

描述 / Descriptions

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

特征 / Features

输出电阻小、性能高；SOT-23 封装，利于设计安装。

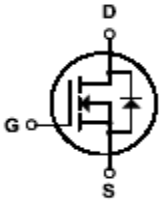
Low $R_{DS(on)}$, rugged and reliable, compact industry standard SOT-23 surface mount package.

用途 / Applications

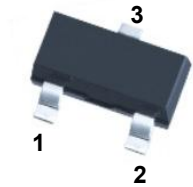
用于小电流伺服马达控制、功率 MOSFET 的门电压驱动及其它开关电路。

Low current applications such as small servo motor control, power MOSFET gate drivers, and other switching applications.

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 | HSS |
|---------|-----|

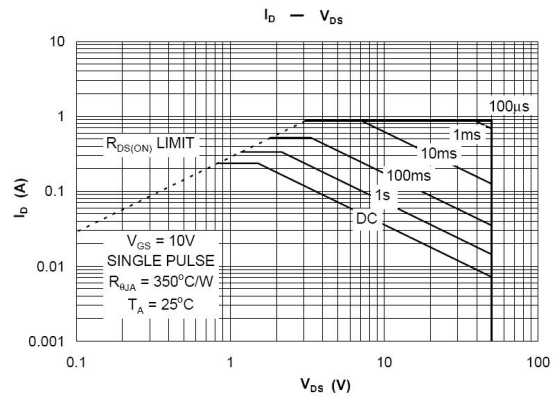
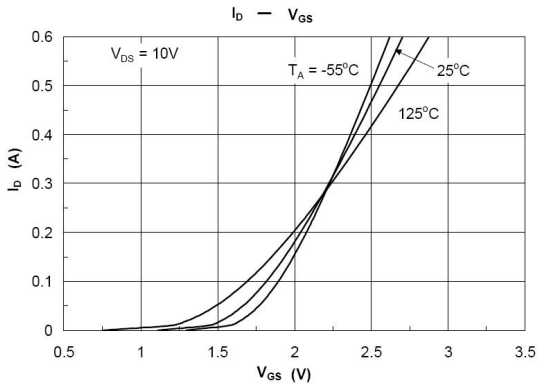
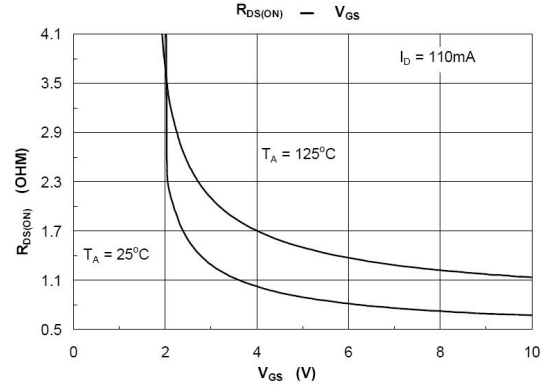
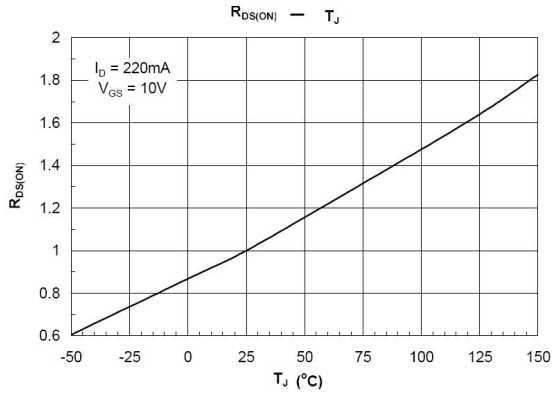
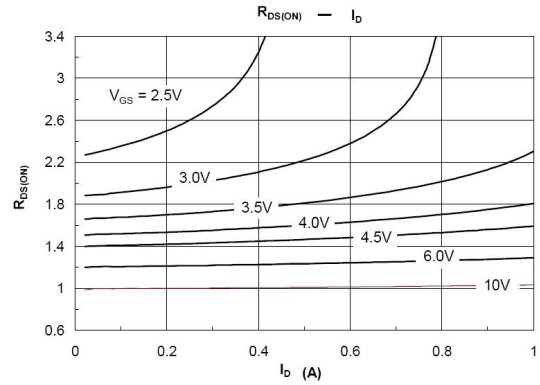
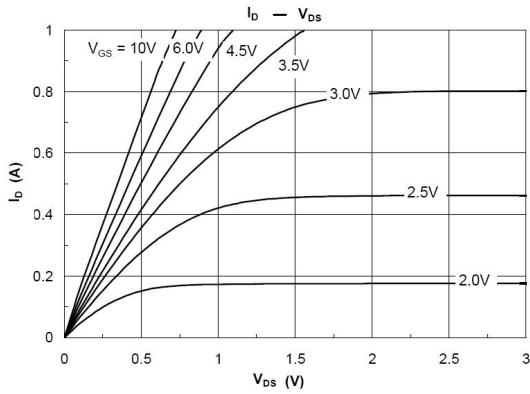
极限参数 / Absolute Maximum Ratings(Ta=25°C)

