

描述 / Descriptions

SOT-23 塑封封装 N 道 MOS 场效应管。N- CHANNEL MOSFET in a SOT-23 Plastic Package.

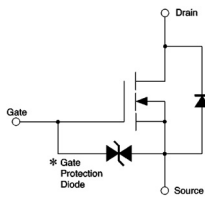
特征 / Features

低导通电阻,开关速度快,低电压驱动,简化驱动电路和易于并联设计。静电保护达 500V (HBM)。
Low on-resistance, fast switching speed, low voltage drive, easily designed drive circuits, easy to parallel. ESD protected up to 500V (HBM) .

用途 / Applications

触摸屏, 交换开关。
Interfacing, switching.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1 : G PIN 2 : S PIN 3 : D

印章代码 / Marking

| | |
|---------|----|
| Marking | KL |
|---------|----|

极限参数 / Absolute Maximum Ratings(Ta=25°C)

| 参数 Parameter | 符号 Symbol | 数值 Rating | 单位 Unit |
|------------------------------------|----------------|--------------|------------|
| Drain-Source Voltage | V_{DSS} | 30 | V |
| Gate-Source Voltage | V_{GSS} | ±20 | V |
| Drain Current – Continuous | I_D | 100 | mA |
| Drain Current- Pulsed | I_{DP}^{*1} | 400 | mA |
| Reverse Drain Current – Continuous | I_{DR} | 100 | mA |
| Reverse Drain Current –Pulsed | I_{DRP}^{*1} | 200 | mA |
| Total Power Dissipation | P_D^{*2} | 250 | mW |
| Channel Temperature | T_{ch} | 150 | V |
| Storage Temperature Range | T_{stg} | -55~150 | °C |

