Min | Typ | Max | Units | Conditions |
|---|---|---|---|---|---|---|
| **Static Characteristics** | | | | | | |
| $B_{VDSS}$ | Drain-Source Breakdown Voltage Current （Note 1）<br>漏极击穿电压 | **900** | -- | -- | V | $I_D$=250μA，<br>$V_{GS}$=0V，$T_J$=25°C |
| $V_{GS(th)}$ | Gate Threshold Voltage<br>栅极开启电压 | **3.0** | -- | **5.0** | V | $V_{DS}$=$V_{GS}$，$I_D$=250μA |
| $R_{DS(on)}$ | Drain-Source On-Resistance<br>漏源导通电阻 | -- | **3.31** | **4.3** | Ω | $V_{GS}$=10V，$I_D$=1.85A |
| $I_{GSS}$ | Gate-Body Leakage Current<br>栅极漏电流 | -- | -- | **±100** | nA | $V_{GS}$=±30V，$V_{DS}$=0 |
| $I_{DSS}$ | Zero Gate Voltage Drain Current<br>零栅极电压漏极电流 | -- | -- | **1** | μA | $V_{DS}$=900V，$V_{GS}$=0 |
| gfs | Forward Trans conductance<br>正向跨导 | -- | **4** | -- | S | $V_{DS}$=25V，$I_D$=1.85A |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Switching Characteristics** | | | | | | |
| $T_{d(on)}$ | Turn-On Delay Time<br>开启延迟时间 | -- | **21** | -- | ns | $V_{DS}$=600V，<br>$I_D$=1.85A，<br>$R_G$=10Ω（Note 2） |
| $T_r$ | Rise Time<br>上升时间 | -- | **8.4** | -- | ns | |
| $T_{d(off)}$ | Turn-Off Delay Time<br>关闭延迟时间 | -- | **37** | -- | ns | |
| $T_f$ | Fall Time<br>下降时间 | -- | **20** | -- | ns | |
| $Q_g$ | Total Gate Charge<br>栅极总电荷 | -- | **18** | -- | nC | $V_{DS}$=450V，<br>$V_{GS}$=10V，<br>$I_D$=3.7A（Note 2） |
| $Q_{gs}$ | Gate-Source Charge<br>栅源极电荷 | -- | **7.1** | -- | nC | |
| $Q_{gd}$ | Gate-Drain Charge<br>栅漏极电荷 | -- | **4.4** | -- | nC | |
| **Dynamic Characteristics** | | | | | | |
| $C_{iss}$ | Input Capacitance<br>输入电容 | -- | **760** | -- | pF | $V_{DS}$=25V，$V_{GS}$=0，<br>f=1MHz |
| $C_{oss}$ | Output Capacitance<br>输出电容 | -- | **75** | -- | pF | |
| $C_{rss}$ | Reverse Transfer Capacitance<br>反向传输电容 | -- | **10** | -- | pF | |
| $I_S$ | Continuous Drain-Source Diode Forward Current（Note 2）<br>二极管导通正向持续电流 | -- | -- | **3.7** | A | |
| $V_{SD}$ | Diode Forward On-Voltage<br>二极管正向导通电压 | -- | -- | **1.1** | V | $I_S$=3.7A，$V_{GS}$=0 |
| $R_{th(j-c)}$ | Thermal Resistance, Junction to Case<br>结到外壳的热阻 | -- | -- | **2.90** | °C/W | |

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

Note 2: Pulse test: PW <= 300us , duty cycle <= 2%.

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