

## 描述 / Descriptions

SOT-323 塑封封装 N 沟 MOS 场效应管。N-Channel MOSFET in a SOT-323 Plastic Package.

## 特征 / Features

低导通电阻,开关速度快,低电压驱动,简化驱动电路和简便平面。无卤产品。

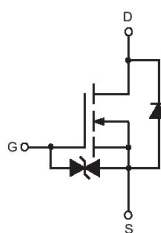
Low on-resistance, fast switching speed, low voltage drive, easily designed drive circuits, easy to parallel. Halogen free product.

## 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 : S

PIN 2 : G

PIN 3 : D

## 印章代码 / Marking

|         |    |
|---------|----|
| Marking | KN |
|---------|----|

## 2SK3018L

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

| 参数<br>Parameter                                    | 符号<br>Symbol   | 数值<br>Rating | 单位<br>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                              | $I_{DP}^{*1}$  | 200          | mA         |
| Reverse drain current–Continuous                   | $I_{DR}$       | 100          | mA         |
| Reverse drain current– Pulsed                      | $I_{DRP}^{*1}$ | 200          | mA         |
| Total power dissipation ( $T_c=25^\circ\text{C}$ ) | $P_D^{*2}$     | 200          | mW         |
| Channel Temperature                                | $T_{ch}$       | 150          | °C         |
| Storage Temperature Range                          | $T_{stg}$      | -55~150      | °C         |

\*1: $P_w \leq 10\mu\text{s}$ , Duty cycle ≤ 50%

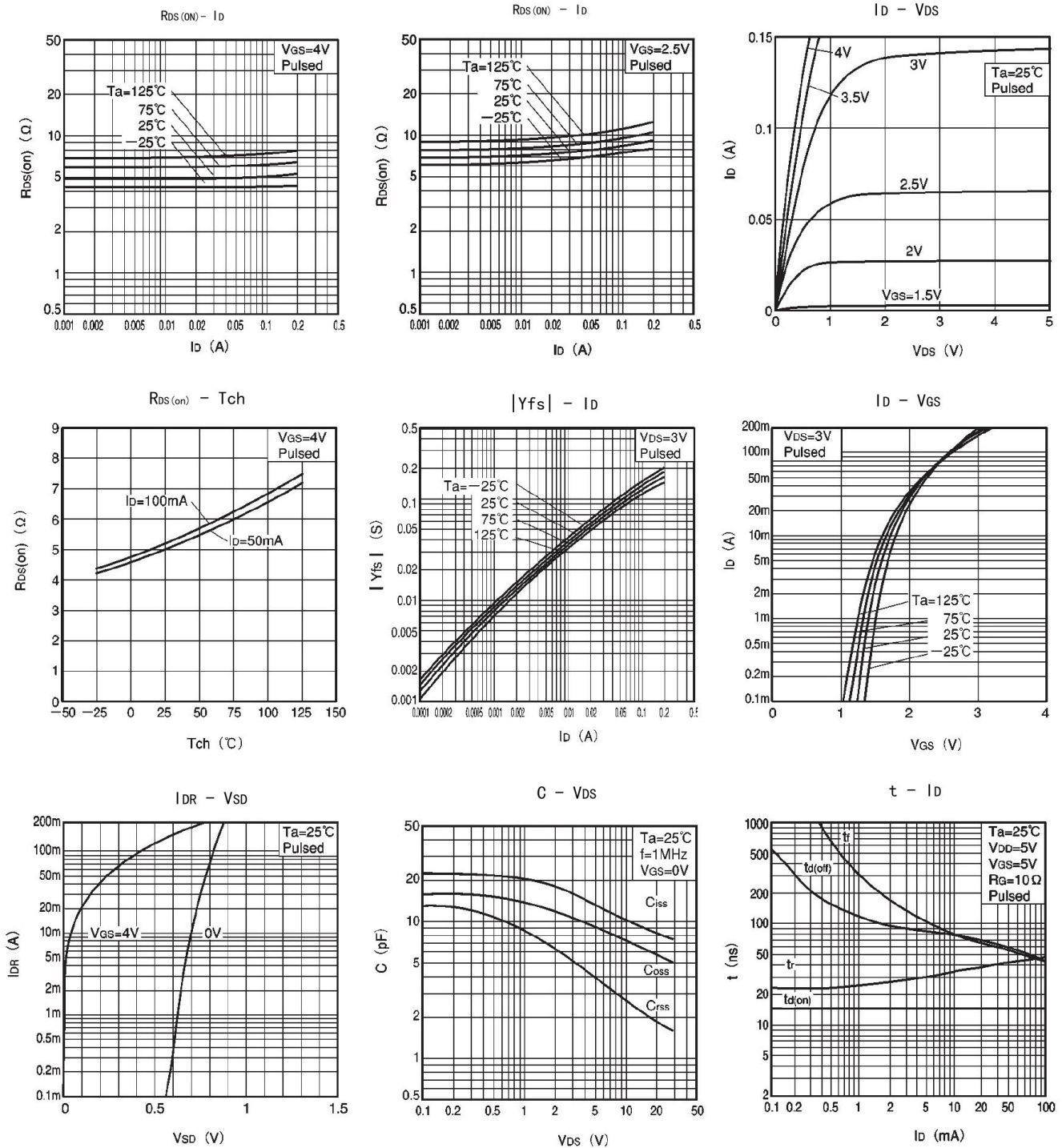
\*2:With each pin mounted on the recommended lands

