

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。

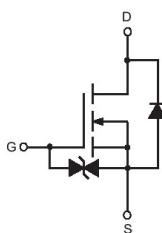
Low on-resistance, fast switching speed, low voltage drive, easily designed drive circuits, easy to parallel. Halogen free product.

用途 / Applications

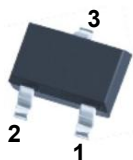
触摸屏, 交换开关。

Interfacing, switching.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN 1 : S

PIN 2 : G

PIN 3 : D

印章代码 / Marking

Marking	KN
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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}	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	V
Storage Temperature Range	T_{stg}	-55~150	°C

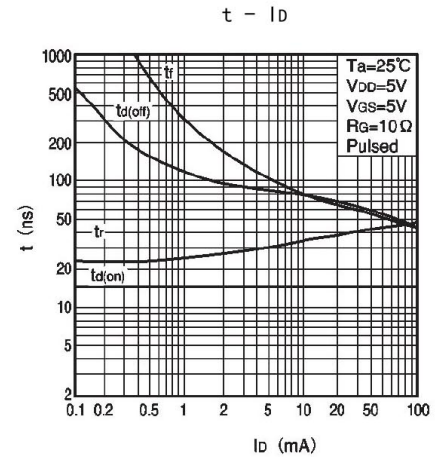
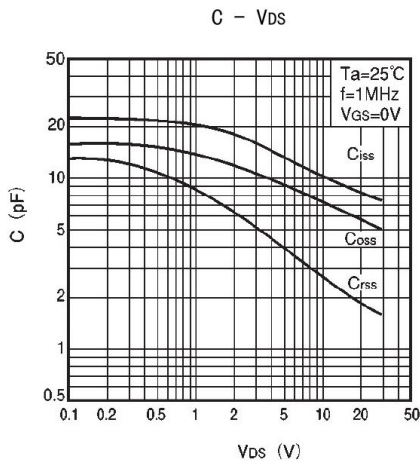
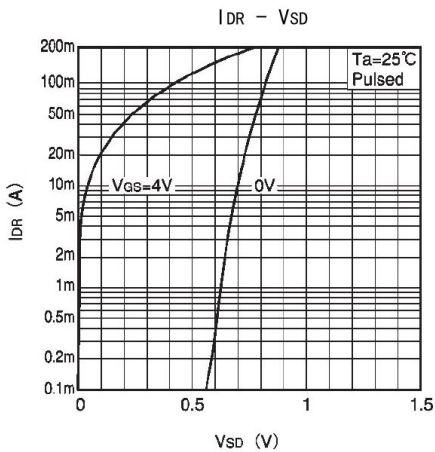
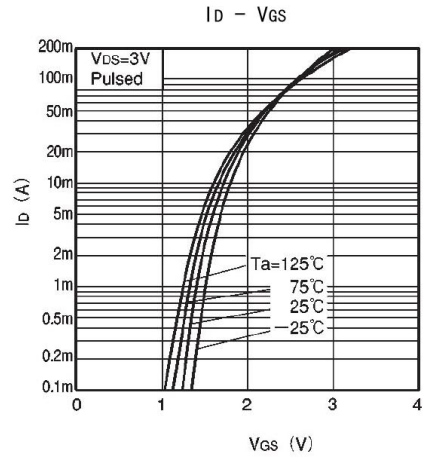
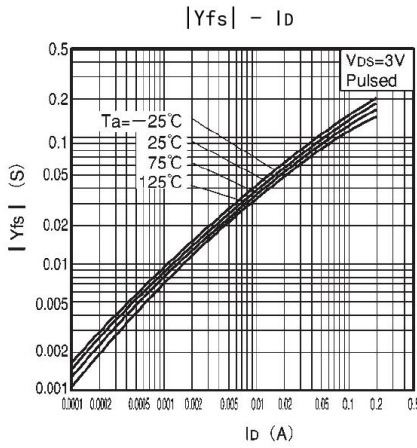
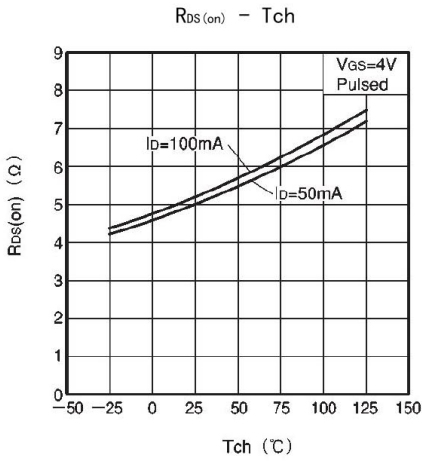
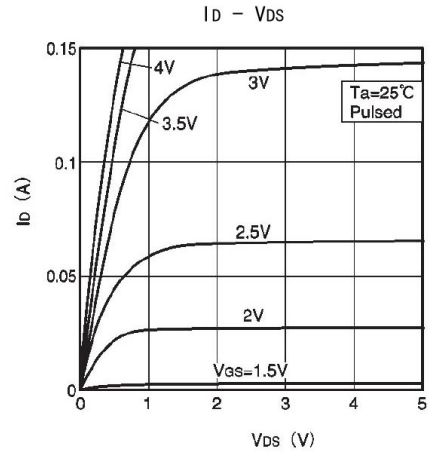
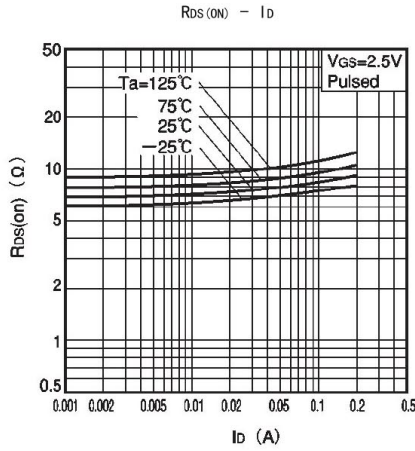
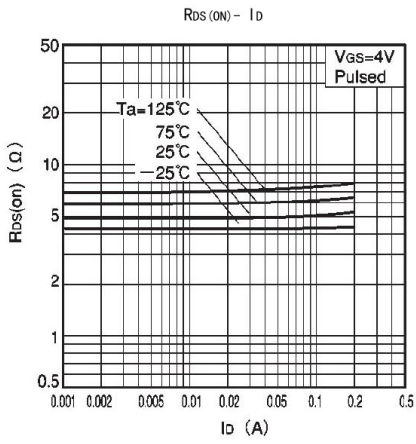
*1: $P_w \leq 10\mu\text{s}$, Duty cycle $\leq 50\%$

