2SK3018W

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

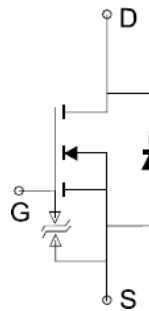● High density cell design for ultra low on-resistance

Application
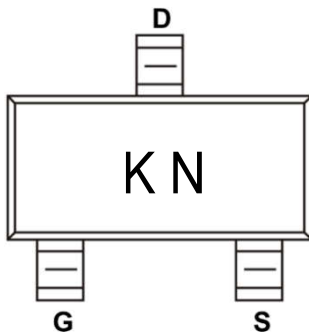
● Load Switch for Portable Devices

● DC/DC Converter

Package

SOT-323

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	0.2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

Electrical characteristics (T_A=25 $^{\circ}$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			±500	nA
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		5	8	Ω
		V_{GS} =2.5V, I_D =1mA		10	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			1.2	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$_{SD}$
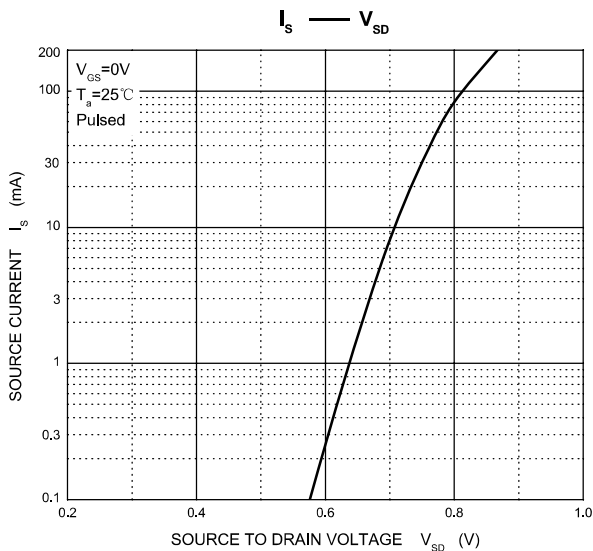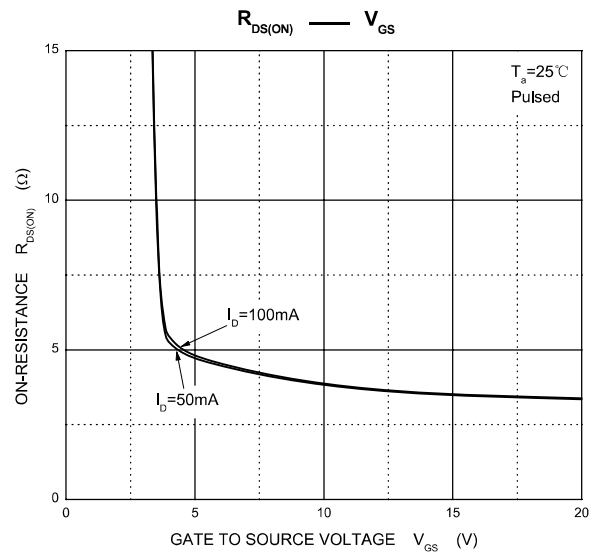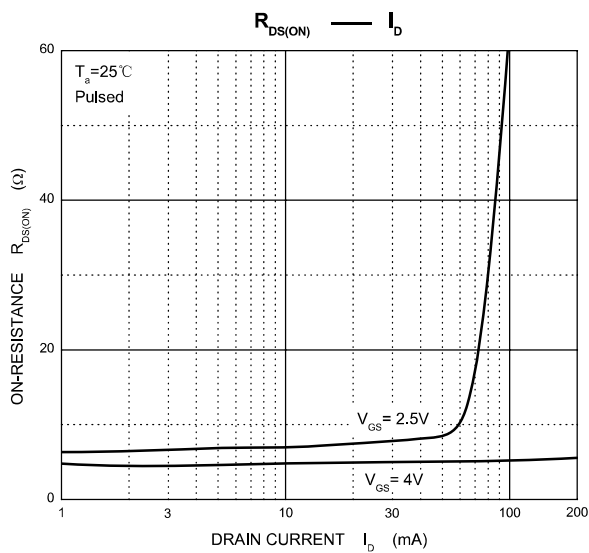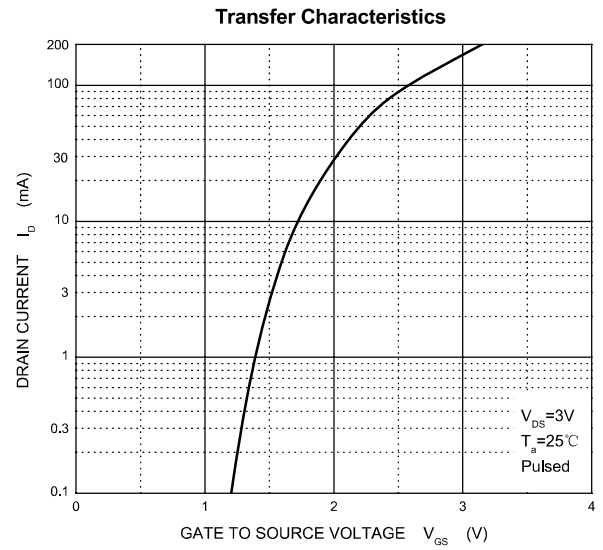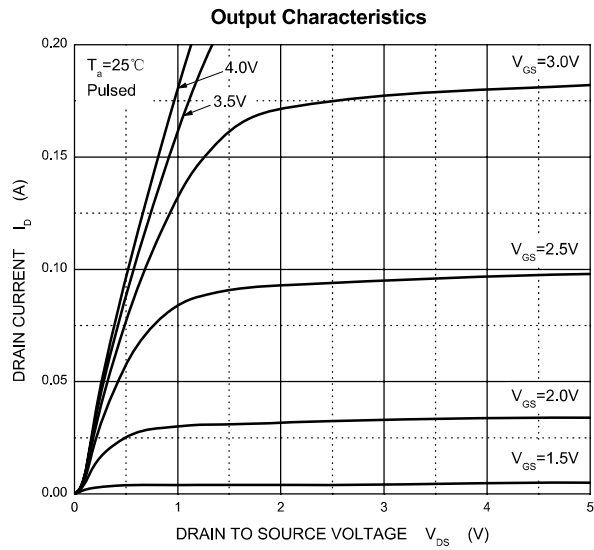
SOT-323 Package Information
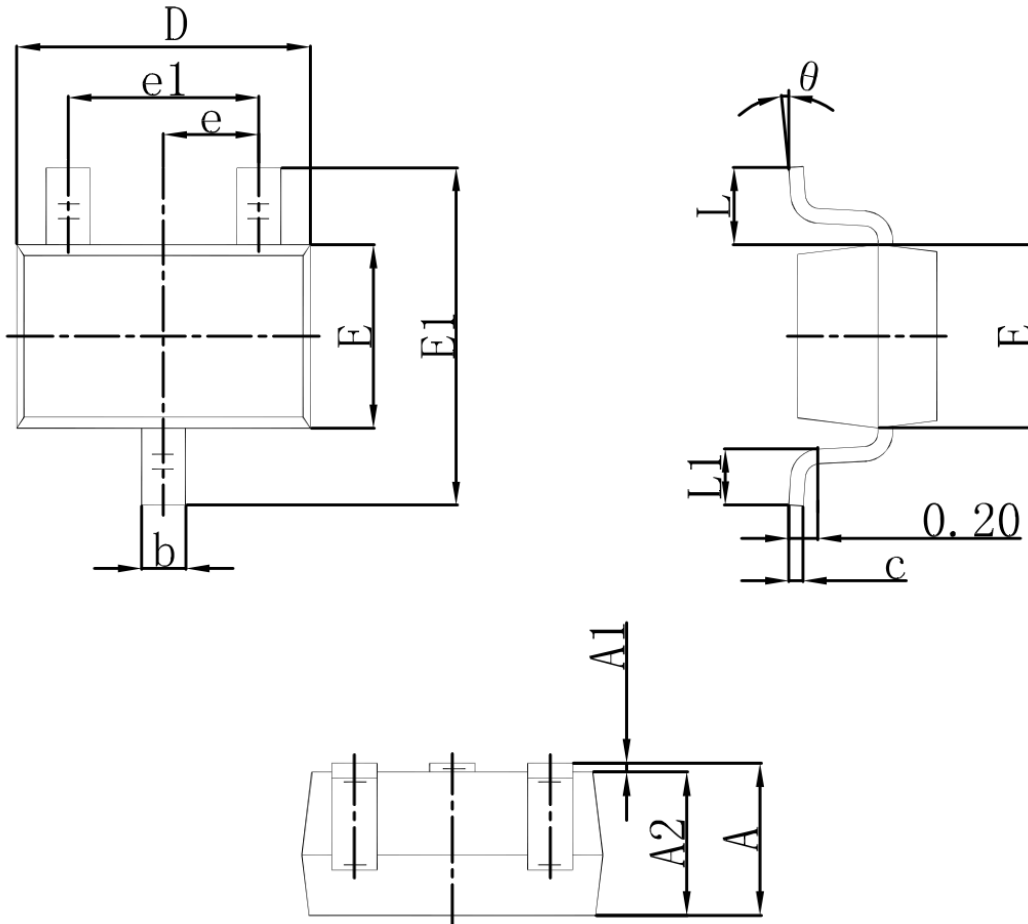
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		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
θ	0°	8°	0°	8°

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