

Kingtronics®

2SK3018

N-channel MOSFET

FEATURES

Low on-resistance
 Fast switching speed
 Low voltage drive makes this device ideal for Portable equipment
 Easily designed drive circuits
 Easy to parallel

APPLICATION

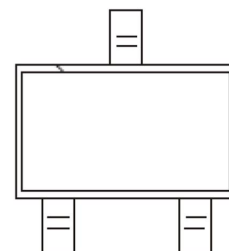
Interfacing , Switching

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	0.1	A
Power Dissipation	P_D	0.2	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	$^\circ\text{C/W}$

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30 V	8 Ω @4V	100mA
	13 Ω @2.5V	

SOT-323



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	MIN.	TYP	MAX.	UNIT	CONDITION
Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	30			V	$V_{GS} = 0V, I_D = 10\mu A$
Zero Gate Voltage Drain Current	I_{DSS}			0.2	μA	$V_{DS} = 30V, V_{GS} = 0V$
Gate – Source leakage current	I_{GSS}			± 2	μA	$V_{GS} = \pm 20V, V_{DS} = 0V$
Gate Threshold Voltage	$V_{GS(th)}$	0.8		1.5	V	$V_{DS} = 3V, I_D = 100\mu A$
Drain-Source On-Resistance	$R_{DS(on)}$			8	Ω	$V_{GS} = 4V, I_D = 10\text{mA}$
				13	Ω	$V_{GS} = 2.5V, I_D = 1\text{mA}$
Forward Transconductance	g_{FS}	20			mS	$V_{DS} = 3V, I_D = 10\text{mA}$
Dynamic Characteristics*						
Input Capacitance	C_{iss}		13		pF	
Output Capacitance	C_{oss}		9		pF	$V_{DS} = 5V, V_{GS} = 0V, f = 1\text{MHz}$
Reverse Transfer Capacitance	C_{rss}		4		pF	
Switching Characteristics*						
Turn-On Delay Time	$t_{d(on)}$		15		ns	
Rise Time	t_r		35		ns	$V_{GS} = 5V, V_{DD} = 5V,$
Turn-Off Delay Time	$t_{d(off)}$		80		ns	$I_D = 10\text{mA}, R_g = 10\Omega, R_L = 500\Omega$
Fall Time	t_f		80		ns	

*These parameters have no way to verify.

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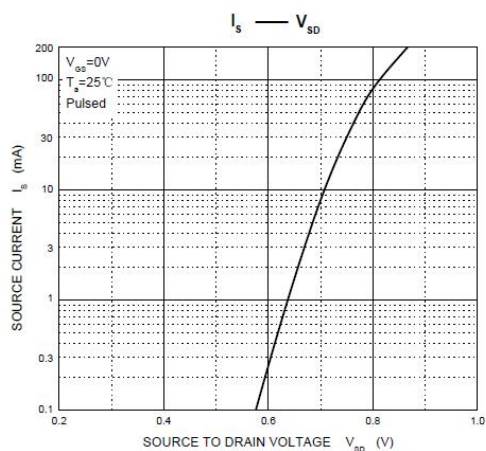
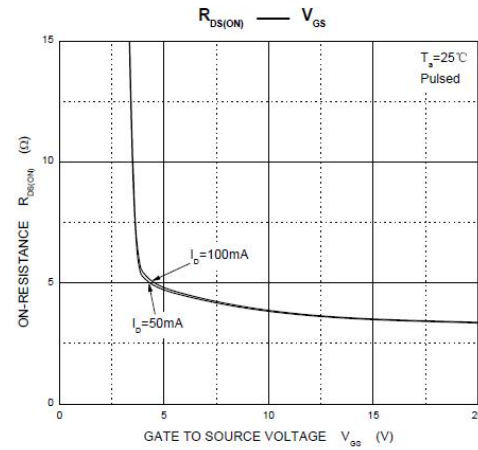
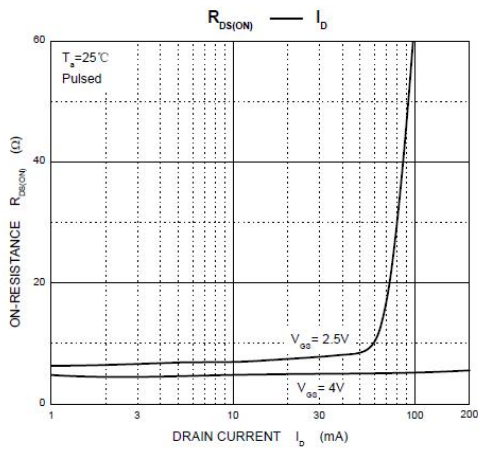
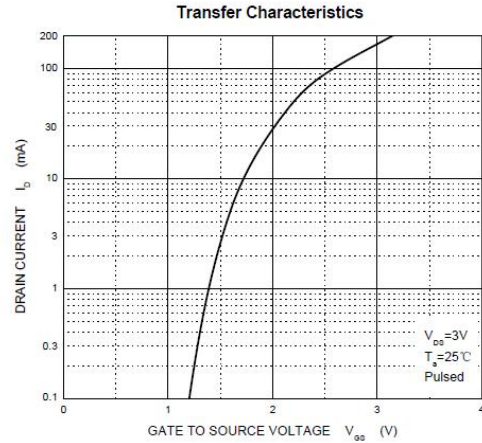
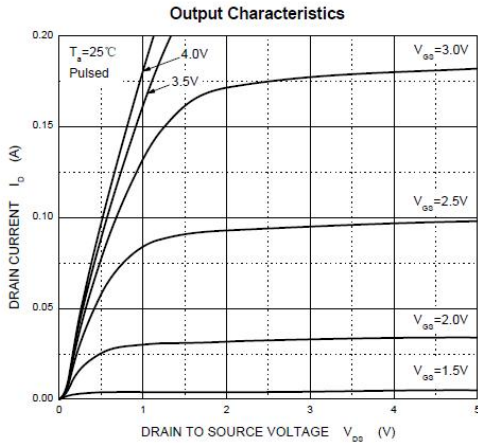
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Typical Characteristics

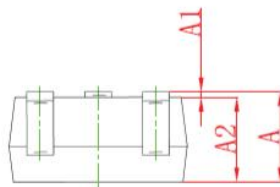
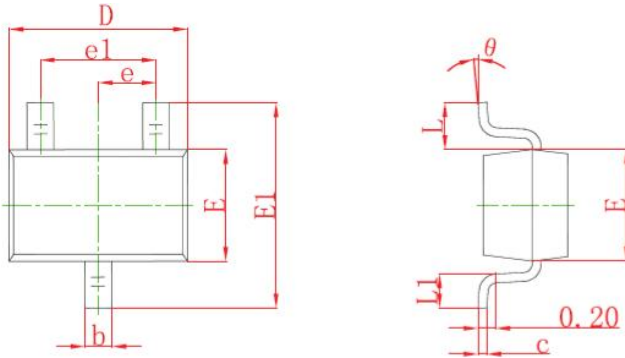


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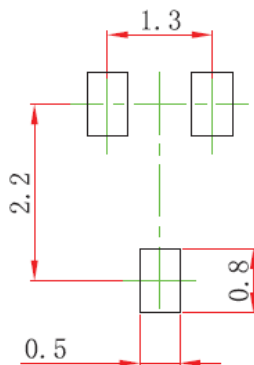
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SOT-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
theta	0°	8°	0°	8°

SOT-323 Suggested Pad Layout



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.

Note: Specifications are subject to change without notice.

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