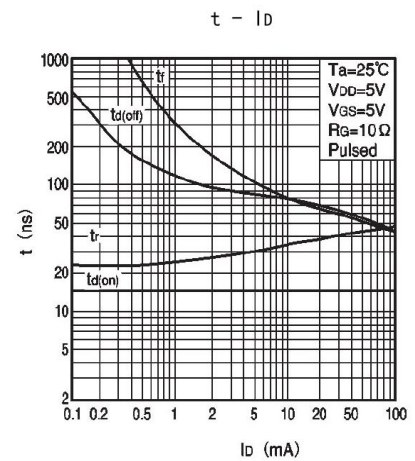
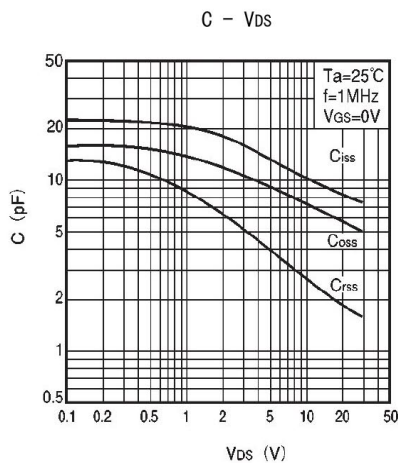
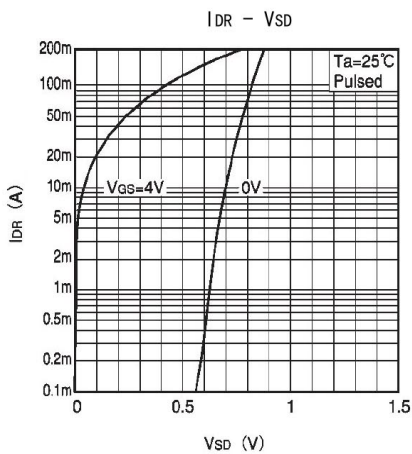
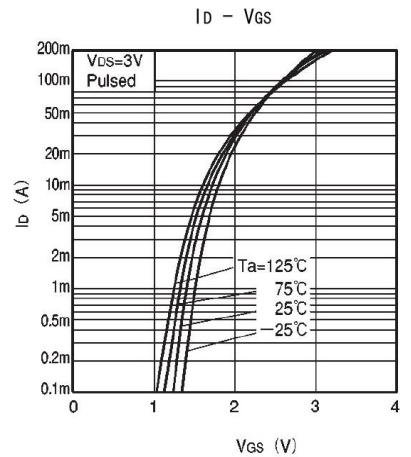
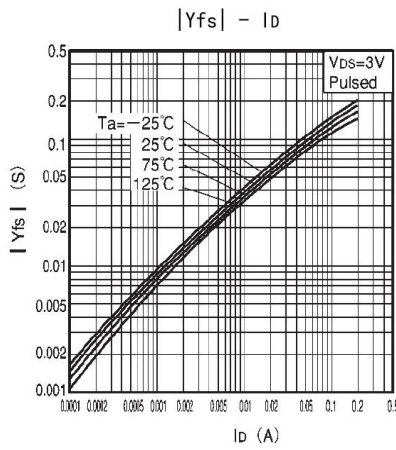
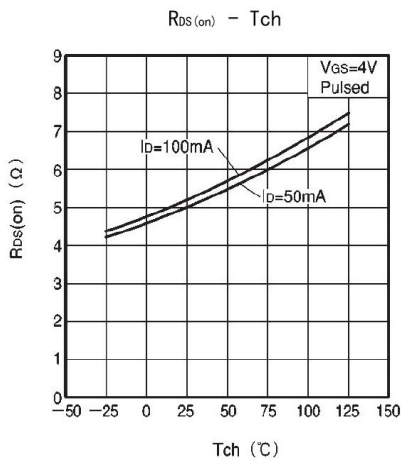
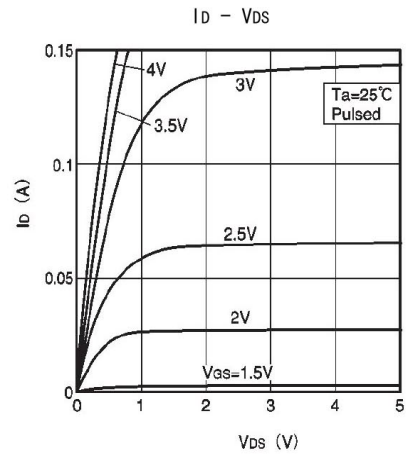
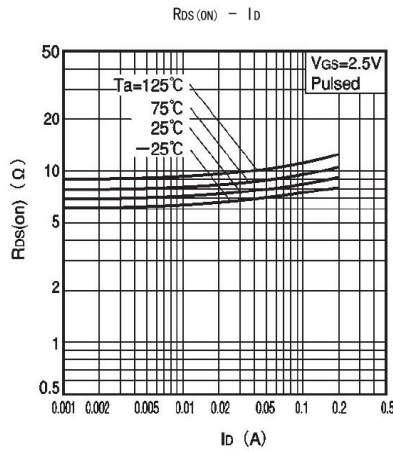
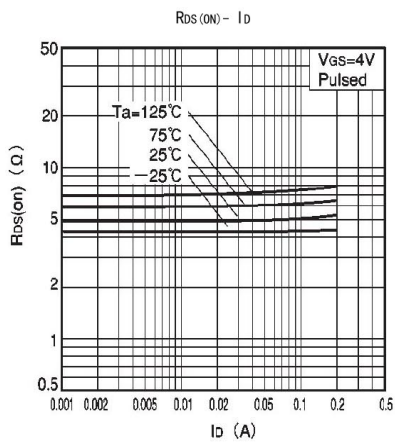
*1: $P_w \leq 10 \mu s$, Duty cycle $\leq 1\%$

*2: With each pin mounted on the recommended lands

电性能参数 / Electrical Characteristics(Ta=25°C)

