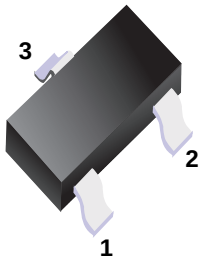
2SK3019

N-channel MOSFET

■ FEATURES

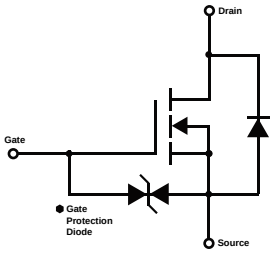
- Low on-resistance
- Fast switching speed
- Low voltage drive makes this device ideal for portable equipment
- Easily designed drive circuits
- Easy to parallel



1.GATE
2.SOURCE
3.DRAIN

■ Simplified outline(SOT-523)

Equivalent circuit



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

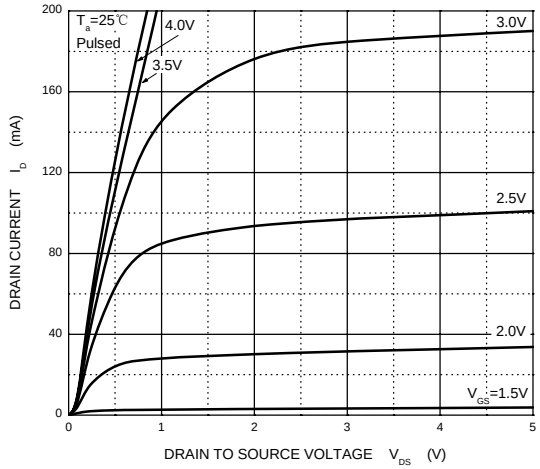
Symbol	Parameter	Value	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GSS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current	0.1	A
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	833	℃ /W
P_D	Power Dissipation	0.15	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃

■ MOSFET ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

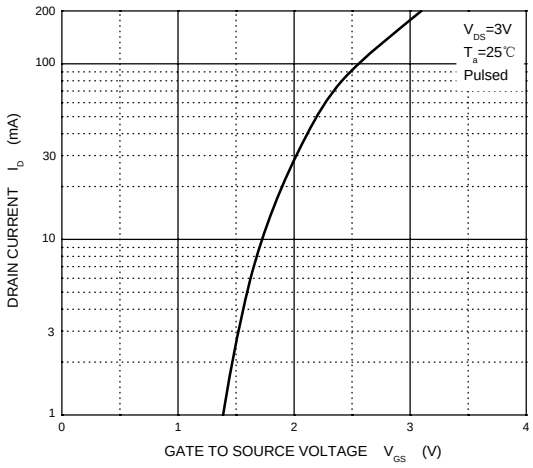
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	V_{DS}	V_{GS} = 0V, I_D = 10μA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =30V,V_{GS} = 0V			1	μA
Gate –Source leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±1	μA
Gate Threshold 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.