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

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

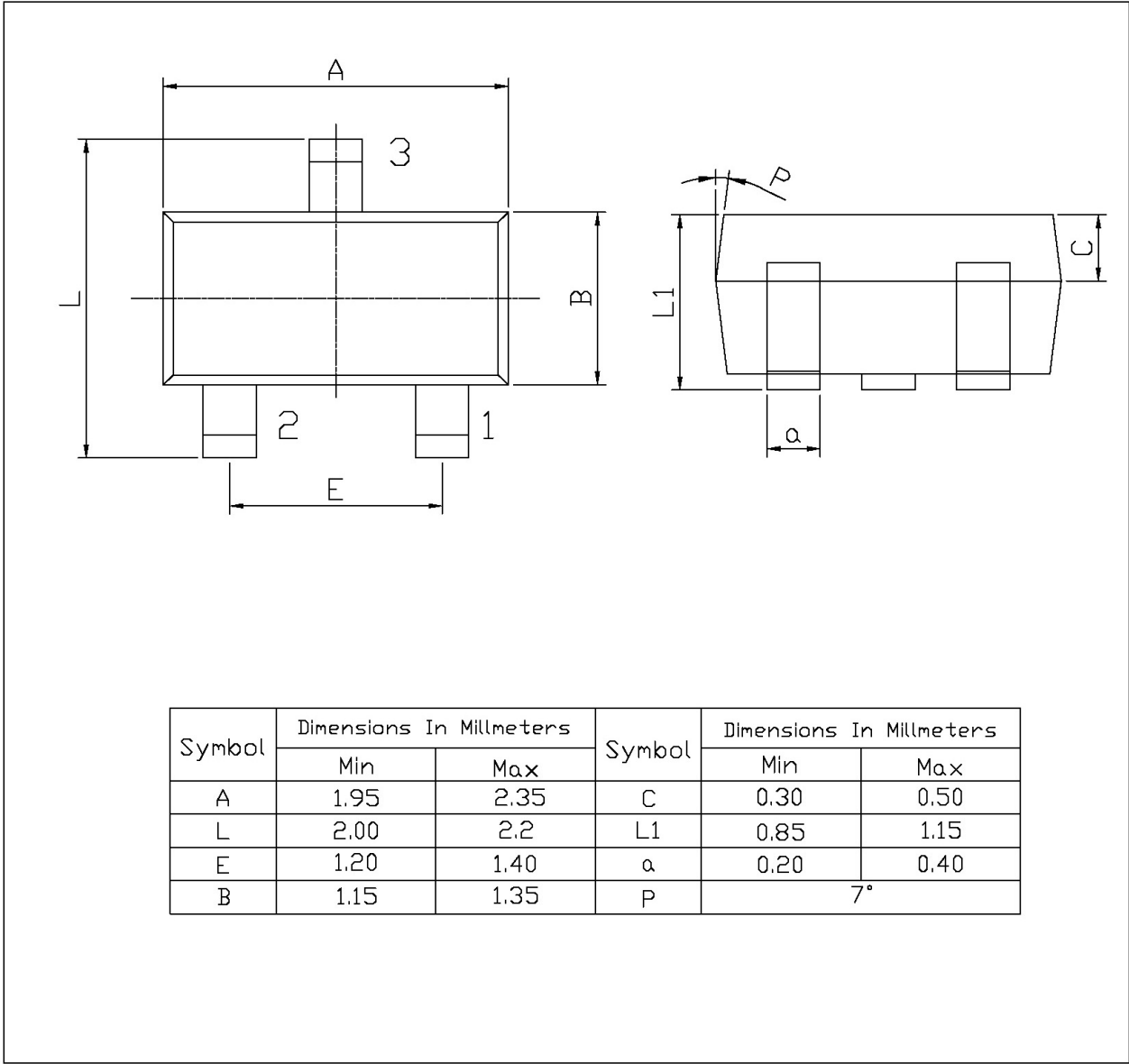
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## 电参数曲线图 / Electrical Characteristic Curve



