

BR2SK3018WQ

Rev.A Aug.-2022

/ Descriptions

SOT-323 N MOS N-Channel MOSFET in a SOT-323 Plastic Package.

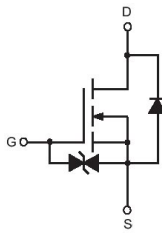
/ Features

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.

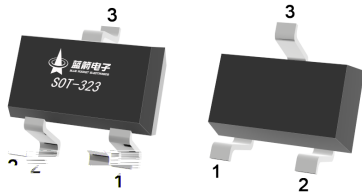
/ Applications

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

/ Equivalent Circuit



/ Pinning



PIN1 S

PIN 2 G

PIN 3 D

/ Marking

Marking	QKN
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/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 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 ($T_c=25$)	P_D^{*2}	200	mW
Channel Temperature	T_{ch}	150	V
Storage Temperature Range	T_{stg}	-55 150	

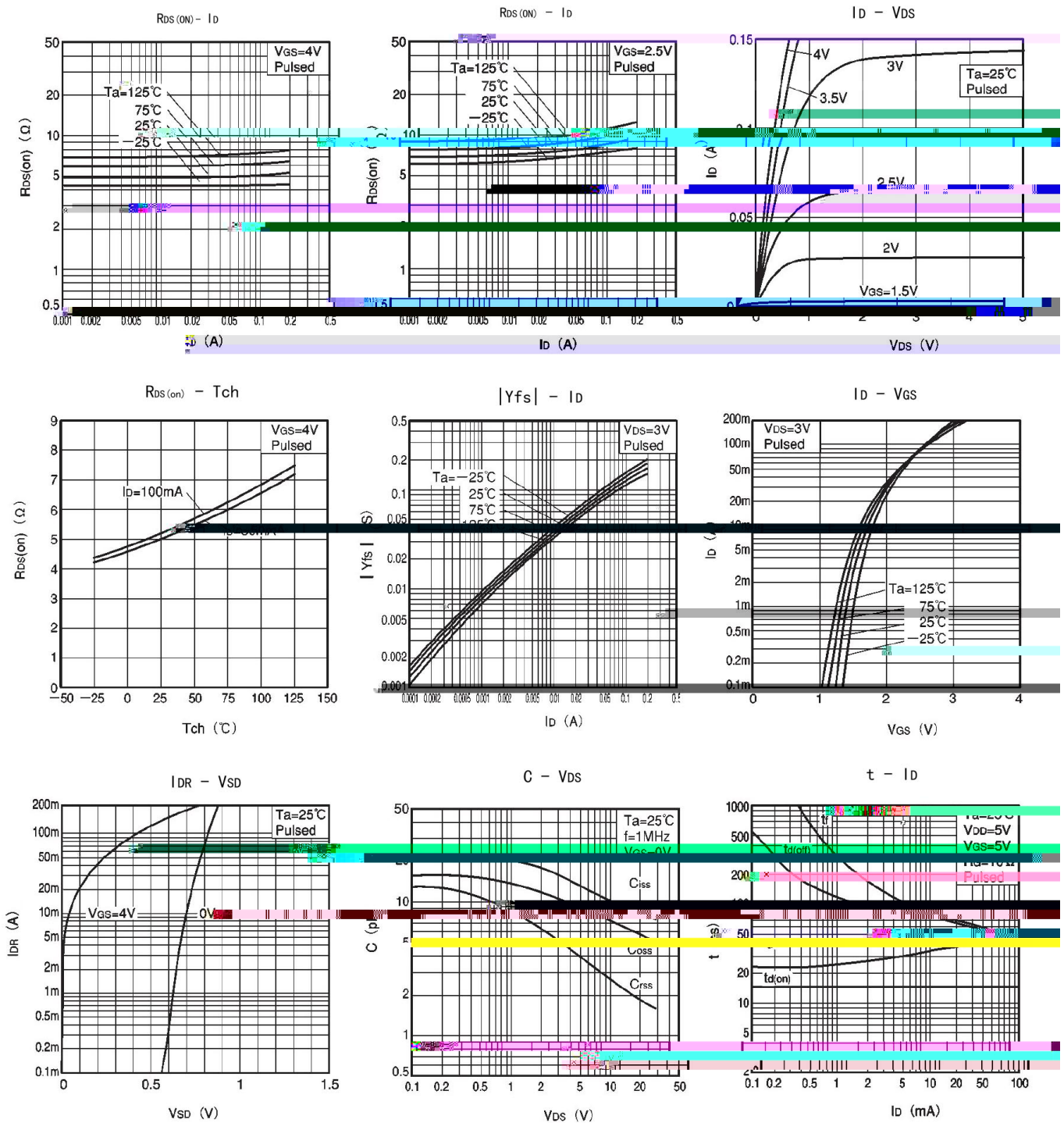
*1: $P_w \leq 10\mu s$, Duty cycle $\leq 50\%$

