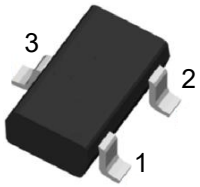
TN3018KNSI

N-Channel Enhancement Mode Power MOSFET

Product Summary

- V_{DS}= 30V,I_D= 0.1A
- $R_{DS(on)}$< 8Ω @V_{GS}= 4.5V
- $R_{DS(on)}$< 13Ω @V_{GS}= 25V

SOT-323



(Top View)

Pin	Description
1	Gate
2	Source
3	Drain

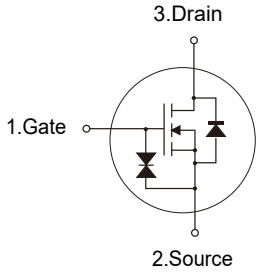
Features

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

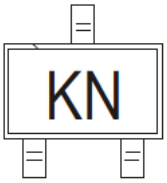
Application

- Load Switch for Portable Devices
- DC/DC Converter

Schematic Diagram



Marking Code



Absolute Maximum Ratings

(Ta=25℃ unless otherwise specified)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source voltage	30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current	0.1	A
P_D	Power Dissipation	0.2	W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55-150	℃
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	℃ /W

Electrical Characteristics

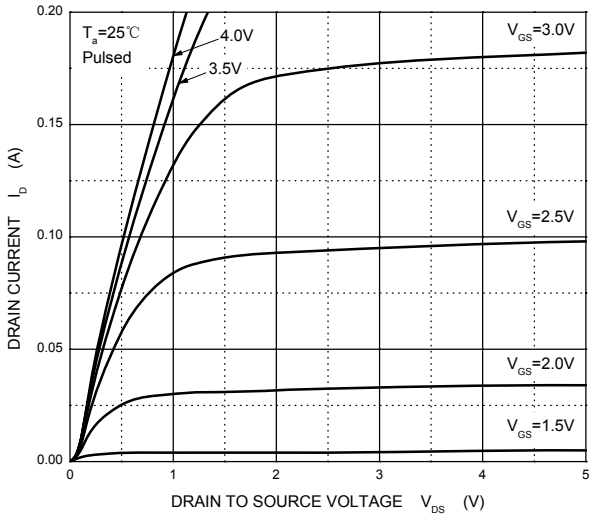
(Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 10μA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =30V,V_{GS} = 0V			0.2	μA
Gate –Source leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±2	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		5	8	Ω
		V_{GS} =2.5V,I_D =1mA		8	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

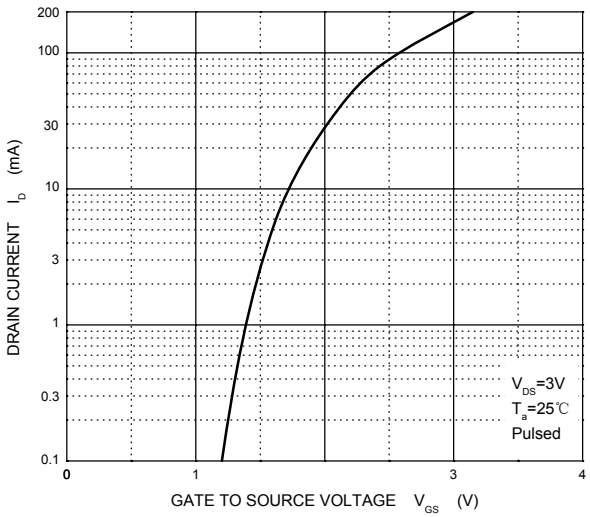
*These parameters have no way to verify.