| 参数 Parameter | 符号 Symbol | 测试条件 Test Conditions | 最小值 Min | 典型值 Typ | 最大值 Max | 单位 Unit |
|-----------------------------------|---------------|---|------------|------------|------------|------------|
| Drain–Source Breakdown Voltage | $V_{(BR)DSS}$ | $V_{GS}=0V$ $I_D=10\mu A$ | 30 | | | V |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}=3.0V$ $I_D=100\mu A$ | 0.8 | | 1.5 | V |
| Static Drain–Source On–Resistance | $R_{DS(on)1}$ | $V_{GS}=4.0V$ $I_D=10mA$ | | 5.0 | 8.0 | Ω |
| | $R_{DS(on)2}$ | $V_{0047S}=2.5V$ $I_D=1.0mA$ | | 7.0 | 13 | |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS}=30V$ $V_{GS}=0V$ | | | 1.0 | μA |
| Gate–Body Leakage. | I_{GSS} | $V_{GS}=\pm 20V$ $V_{DS}=0V$ | | | ±1 | μA |
| Forward Transconductance | g_{FS} | $V_{DS}=3V$ $I_D=10mA$ | 20 | | | mS |
| Input Capacitance | C_{iss} | $V_{DS}=5.0V$ $V_{GS}=0V$ $f=1.0MHz$ | | 13 | | pF |
| Output Capacitance | C_{oss} | | | 9.0 | | |
| Reverse Transfer Capacitance | C_{rss} | | | 4.0 | | |
| Turn–On Delay Time | $t_{d(on)}$ | $I_D=10mA$ $V_{DD}\approx 5.0V$ $V_{GS}=5.0V$ $R_L=500\Omega$ $R_{GS}=10\Omega$ | | 15 | | ns |
| Turn–On Rise Time | t_r | | | 35 | | |
| Turn–Off Delay Time | $t_{d(off)}$ | | | 80 | | |
| Turn–Off Fall Time | t_f | | | 80 | | |

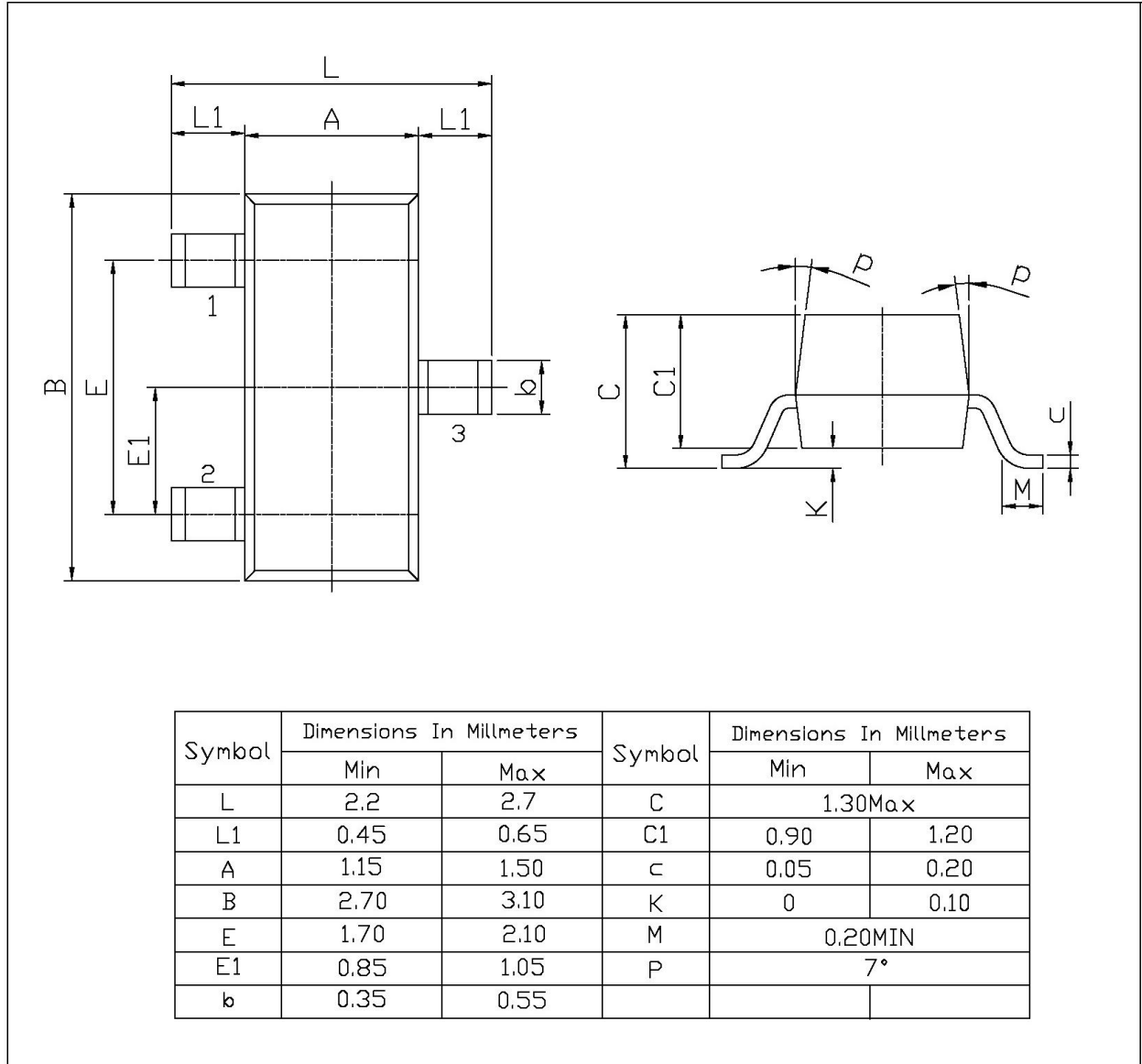
电参数曲线图 / Electrical Characteristic Curve



