

BR2SK3018WQ

Rev.A Aug.-2022

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,符合 AEC-Q101 标准高可靠性要求,无卤产品。

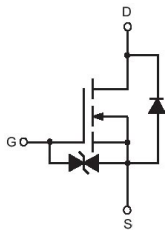
Low on-resistance, fast switching speed, low voltage drive, easily designed drive circuits, easy to parallel, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途 / Applications

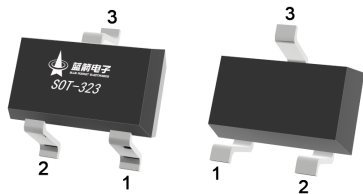
触摸屏, 交换开关, 满足汽车应用的严格要求。

Interfacing, switching, Meet the stringent requirements of automotive applications.

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	QKN
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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°C)	P _D ^{*2}	200	mW
Channel Temperature	T _{ch}	150	V
Storage Temperature Range	T _{stg}	-55~150	°C

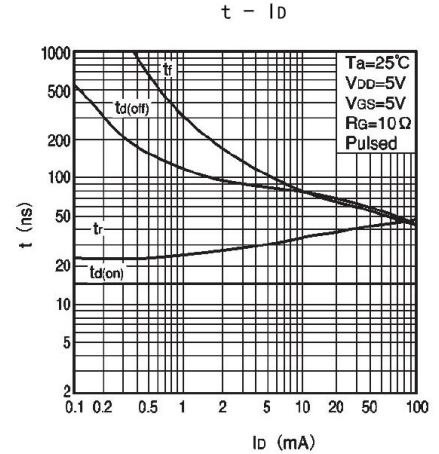
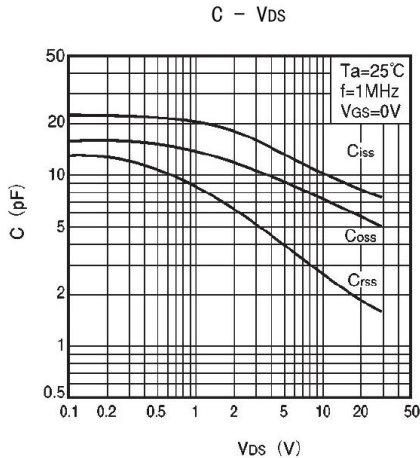
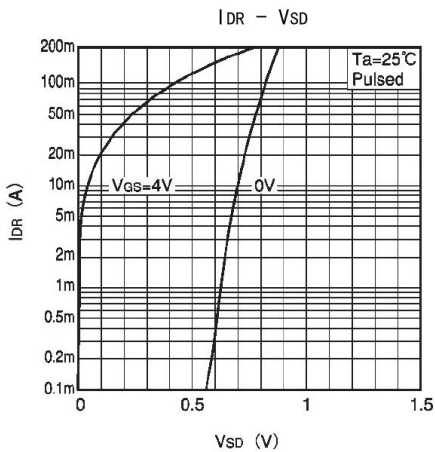
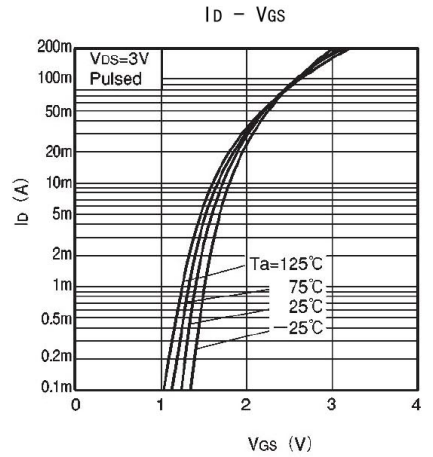
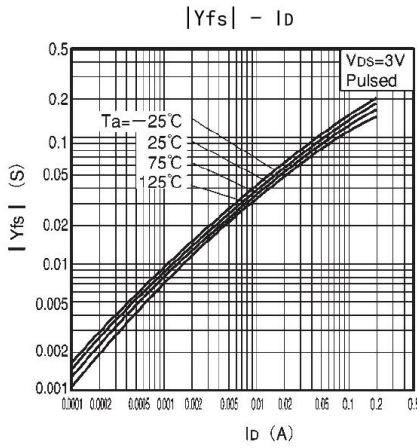
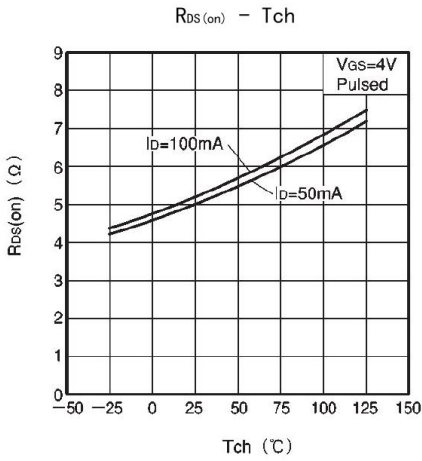
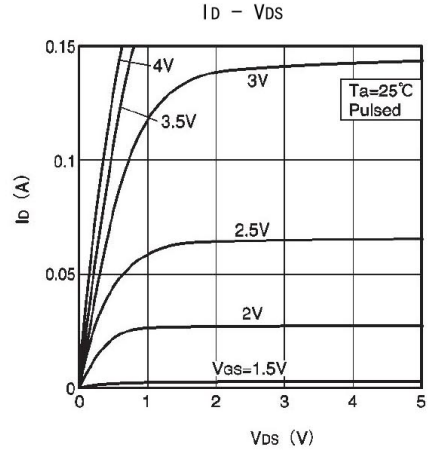
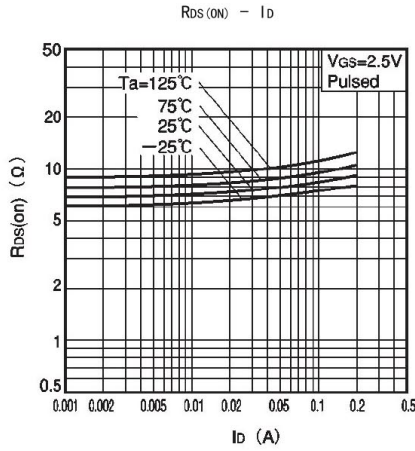
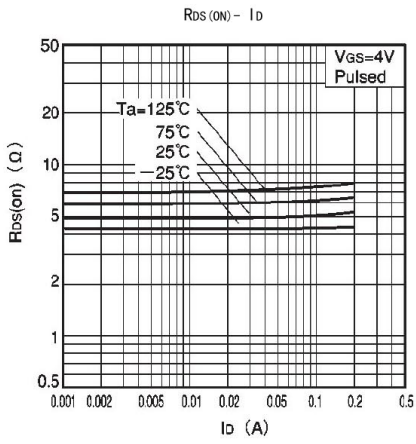
*1:Pw≤10μs, Duty cycle≤50%

