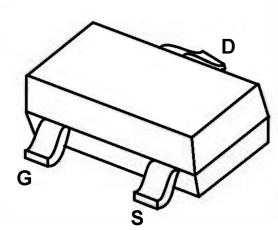
2SK3018

30V N-Channel MOSFET

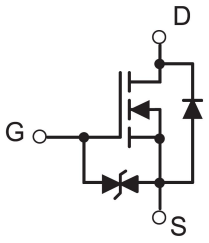
FEATURES

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

SOT-323



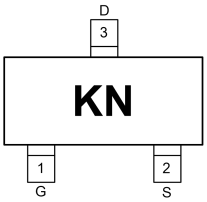
ELECTRICAL SYMBOL



Application

- Interfacing , Switching

MARKING



KN =Device Code

Absolute maximum ratings (Ta=25℃ 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	100	mA
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 (TA=25 oC, unless otherwise noted)

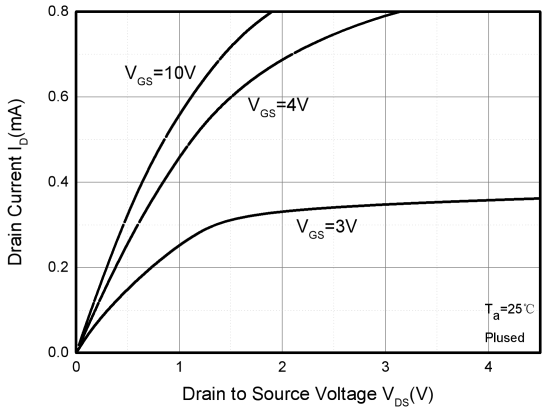
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =48V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±5	μA
Gate threshold voltage[1)]	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D =250μA	0.8	1	1.45	V
Drain-source on-resistance[1)]	$R_{DS(on)}$	V_{GS} =10V, I_D =500mA		1.5	3	Ω
		V_{GS} =4.5V, I_D =200mA		1.8	4	
Dynamic characteristics[2)]						
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V,f=1MHz		27		pF
Output Capacitance	C_{oss}			13		
Reverse Transfer Capacitance	C_{rss}			6		
Switching Characteristics[1)2)]						
Turn-on delay time	$t_{d(on)}$	V_{DD}=30V,I_D=0.29A, V_{GS}=10V,R_G=6Ω			5	nS
Rise time	tr				18	
Turn-off delay time	$t_{d(off)}$				36	
Fall tim	tf				14	
Source-Drain Diode characteristics						
Diode Forward voltage	V_{SD}	V_{GS} =0V, I_S=500mA	0.5		1.4	V

Notes:

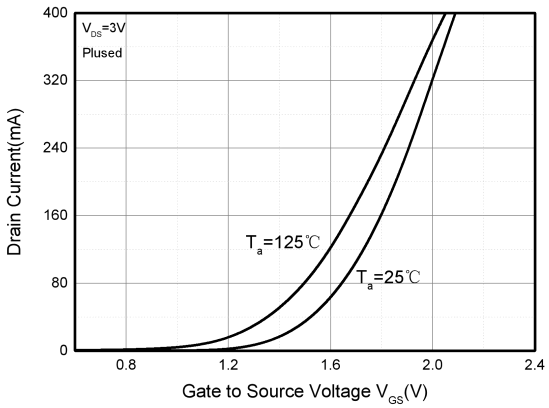
1) Pulse Test: Pulse Width ≤300μs, Duty Cycle ≤2%.

2) These parameters have no way to verify.

