2SK3018

N-Channel SMD MOSFET

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	8Ω@4.0V	100mA
	13Ω@2.5V	

Feature

- Advanced trench process technology
- High density cell design for ultra low on-resistance

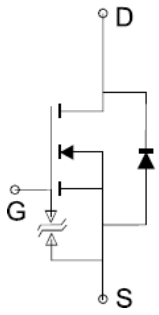
Application

- Load Switch for Portable Devices
- DC/DC Converter

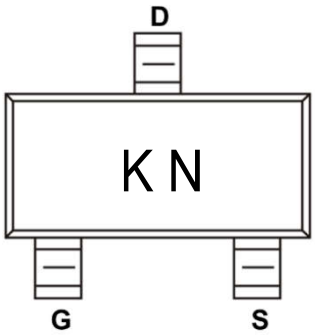
Package

SOT- 23

Circuit diagram



Marking



Absolute maximum ratings (Ta=25C° 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	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	360	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

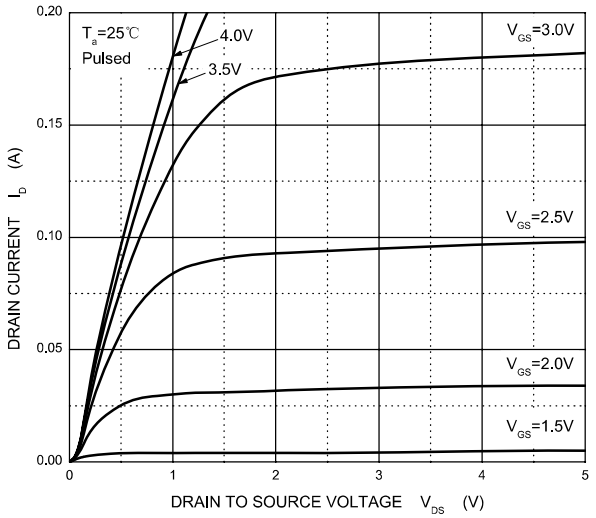
Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =10μA	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =30V,V_{GS} = 0V			0.2	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V V_{DS} = 0V			±2	μA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =3V , I_D =100μA	0.8		1.5	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =4.0V, I_D =10mA			8	Ω
		V_{GS} =2.5V, I_D =1mA			13	
Forward transconductance	g_{FS}	V_{DS} =3V, I_D =10mA	20			mS
Dynamic characteristics						
Input Capacitance	C_{iss}	V_{DS} =5V, V_{GS} =0V,f =1MHz		13		pF
Output Capacitance	C_{oss}			9		
Reverse Transfer Capacitance	C_{rss}			4		
Turn-on delay time	$t_{d(on)}$	V_{DD}=5V, V_{GS}=5V, I_D =10mA, R_L=500Ω, R_{GEN}=10Ω		15		nS
Turn-on rise time	t_r			35		
Turn-off delay time	$t_{d(off)}$			80		
Turn-off fall time	t_f			80		
Source-Drain Diode characteristics						
Diode Forward voltage	V_{DS}	V_{GS} =0V, I_S=0.1A			1.3	V

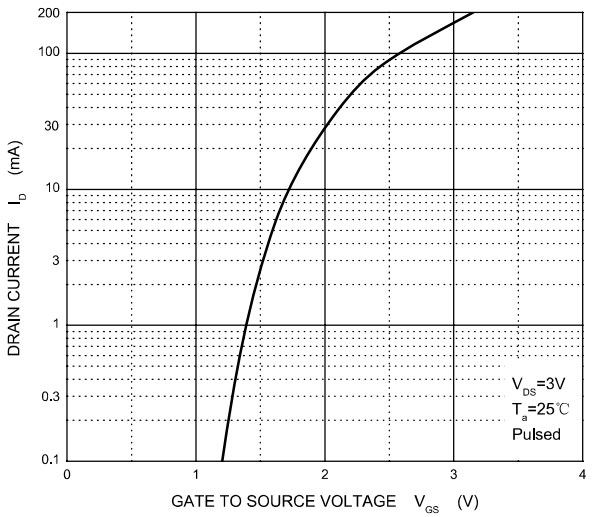
*These parameters have no way to verify.

