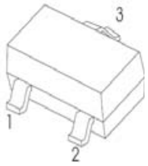
JCST

JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

SOT-23 Plastic-Encapsulate MOSFETS

2SK3018 N-channel MOSFET

SOT-23



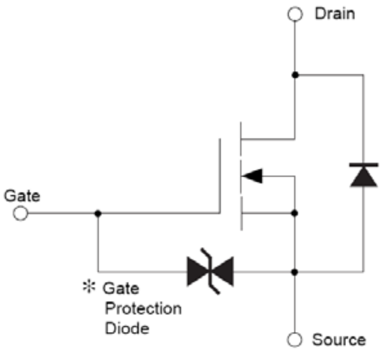
1. GATE
2. SOURCE
3. DRAIN

FEATURES

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

Marking: KN

Equivalent circuit



MOSFET MAXIMUM RATINGS (T_a = 25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current	0.1	A
P_D	Power Dissipation	0.35	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	357	℃ /W

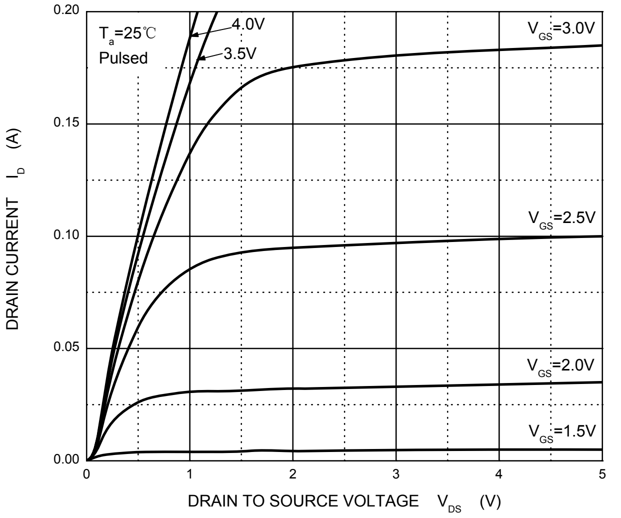
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

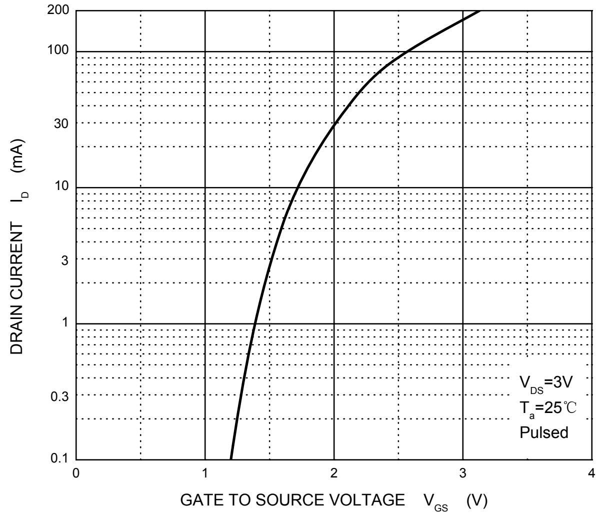
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	V_{DS}	V_{GS} = 0V, I_D = 10μA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =30V,V_{GS} = 0V			0.2	μA
Gate –Source leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±2	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = 3V, I_D =100μA	0.8		1.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 4V, I_D =10mA			8	Ω
		V_{GS} =2.5V,I_D =1mA			13	Ω
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		pF
Reverse Transfer Capacitance	C_{rss}			4		pF
Switching Characteristics*						
Turn-On Delay Time	$t_{d(on)}$	V_{GS} =5V, V_{DD} =5V, I_D =10mA, Rg=10Ω, R_L=500Ω,		15		ns
Rise Time	t_r			35		ns
Turn-Off Delay Time	$t_{d(off)}$			80		ns
Fall Time	t_f			80		ns

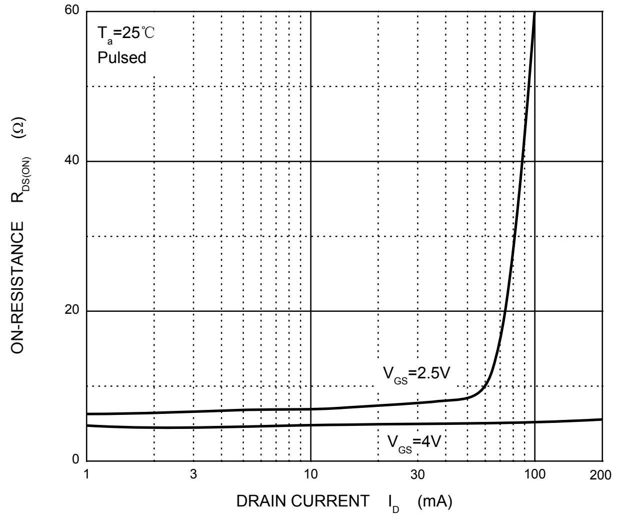
* These parameters have no way to verify.

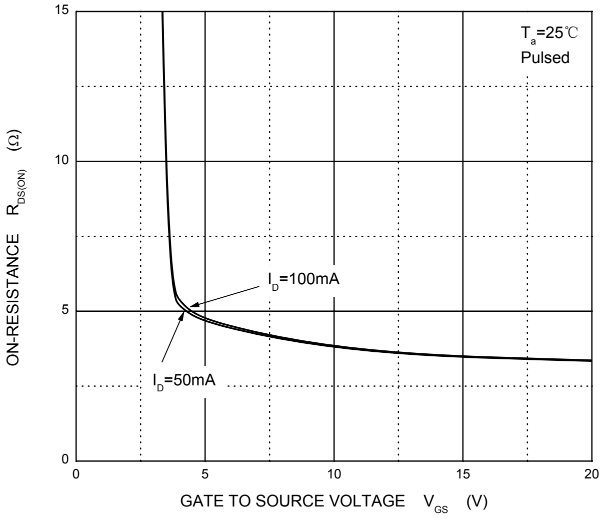
B,Mar,2014

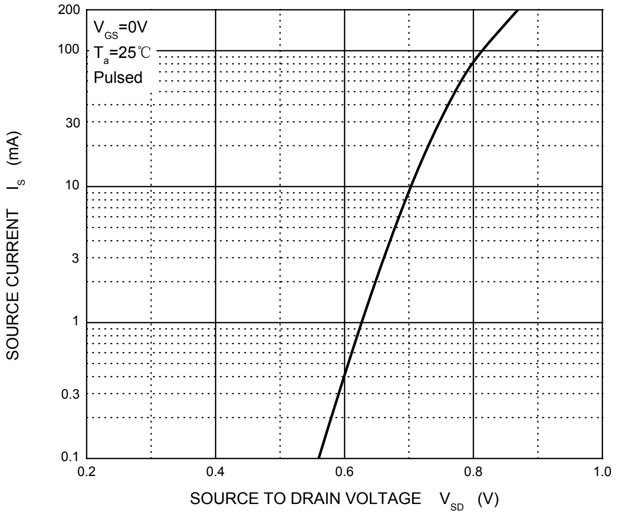
Typical Characteristics 2SK3018


Output Characteristics


Transfer Characteristics


$R_{DS(ON)}$ — I_D


$R_{DS(ON)}$ — V_{GS}


I_S — V_{SD}