Typical Characteristic Curves

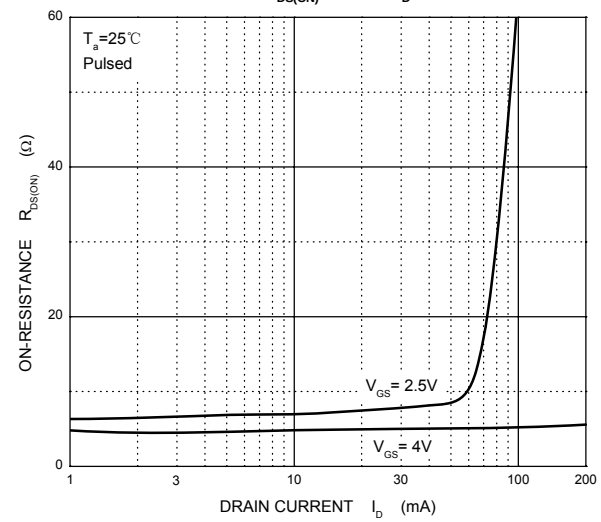
Output Characteristics



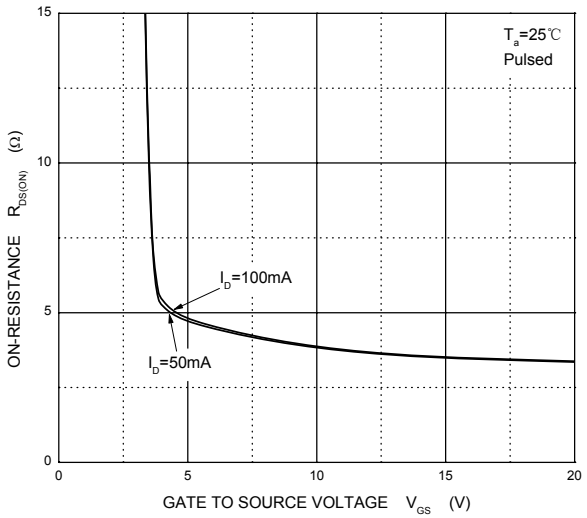
Transfer Characteristics



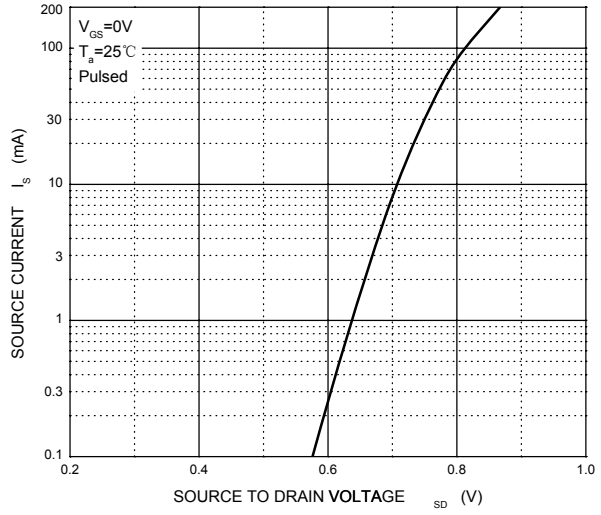
$R_{DS(ON)}$ —— I_D



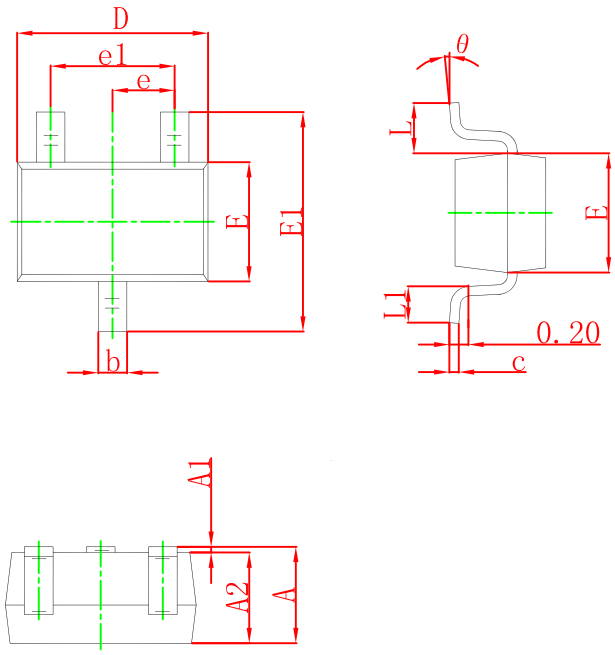
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



Package Outline SOT-323 Dimensions in mm



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

Ordering Information

Device	Package	Shipping
TN3018KNSI	SOT-323	3,000PCS/Reel&7inches

Contact Information

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For additional information, please contact your local Sales Representative.

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