Typical Characteristics

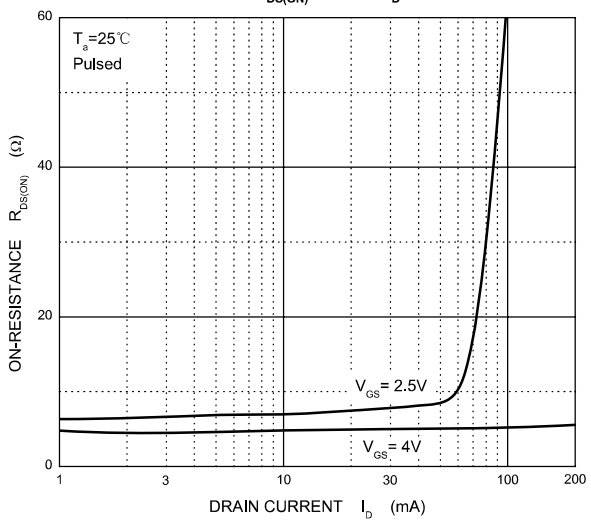
Output Characteristics



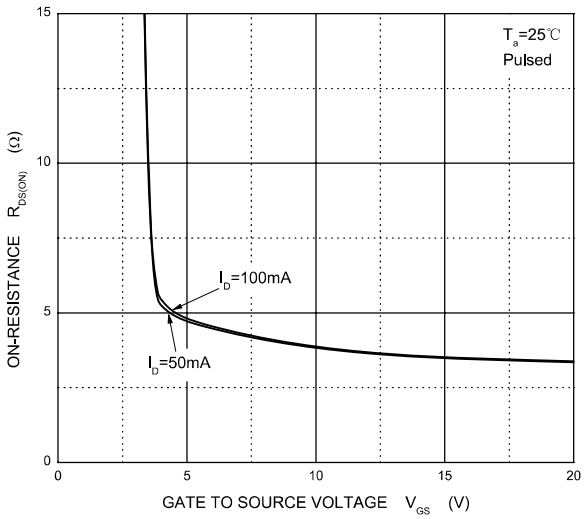
Transfer Characteristics



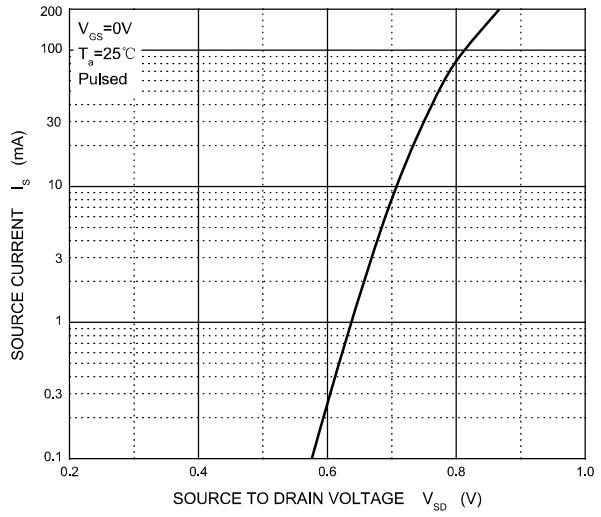
$R_{DS(ON)}$ — I_D



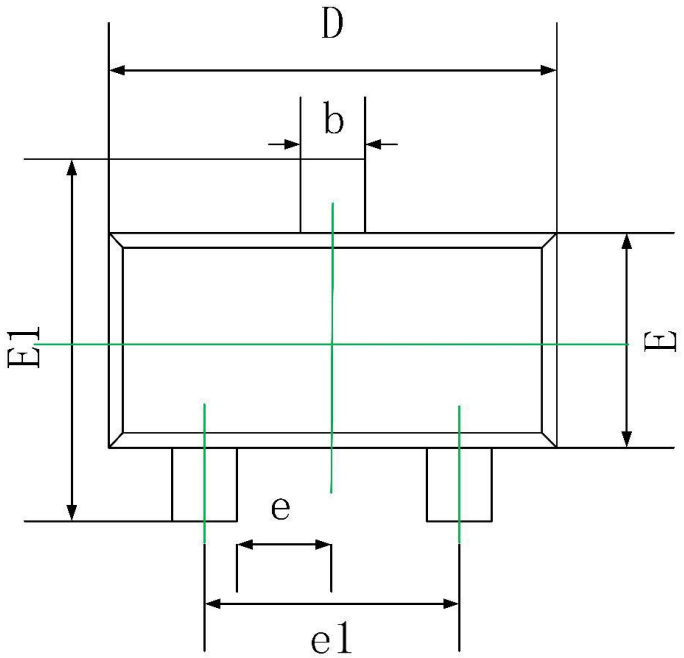
$R_{DS(ON)}$ — V_{GS}

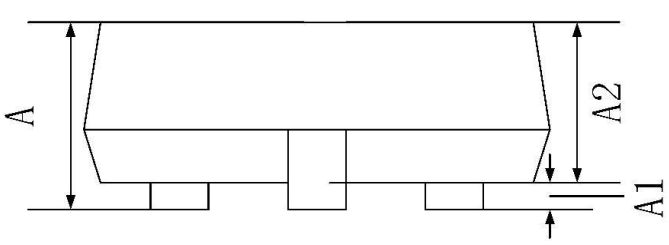


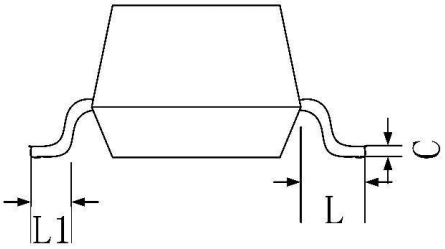
I_S — V_{SD}



SOT-23 Package Information







Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020

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