

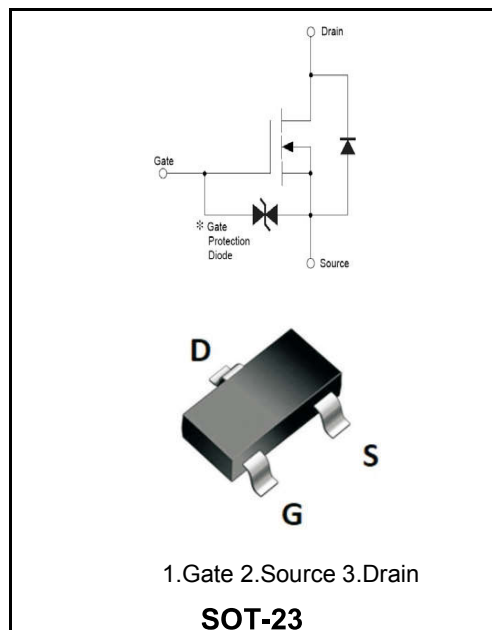
30V N-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	0.1A
V_{DSS}	30V
$R_{DS(on)-typ}(@V_{GS}=4V)$	$< 8\Omega$
$R_{DS(on)-typ}(@V_{GS}=2.5V)$	$< 13\Omega$

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 Code

2SK3019

KN

Maximum Ratings at $T_c=25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	30	V
Gate - Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	I_D	0.1	A
Maximum Power Dissipation	P_D	0.2	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	833	$^\circ\text{C/W}$

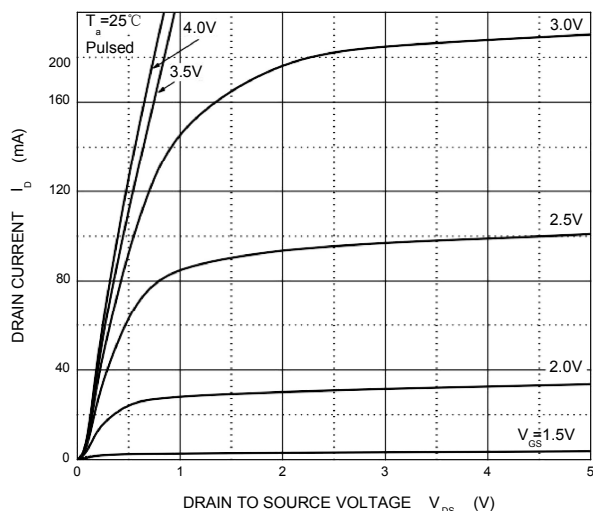
Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=10\mu A$	BV_{DSS}	30	-	-	V
Zero Gate Voltage Drain Current	$V_{DS}=30V, V_{GS}=0V$	I_{DSS}	-	-	1	μA
Gate-Body Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	I_{GSS}	-	-	± 2	μA
Gate -Threshold Voltage	$V_{DS}=3V, I_D=100\mu A$	$V_{GS(th)}$	0.8	-	1.5	V
Drain-Source On-State Resistance	$V_{GS}=4V, I_D=10mA$	$R_{DS(on)}$	-	-	8	Ω
	$V_{GS}=2.5V, I_D=1mA$		-	-	13	
Forward Transconductance	$V_{DS}=3V, I_D=10mA$	g_{FS}	20	-	-	mS
Input Capacitance	$V_{DS}=5V$ $V_{GS}=0V$ $f=1MHz$	C_{iss}	-	13	-	pF
Output Capacitance		C_{oss}	-	9	-	
Reverse Transfer Capacitance		C_{rss}	-	4	-	
Turn-on delay time	$V_{GS}=5V$ $V_{DD}=5V$ $I_D=10mA$ $R_g=10\Omega$ $R_L=500\Omega$	$t_{d(on)}$	-	15	-	ns
Turn-on Rise Time		T_r	-	35	-	
Turn-Off Delay Time		$t_{d(OFF)}$	-	80	-	
Turn-Off Fall Time		t_f	-	80	-	

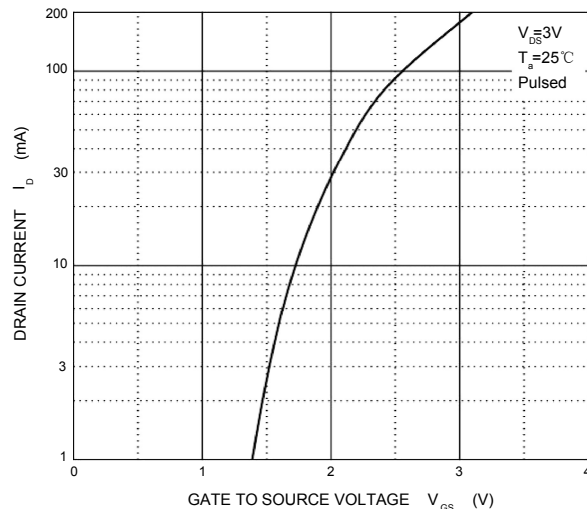
* These parameters have no way to verify.