*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	$V_{(BR)DSS}$	$V_{GS}=0V$ $I_D=10\mu\text{A}$	30			V	
Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=3.0V$ $I_D=100\mu\text{A}$	0.8		1.5	V	
Static Drain–Source On–Resistance	$R_{DS(on)1}$	$V_{GS}=4.0V$ $I_D=10\text{mA}$		5.0	8.0	Ω	
	$R_{DS(on)2}$	$V_{GS}=2.5V$ $I_D=1.0\text{mA}$		7.0	13	Ω	
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}	$V_{DS}=3V$ $I_D=10\text{mA}$	20			mS	
Input Capacitance	C_{iss}	$V_{DS}=5.0V$ $V_{GS}=0V$ $f=1.0\text{MHz}$		13		pF	
Output Capacitance	C_{oss}				9.0		pF
Reverse Transfer Capacitance	C_{rss}				4.0		pF
Turn–On Delay Time	$t_{d(on)}$	$I_D=10\text{mA}$ $V_{DD}\approx 5.0V$ $V_{GS}=5.0V$ $R_L=500\Omega$ $R_{GS}=10\Omega$		15		ns	
Turn–On Rise Time	t_r				35		ns
Turn–Off Delay Time	$t_{d(off)}$				80		ns
Turn–Off Fall Time	t_f				80		ns