*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 =10μA	30			V	
Gate threshold voltage	V _{GS(th)}	V _{DS} =3.0V I _D =100μA	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 _{GS} =2.5V I _D =1.0mA		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} =±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		pF
Reverse Transfer Capacitance	C _{rss}				4.0		pF
Turn–On Delay Time	t _{d(on)}	I _D =10mA V _{DD} ≈5.0V V _{GS} =5.0V R _L =500Ω R _{GS} =10Ω		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

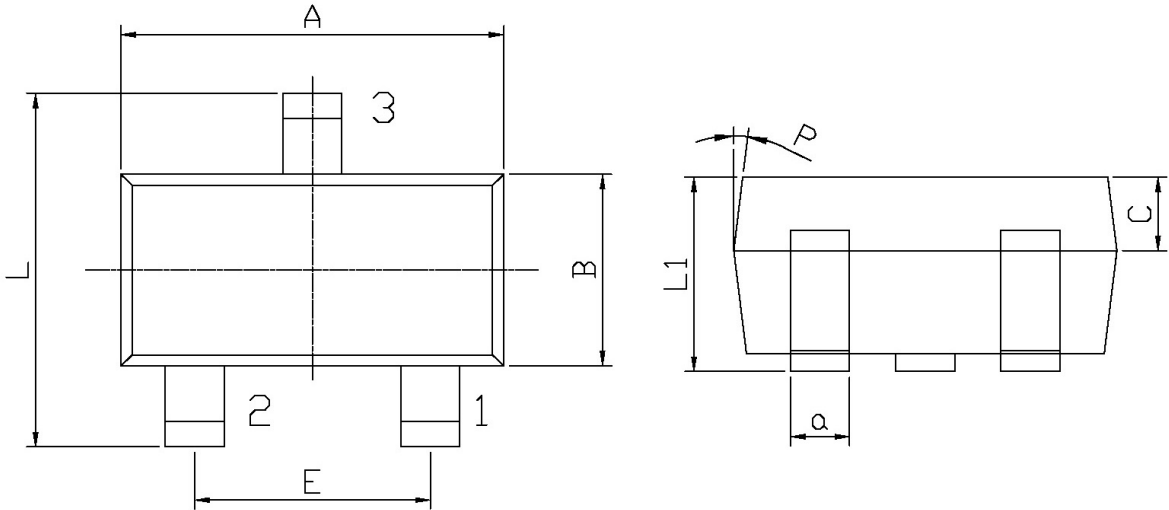
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

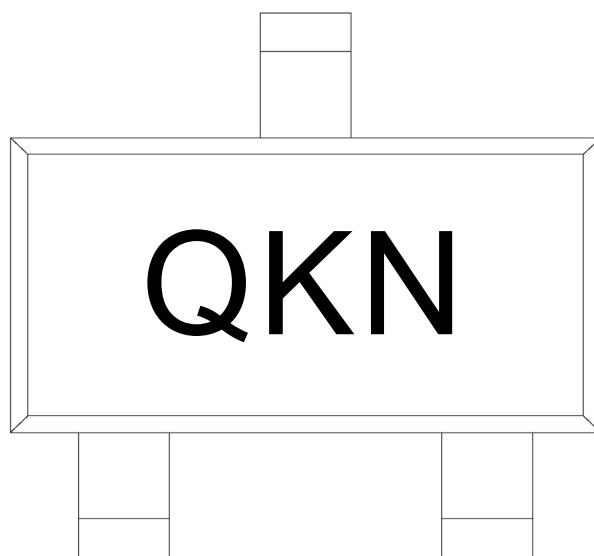
SOT-323

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：

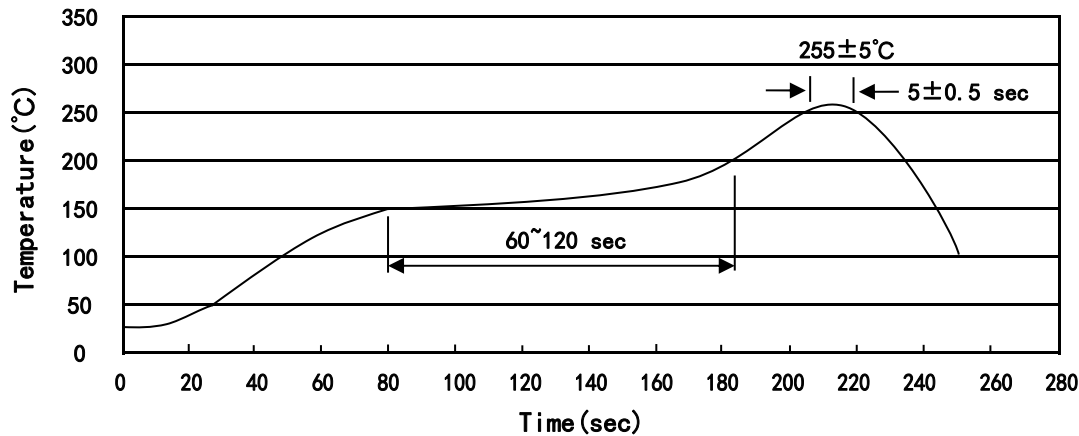
Q： 为汽车无卤产品标识

KN： 为封装型号

Note:

Q: Automobile halogen-free product Code

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 150~200°C，时间 60~120sec;
- 2、峰值温度 255±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:150~200°C, Time:60~120sec.
- 2.Peak Temp.:255±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