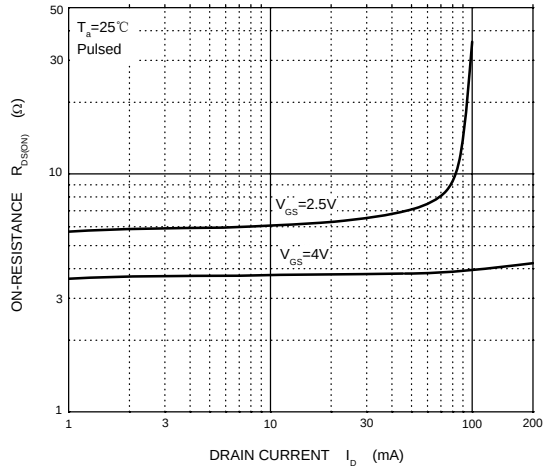
Output Characteristics



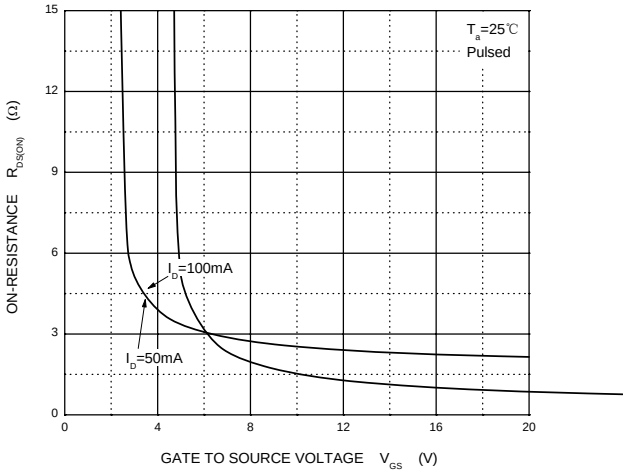
Transfer Characteristics



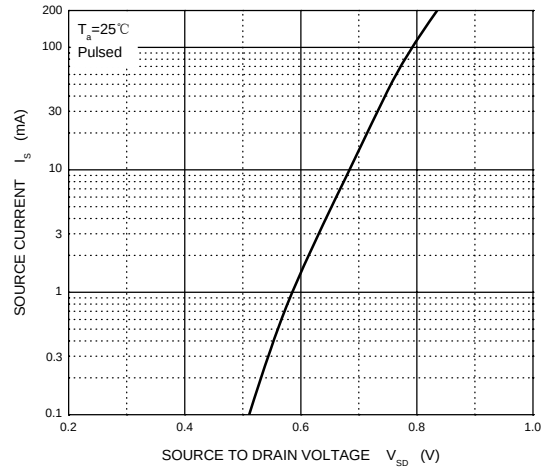
$R_{DS(ON)}$ — I_D



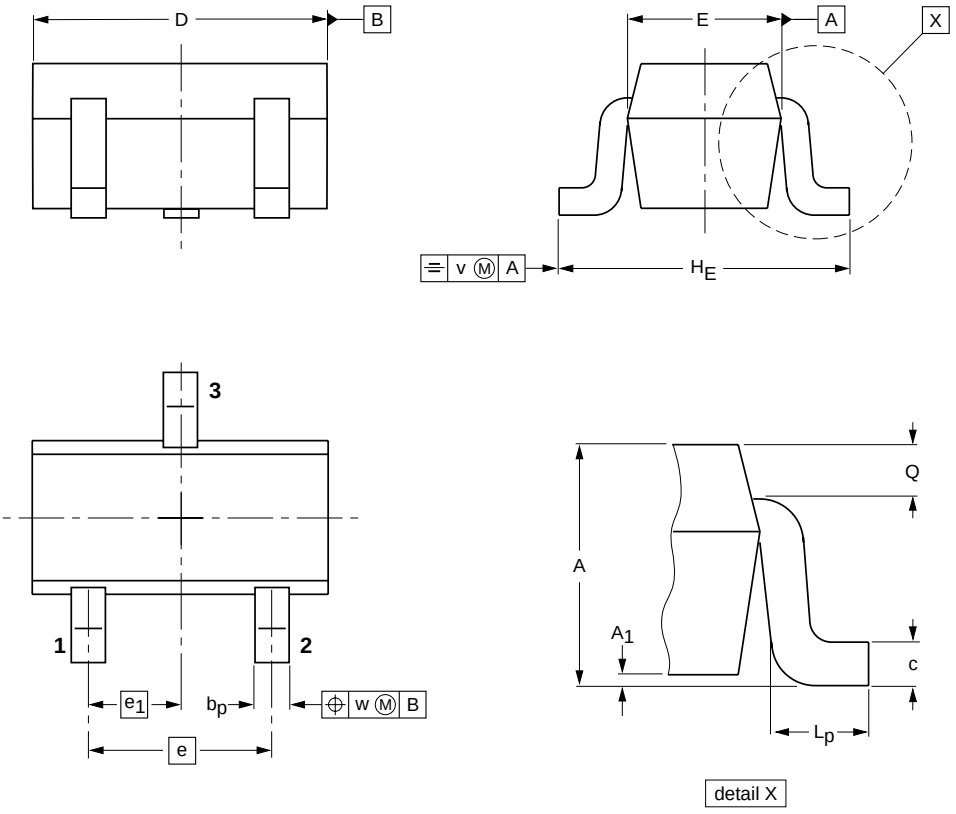
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



■ SOT-523



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1 max	b_p	c	D	E	e	e_1	H_E	L_p	Q	v	w
mm	0.95 0.60	0.1	0.30 0.15	0.25 0.10	1.8 1.4	0.9 0.7	1	0.5	1.75 1.45	0.45 0.15	0.23 0.13	0.2	0.2