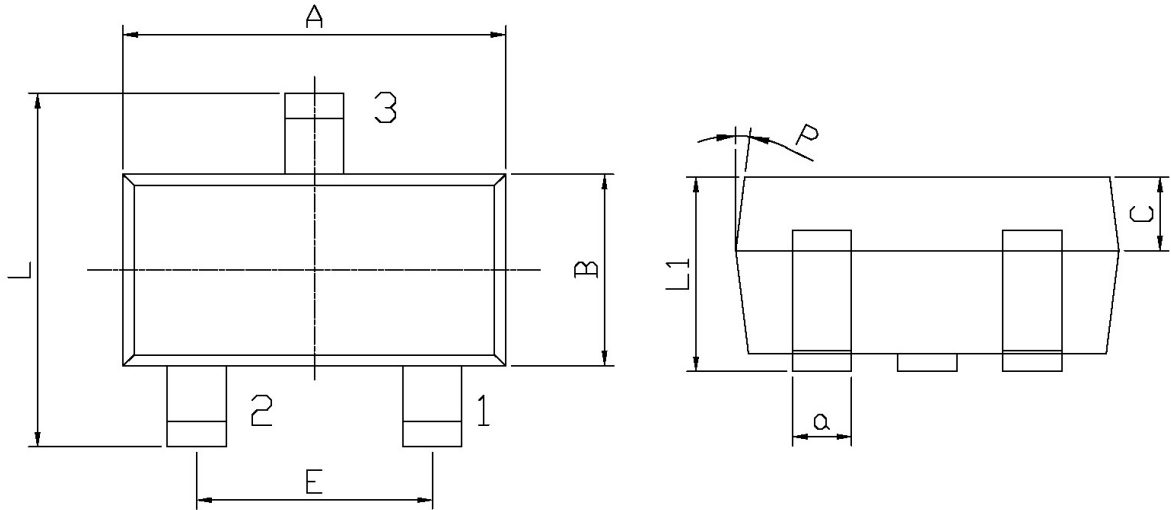
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

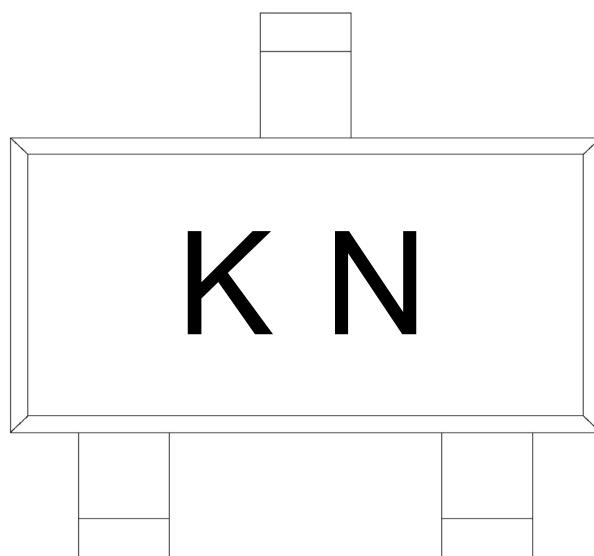
SOT-323

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	1.95	2.35	C	0.30	0.50
L	2.00	2.2	L1	0.85	1.15
E	1.20	1.40	a	0.20	0.40
B	1.15	1.35	P	7°	

印章说明 / Marking Instructions



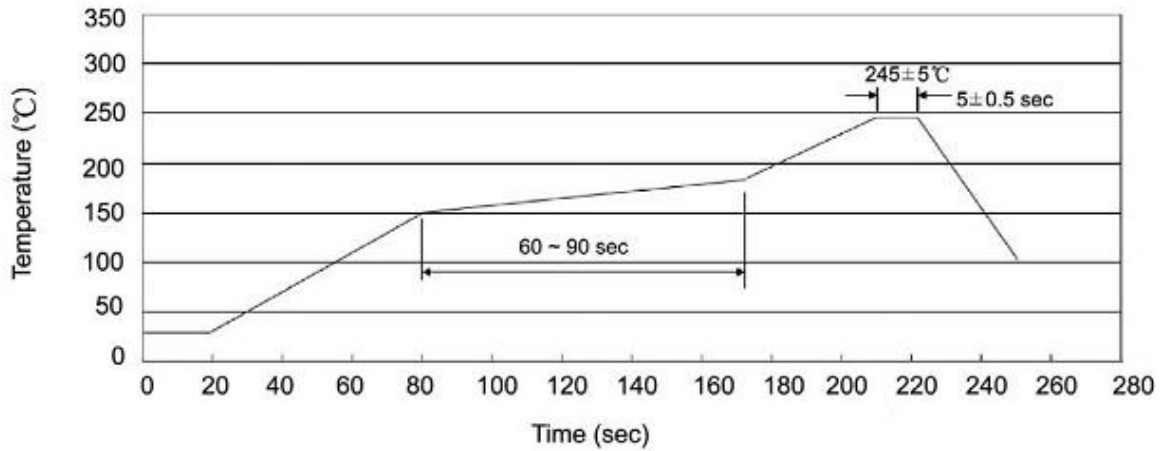
说明：

KN： 为封装型号

Note:

KN: 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-323	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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