| 参数 Parameter | 符号 Symbol | 数值 Rating | 单位 Unit |
|---|-----------------|--------------|------------|
| Drain-Source Voltage | V_{DSS} | 50 | V |
| Gate-Source Voltage | V_{GSS} | ±20 | V |
| Drain Current – Continuous | I_D | 220 | mA |
| Peak Drain Current | I_{DM} | 880 | mA |
| Power Dissipation | P_D | 360 | mW |
| Thermal Resistance, Junction-to-Ambient | $R_{\theta JA}$ | 350 | °C/W |
| Storage Temperature Range | T_{stg} | -55~150 | °C |

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 |
|------------------------------------|-----------------|---|------------|------------|------------|------------|
| Zero Gate Voltage Drain Current | $I_{DSS(1)}$ | $V_{GS}=0$ $V_{DS}=50V$ | | | 0.5 | μA |
| | $I_{DSS(2)}$ | $V_{GS}=0$ $V_{DS}=30V$ | | | 0.1 | μA |
| Gate–Body Leakage. | I_{GSS} | $V_{DS}=0V$ $V_{GS}=\pm 20$ | | | ±100 | nA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}=V_{GS}$ $I_D=1.0mA$ | 0.8 | 1.3 | 1.5 | V |
| Static Drain–Source On–Resistance | $R_{DS(on)(1)}$ | $V_{GS}=10V$ $I_D=220mA$ | | 0.7 | 3.5 | Ω |
| | $R_{DS(on)(2)}$ | $V_{GS}=4.5V$ $I_D=220mA$ | | 1.0 | 6.0 | Ω |
| Forward Transconductance | g_{FS} | $V_{DS}=10V$ $I_D=220mA$ | 0.12 | 0.5 | | S |
| Drain–Source Diode Forward Voltage | V_{SD} | $V_{GS}=0V$ $I_S=440mA$ | | 0.8 | 1.4 | V |
| Gate Resistance | R_G | $V_{GS}=15mV$ $f=1.0MHZ$ | | 9 | | Ω |
| Turn–On Delay Time | $t_{d(on)}$ | $V_{DD}=30V$ $I_D=290mA$ $V_{GS}=10V$ $R_{GEN}=25\Omega$ | | 2.5 | 5 | ns |
| Turn–On Rise Time | t_r | | | 9 | 18 | ns |
| Turn–Off Delay Time | $t_{d(off)}$ | | | 20 | 36 | ns |
| Turn–Off Fall Time | t_f | | | 7 | 14 | ns |

