



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Micro Commercial Components



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# 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 Sensitivity Level 1

## Mechanical Data

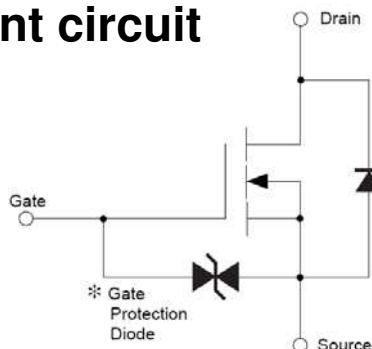
- Halogen free available upon request by adding suffix "-HF"
- Case: SOT-323, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking: KN

## 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

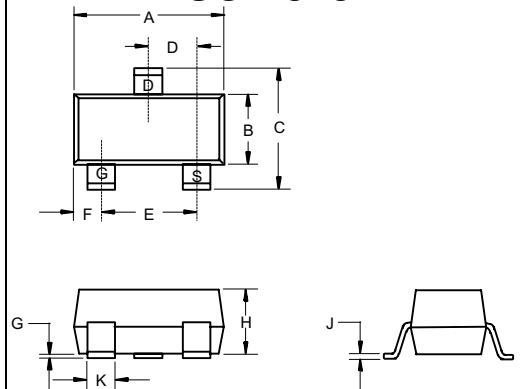
Parameter	Symbol	Value	Unit
Drain-Source-Voltage	$V_{DSS}$	30	V
Gate-Source-Voltage	$V_{GSS}$	$\pm 20$	V
Continuous Drain Current	$I_D$	100	mA
Total Power Dissipation	$P_D$	200	mW

## Equivalent circuit



## N-Channel Enhancement Mode Field Effect Transistor

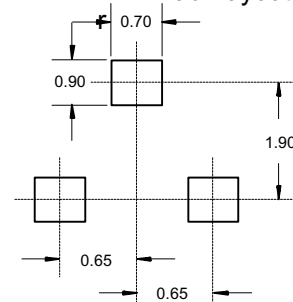
### SOT-323



#### 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		0.65 Nominal		
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



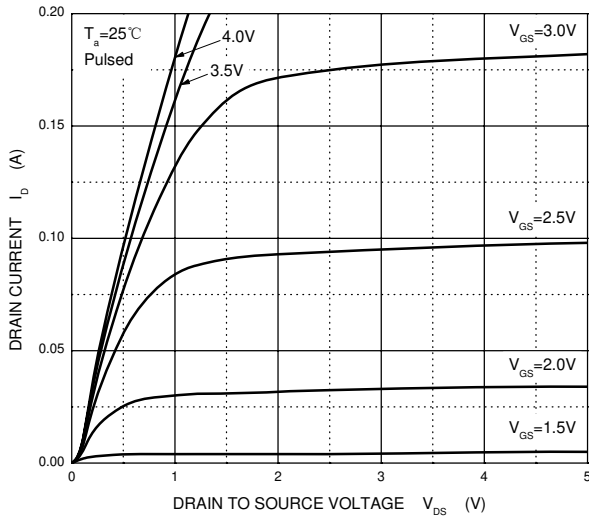
**MOSFET ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off Characteristics						
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
Dynamic Characteristics*						
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
Switching Characteristics*						
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

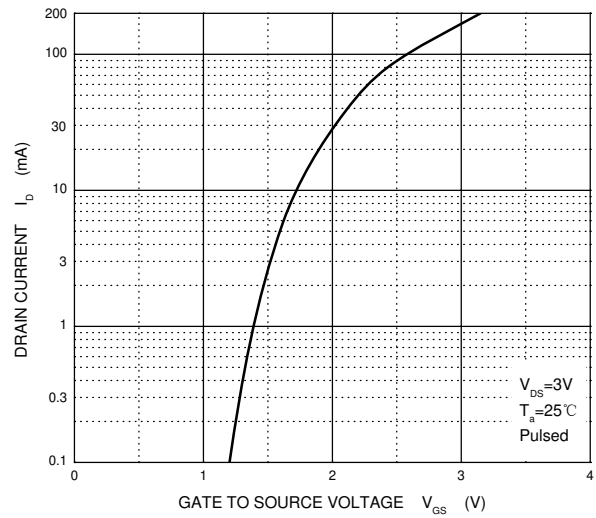
\*These parameters have no way to verify.