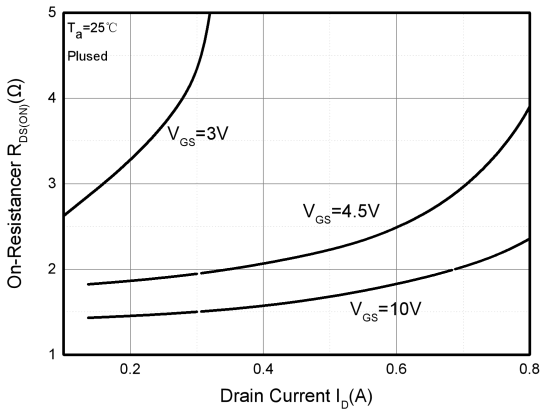
Typical Characteristics



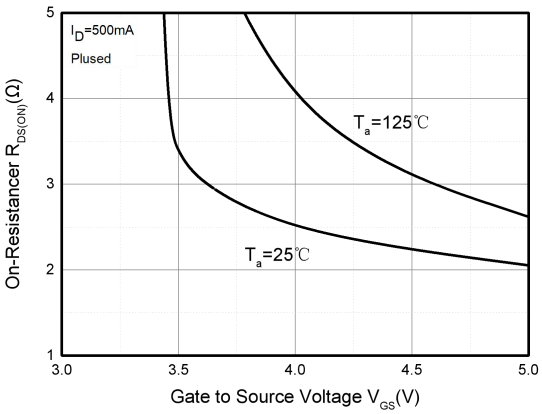
Output Characteristics



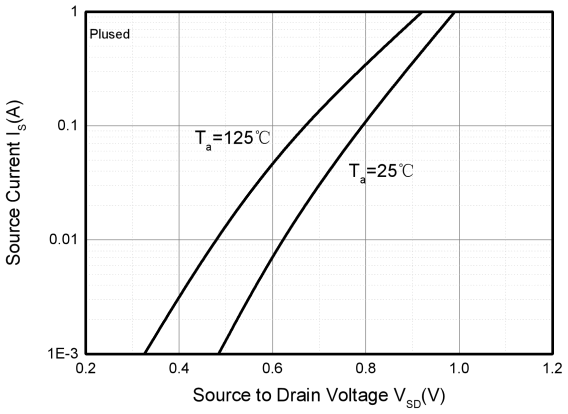
Transfer Characteristics



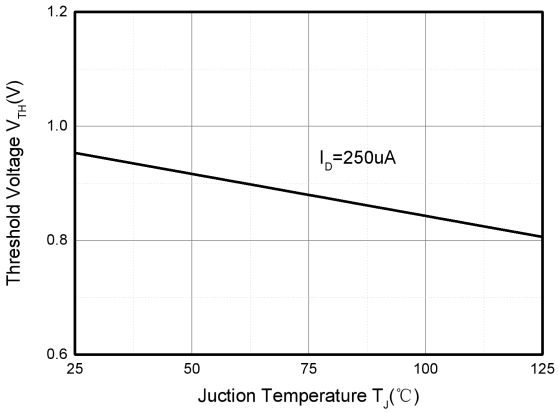
RDS(ON)——ID



RDS(ON)——VGS

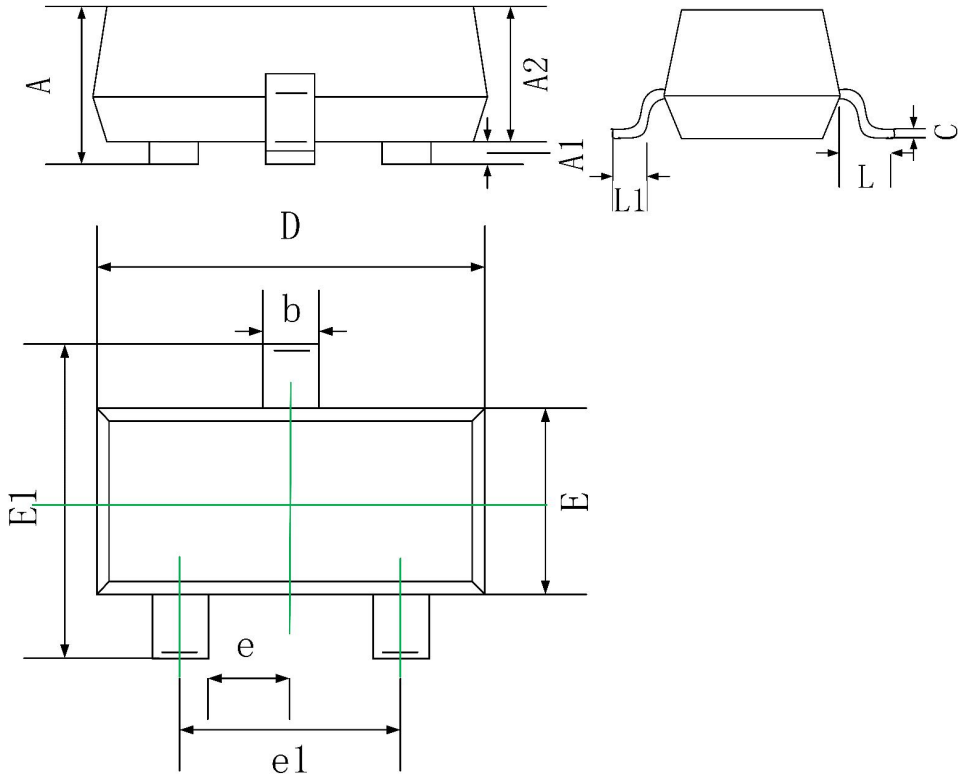


IS——VSD



Threshold Voltage

SOT-323 Package Outline Dimensions



SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.10	0.035	0.043
A1	0.00	0.10	0.000	0.004
A2	0.90	1.00	0.035	0.039
b	0.30	0.50	0.012	0.020
c	0.10	0.15	0.004	0.006
D	2.00	2.20	0.079	0.087
E	1.15	1.35	0.045	0.053
E1	2.15	2.40	0.085	0.094
e	0.65 TYP.		0.026 TYP.	
e1	1.20	1.40	0.047	0.055
L	0.525 REF.		0.002 REF.	
L1	0.26	0.46	0.010	0.018