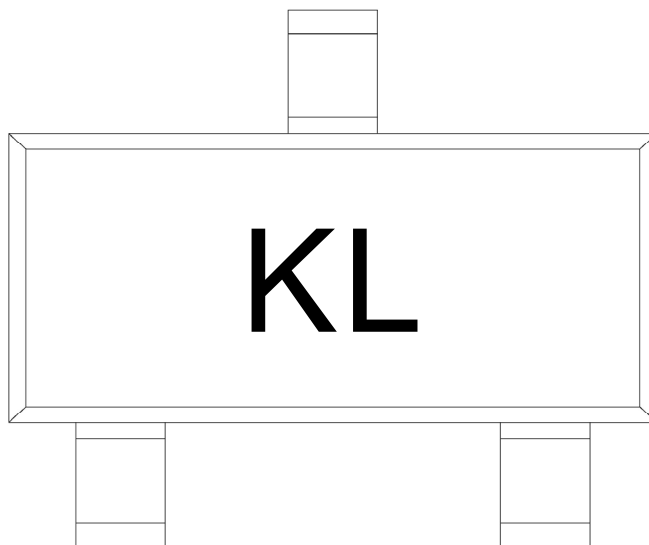
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



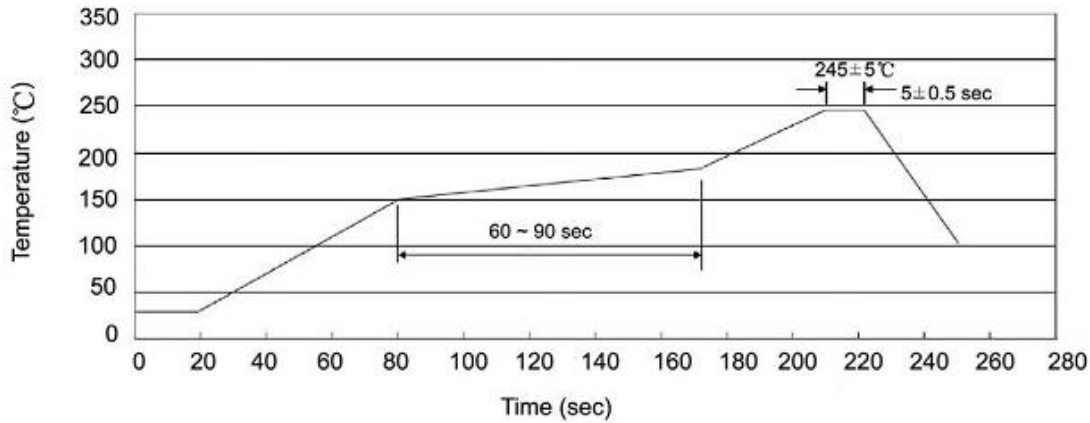
说明：

KL： 为封装型号

Note:

KL : Package Type

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

- 1、预热温度 150 ~ 180°C，时间 60 ~ 90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:150~180°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

| Package Type 封装形式 | Units 包装数量 | | | | | Dimension 包装尺寸 (unit: mm ³) | | |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|---|-------------|-------------|
| | Units/Reel 只/卷盘 | Reels/Inner Box 卷盘/盒 | Units/Inner Box 只/盒 | Inner Boxes/Outer Box 盒/箱 | Units/Outer Box 只/箱 | Reel | Inner Box 盒 | Outer Box 箱 |
| SOT-23 | 3,000 | 10 | 30,000 | 6 | 180,000 | 7" ×8 | 180×120×180 | 390×385×205 |

使用说明 / Notices