

# 2SK3018

## Features

- Low ON-Resistance
- Low Input Capacitance
- Low Voltage drive makes this device idipmental for portable equipment
- Fast Switching Speed
- Easily Designed Drive Circuits
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensivity Level 1

## Mechanical Data

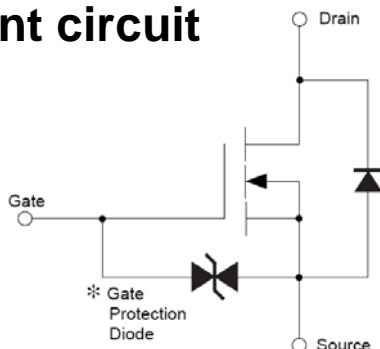
- Halogen free available upon request by adding suffix "-HF"
- Case: SOT-323, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking: KN

## Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 625°C/W Junction To Ambient

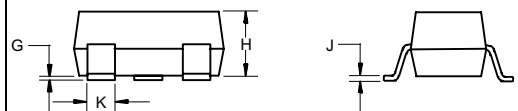
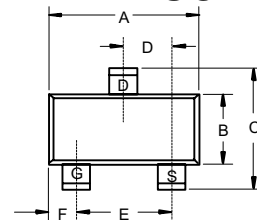
Parameter	Symbol	Value	Unit
Drain-Source-Voltage	$V_{DSS}$	30	V
Gate-Source-Voltage	$V_{GSS}$	$\pm 20$	V
Continuous Drain Current	$I_D$	100	mA
Total Power Dissipation	$P_D$	200	mW

## Equivalent circuit



## N-Channel Enhancement Mode Field Effect Transistor

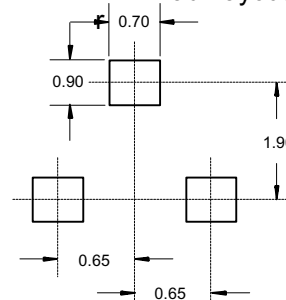
### SOT-323



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.083	.096	2.10	2.45	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.006	.016	.15	.40	

### Suggested Solder Pad Layout



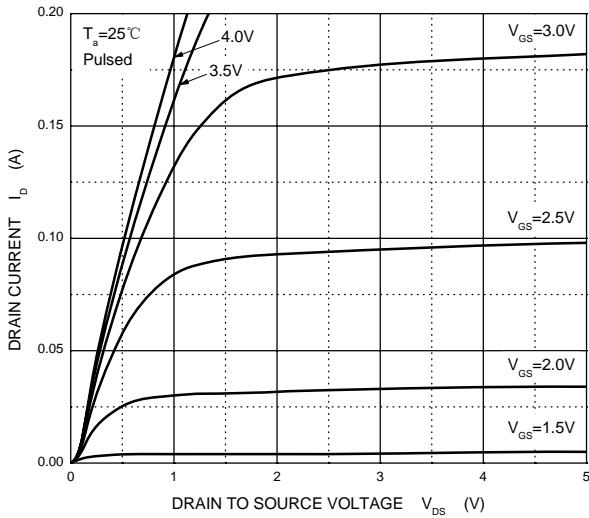
**MOSFET ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
<b>Off Characteristics</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</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			0.2	μA
Gate –Source leakage current	I <sub>GSS</sub>	V <sub>GS</sub> =±20V, V <sub>DS</sub> = 0V			±500	nA
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

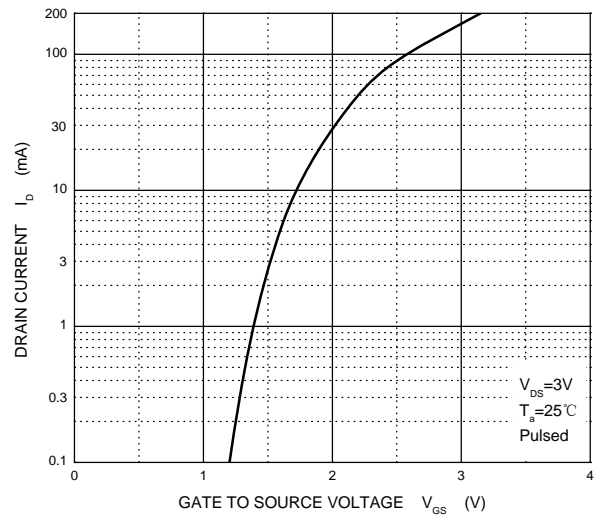
\*These parameters have no way to verify.

