



**ZBMCC**

ZIBO MICRO COMMERCIAL  
COMPONENTS CORP.



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# 2SK3019

## N-Channel Plastic-Encapsulate Transistor

### Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Low ON-Resistance
- Low voltage drive makes this device ideal for portable equipment
- Fast Switching Speed
- Easily designed drive circuits
- Easy to parallel
- Available in Lead Free/RoHS Compliant Version
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking:KN
- Halogen free available upon request by adding suffix "-HF"

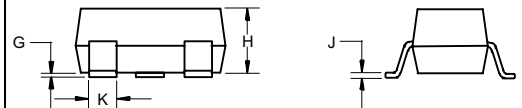
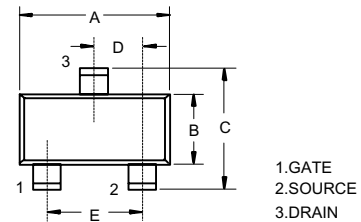
### Mechanical Data

- Case: SOT-523, Molded Plastic
- Terminal Connections: See Diagram

### Maximum Ratings

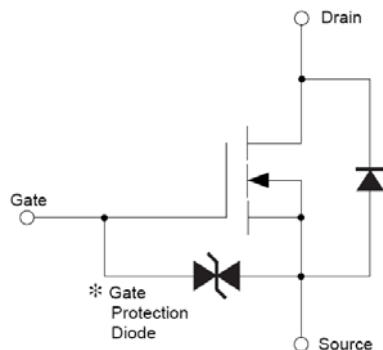
- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C

Parameter	Symbol	Value	Unit
Drain-Source-Voltage	$V_{DSS}$	30	V
Gate-Source-Voltage	$V_{GSS}$	±20	V
Continuous Drain Current	$I_D$	0.1	A
Thermal Resistance, Junction-to-Ambient	$R_{thJA}$	833	°C/W
Total Power Dissipation	$P_D$	150	mW



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.059	.067	1.50	1.70	
B	.030	.033	0.75	0.85	
C	.057	.069	1.45	1.75	
D	.020 Nominal		0.50Nominal		
E	.035	.043	0.90	1.10	
G	.000	.004	.000	.100	
H	.028	.031	.70	0.80	
J	.004	.008	.100	.200	
K	.010	.014	.25	.35	