Typical Characteristics

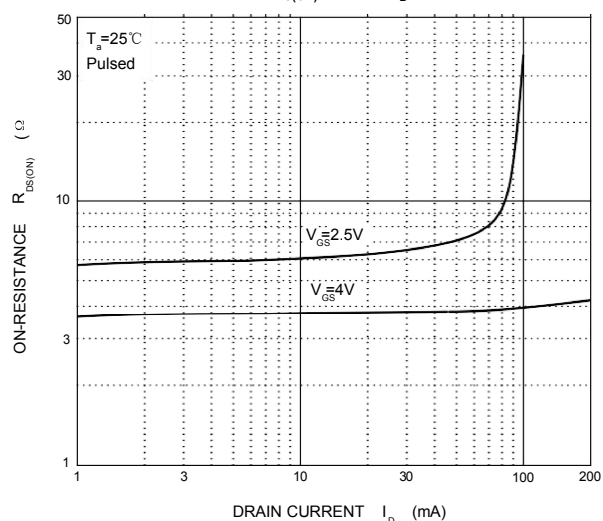
Output Characteristics



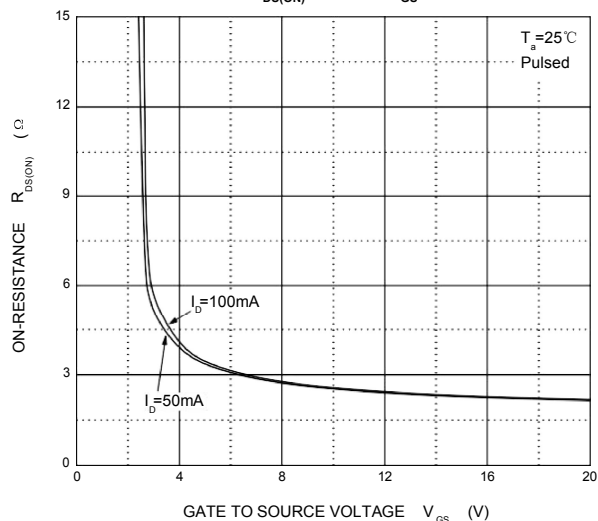
Transfer Characteristics



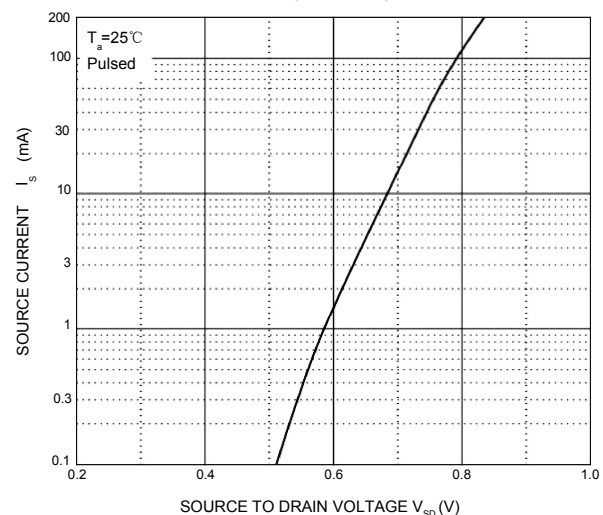
$R_{DS(ON)}$ — I_D



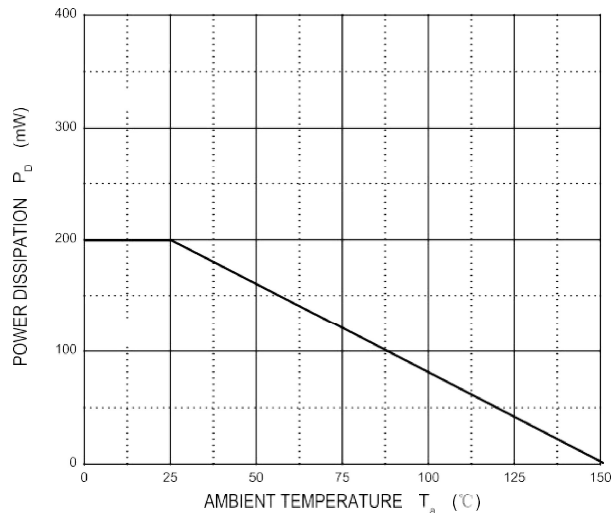
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



P_D — T_a



Ordering information

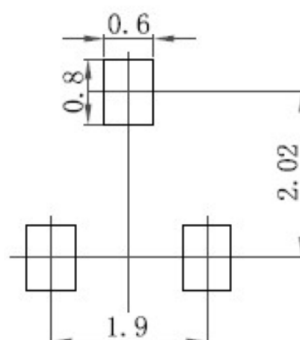
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-23

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
E	1.9		75	
E1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

The recommended mounting pad size



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