

650V super-junction Power MOSFET

◆ Features:

- ✧ Very Low FOM $R_{DS(on)}$
低内阻
- ✧ %100 avalanche tested
%100 雪崩能量测试
- ✧ RoHS compliant
RoHS 认证
- ✧ Improved dv/dt capability, high ruggedness
提高 dv/dt 能力, 高耐用性

◆ Applications

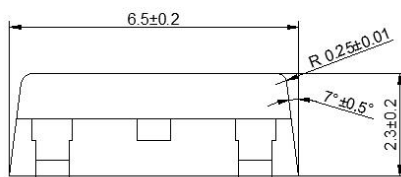
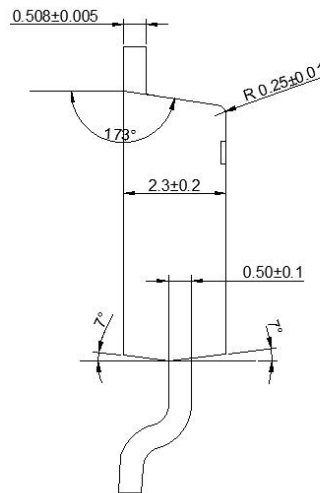
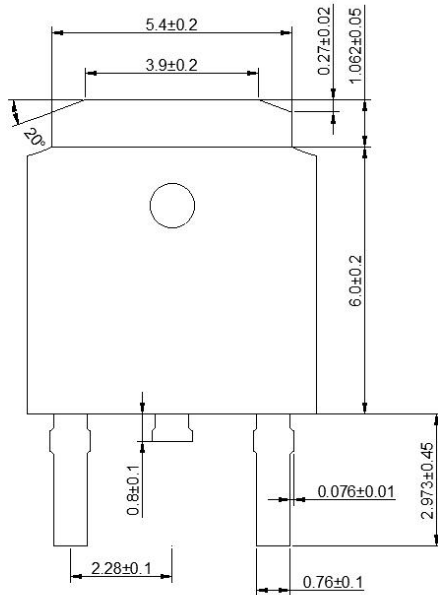
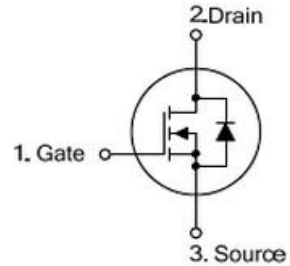
- ✧ High efficiency switch mode power supplies
高效率开关电源
- ✧ Power factor correction
功率因数校正
- ✧ Electronic lamp ballast
电子整流器



TO-252



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单位: mm
TO-252

◆ Absolute Maximum Ratings (Tc=25°C)

| Symbol | Parameters | Ratings | Unit |
|------------------|--|------------|------|
| V _{DSS} | Drain-Source Voltage 漏源电压 | 650 | V |
| V _{GS} | Gate-Source Voltage-Continuous 栅源电压 | ±30 | V |
| I _D | Drain Current-Continuous (Note 2) 漏极持续电流 | 11 | A |
| I _{DM} | Drain Current-Single Plused (Note 1) 漏极单次脉冲电流 | 33 | A |
| P _D | Power Dissipation (Note 2) 功率损耗 | 35 | W |
| T _j | Max.Operating junction temperature 最大结温 | 150 | °C |

| Symbol | Parameters | Min | Typ | Max | Units | Conditions |
|----------------------------------|--|------------|-------------|-------------|-------|---|
| Static Characteristics | | | | | | |
| B _{VDSS} | Drain-Source Breakdown VoltageCurrent (Note 1) 漏极击穿电压 | 650 | -- | -- | V | I _D =250μA, V _{GS} =0V, T _J =25°C |
| V _{GS(th)} | Gate Threshold Voltage 栅极开启电压 | 2.5 | -- | 4.5 | V | V _{DS} =V _{GS} , I _D =250μA |
| R _{DS(on)} | Drain-Source On-Resistance 漏源导通电阻 | -- | 0.32 | 0.38 | Ω | V _{GS} =10V, I _D =4A |
| I _{GSS} | Gate-Body Leakage Current 栅极漏电流 | -- | -- | ±100 | nA | V _{GS} =±30V, V _{DS} =0 |
| I _{DSS} | Zero Gate Voltage Drain Current 零栅极电压漏极电流 | -- | -- | 1 | μA | V _{DS} =600V, V _{GS} =0 |
| Switching Characteristics | | | | | | |

**OSD65R380****650V super-junction Power MOSFET**

| | | | | | | |
|--------------------------------|---|----|------------|-------------|---------------|--|
| $T_{d(on)}$ | Turn-On Delay Time 开启延迟时间 | -- | 24 | -- | ns | $V_{DS}=300V, I_D=11A$ $R_G=25\Omega$ |
| T_r | Rise Time 上升时间 | -- | 54 | -- | ns | |
| $T_{d(off)}$ | Turn-Off Delay Time 关闭延迟时间 | -- | 89 | -- | ns | |
| T_f | Fall Time 下降时间 | -- | 25 | -- | ns | |
| Q_g | Total Gate Charge 栅极总电荷 | -- | 19 | -- | nC | $V_{DS}=480V, V_{GS}=10V$ $I_D=11A$ |
| Q_{gs} | Gate-Source Charge 栅源极电荷 | -- | 4.0 | -- | nC | |
| Q_{gd} | Gate-Drain Charge 栅漏极电荷 | -- | 6.0 | -- | nC | |
| Dynamic Characteristics | | | | | | |
| C_{iss} | Input Capacitance 输入电容 | -- | 800 | -- | pF | $V_{DS}=50V, V_{GS}=0$ $f=1MHz$ |
| C_{oss} | Output Capacitance 输出电容 | -- | 110 | -- | pF | |
| C_{rss} | Reverse Transfer Capacitance 反向传输电容 | -- | 7 | -- | pF | |
| I_S | Continuous Drain-Source Diode Forward Current 二极管导通正向持续电流 | -- | -- | 11 | A | |
| V_{SD} | Diode Forward On-Voltage 二极管正向导通电压 | -- | 0.9 | 1.2 | V | $I_S=11A, V_{GS}=0$ |
| $R_{th(j-c)}$ | Thermal Resistance, Junction to Case 结到外壳的热阻 | -- | -- | 3.57 | $^{\circ}C/W$ | |

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

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