*2:With each pin mounted on the recommended lands

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	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
	$R_{DS(on)2}$	$V_{GS}=2.5V$ $I_D=1.0mA$		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}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 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		pF
Reverse Transfer Capacitance	C_{rss}			4.0		pF
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		ns
Turn–Off Delay Time	$t_{d(off)}$			80		ns
Turn–Off Fall Time	t_f			80		ns

/ Electrical Characteristic Curve



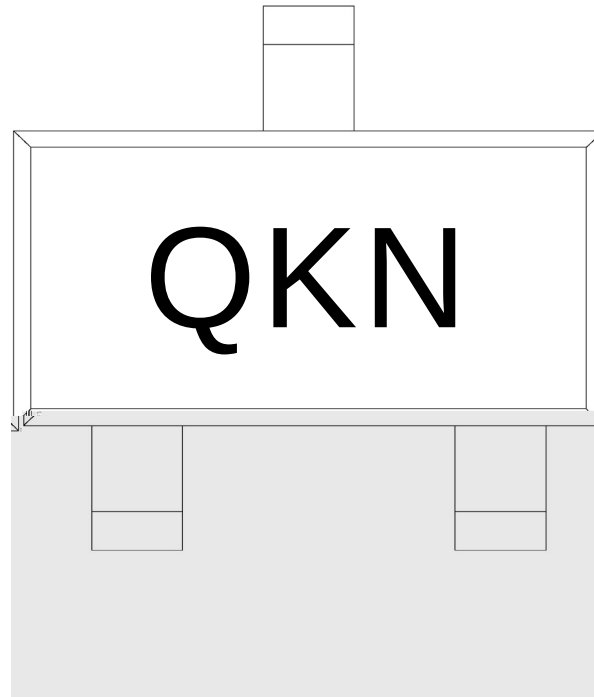
/ Package Dimensions

SOT-323

单位: mm



/ **Marking Instructions**



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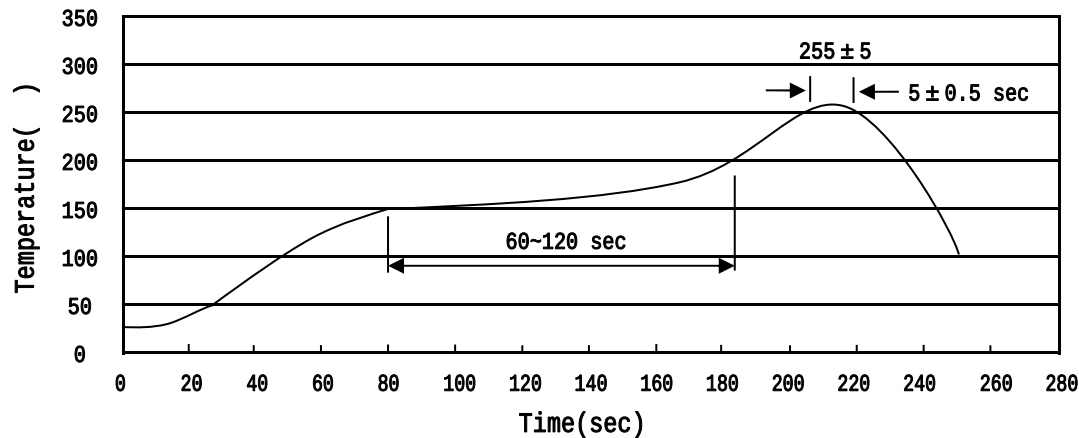
KN

Note:

Q: Automobile halogen-free product Code

KN: Package type

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 150 200 60 120sec; 1.Preheating:150~200 , Time:60~120sec.
- 255 5 5 0.5sec; 2.Peak Temp.:255 5 , Duration:5 0.5sec.
- 2 10 /sec. 3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260 5

10 1 sec.

Temp:260±5

Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-323	3,000	10	30,000	6	180,000	7 × 8	180×120×180	390×385×205

/ Notices