Equivalent circuit



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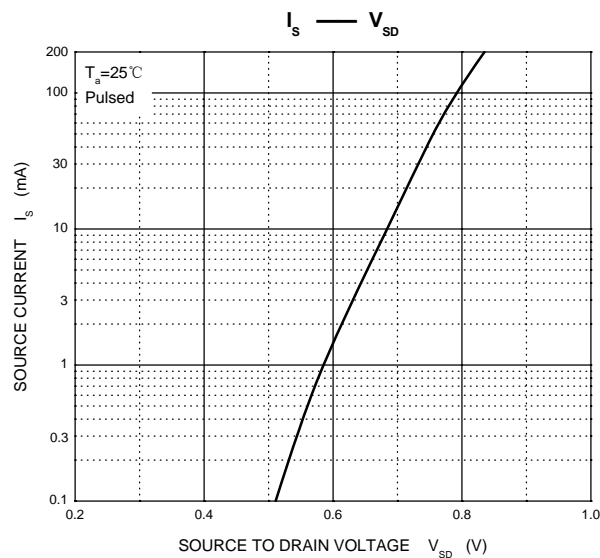
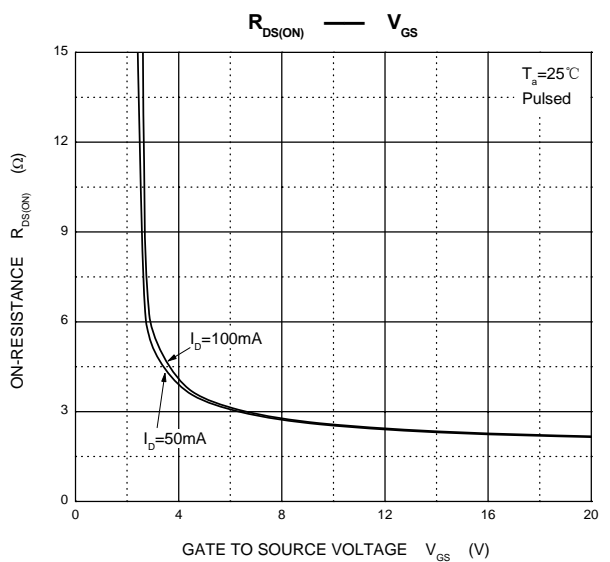
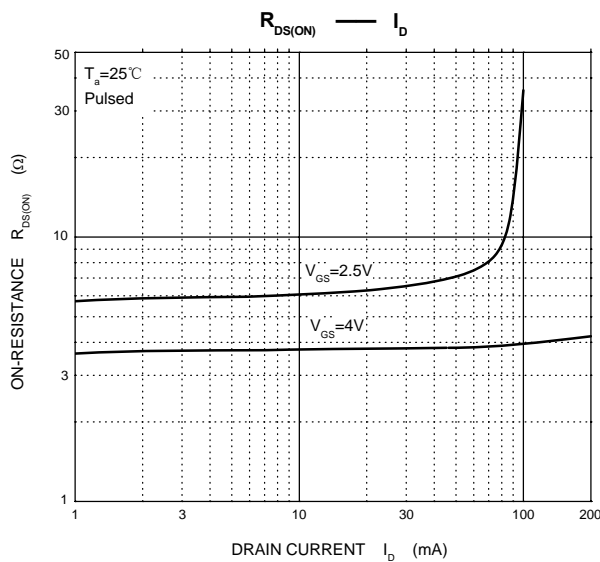
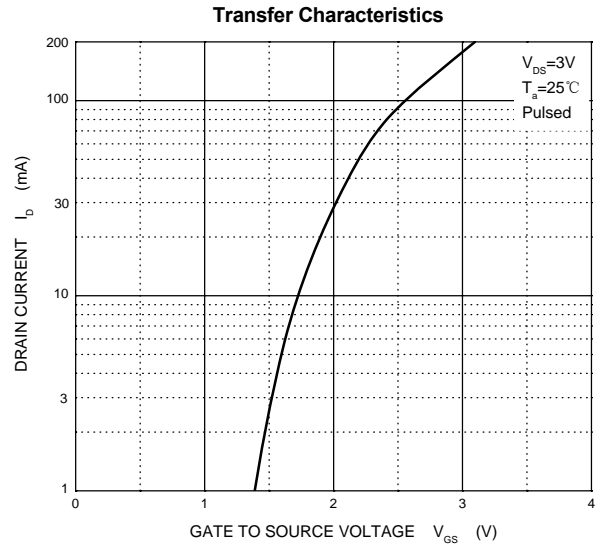
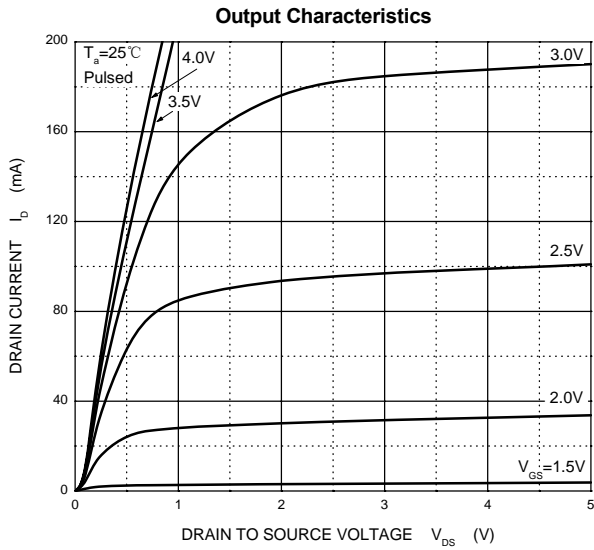
## MOSFET ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units	
<b>Off Characteristics</b>							
Drain-Source Breakdown Voltage	V <sub>DS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 10μA	30			V	
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 0V			1	μA	
Gate –Source leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±2	μA	
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = 3V, I <sub>D</sub> = 100μA	0.8		1.5	V	
Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = 4V, I <sub>D</sub> = 10mA			8	Ω	
		V <sub>GS</sub> = 2.5V, I <sub>D</sub> = 1mA			13	Ω	
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> = 3V, I <sub>D</sub> = 10mA	20			mS	
<b>Dynamic Characteristics*</b>							
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 5V, V <sub>GS</sub> = 0V, f = 1MHz		13		pF	
Output Capacitance	C <sub>oss</sub>				9		pF
Reverse Transfer Capacitance	C <sub>rss</sub>				4		pF
<b>Switching Characteristics*</b>							
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>GS</sub> = 5V, V <sub>DD</sub> = 5V, I <sub>D</sub> = 10mA, R <sub>g</sub> = 10Ω, R <sub>L</sub> = 500Ω,		15		ns	
Rise Time	t <sub>r</sub>				35		ns
Turn-Off Delay Time	t <sub>d(off)</sub>				80		ns
Fall Time	t <sub>f</sub>				80		ns

\* These parameters have no way to verify.

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### Ordering Information :

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

**\*\*\*LIFE SUPPORT\*\*\***

ZBMCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of ZiBo Micro Commercial Components Corp.

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