# Typical Characteristics

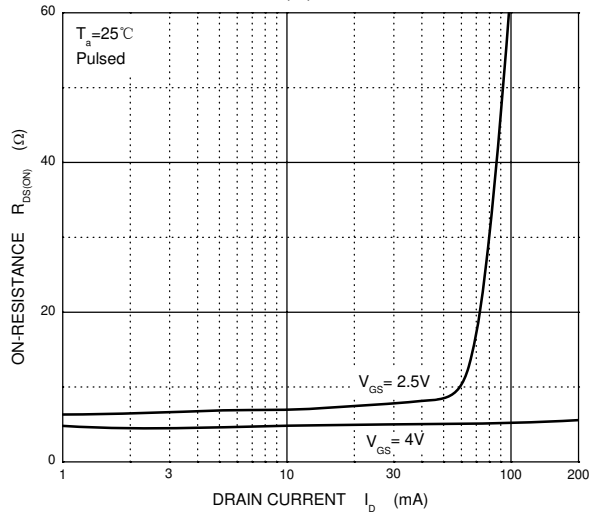
Output Characteristics



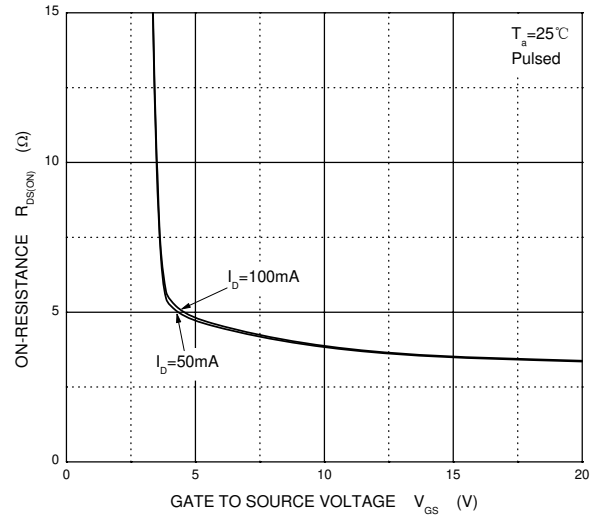
Transfer Characteristics



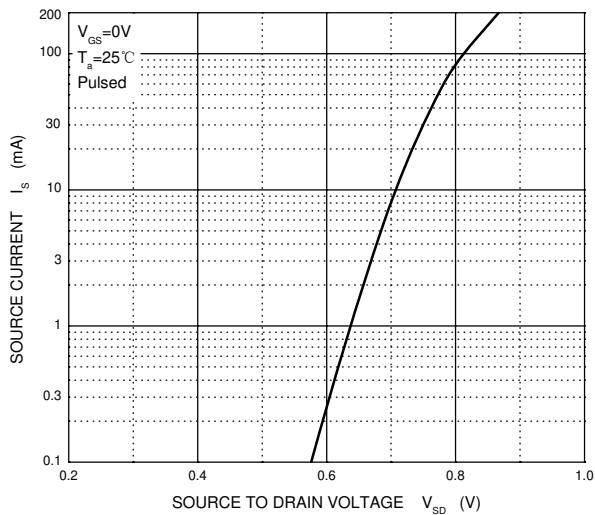
$R_{DS(ON)}$  —  $I_D$



$R_{DS(ON)}$  —  $V_{GS}$



$I_S$  —  $V_{SD}$





## 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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