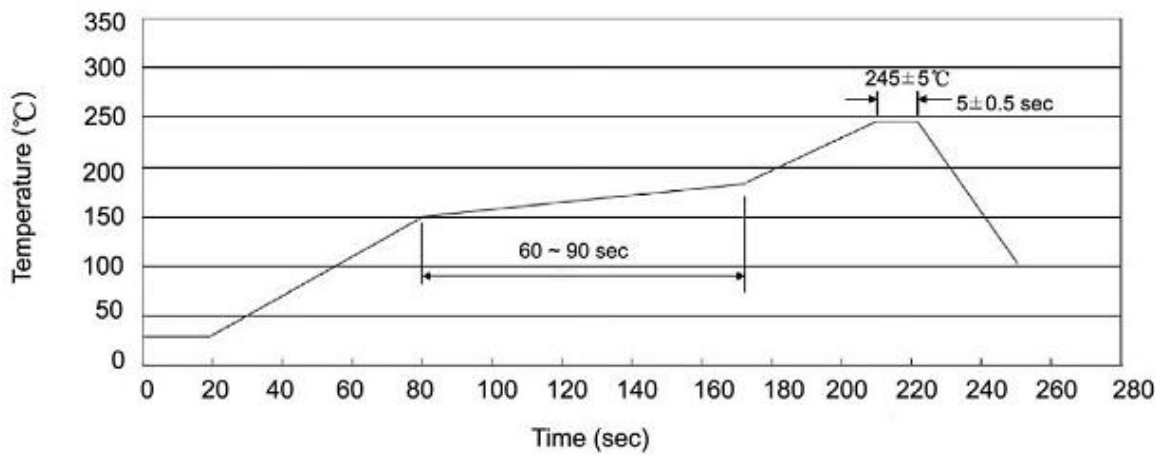
SOT-323

单位：mm



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

Note:

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

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

温度：260±5℃      时间：10±1 sec.      Temp:260±5℃      Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

| Package Type<br>封装形式 | Units 包装数量         |                         |                        |                              |                        | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |             |             |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|-----------------------------------------|-------------|-------------|
|                      | Units/Reel<br>只/卷盘 | Reels/Inner Box<br>卷盘/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Reel                                    | Inner Box 盒 | Outer Box 箱 |
| SOT-323              | 3,000              | 10                      | 30,000                 | 6                            | 180,000                | 7" ×8                                   | 180×120×180 | 390×385×205 |

使用说明 / Notices