# Typical Characteristics

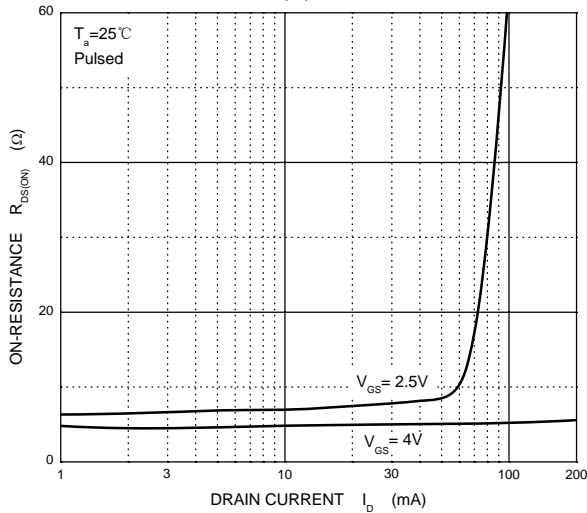
Output Characteristics



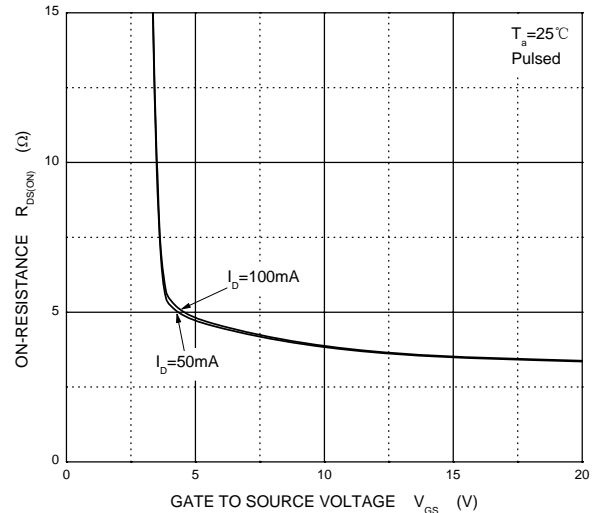
Transfer Characteristics



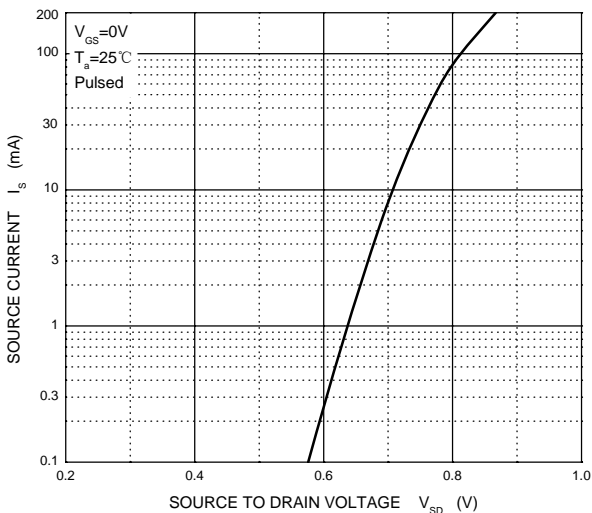
$R_{DS(ON)}$  —  $I_D$



$R_{DS(ON)}$  —  $V_{GS}$



$I_S$  —  $V_{SD}$





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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

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