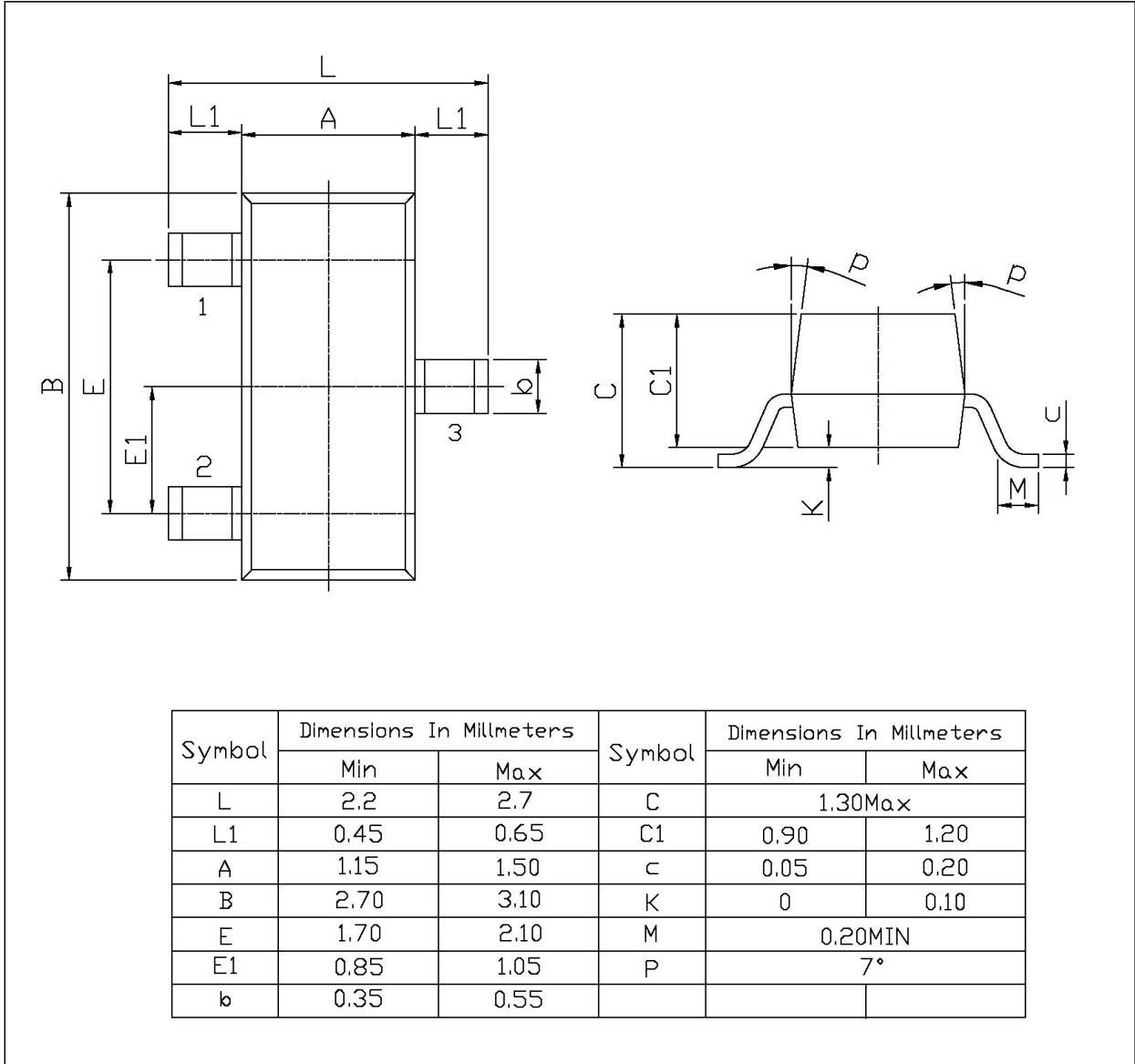
电参数曲线图 / Electrical Characteristic Curve



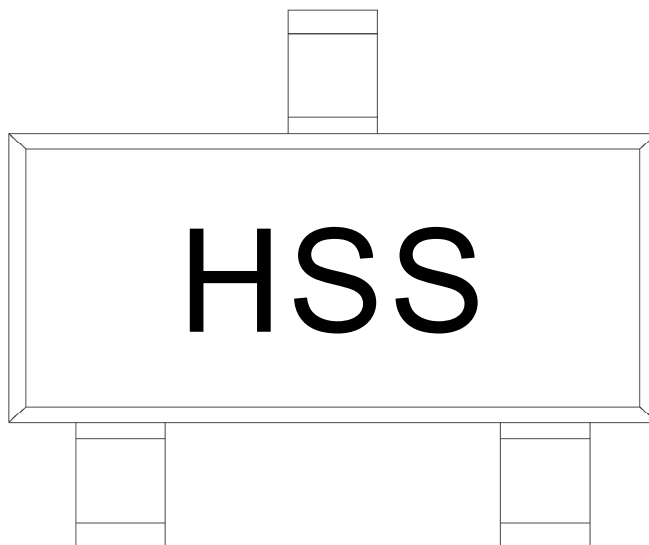
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

SS： 为型号代码

Note:

H: Company Code.

SS: Product 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 25 ~ 150°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:25~150°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

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