

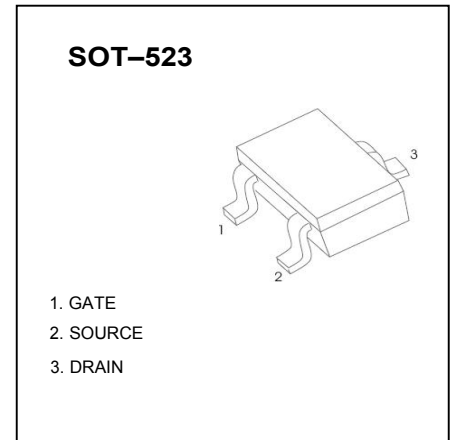
Plastic-Encapsulate MOSFETS

N-channel MOSFET

FEATURES

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

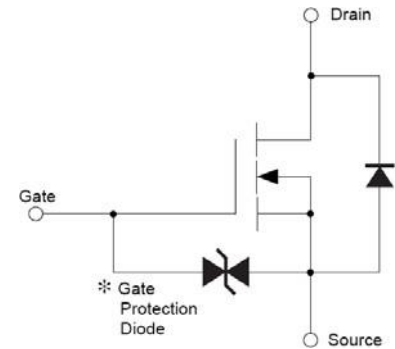
Marking: KN



MOSFET MAXIMUM RATINGS (T_a = 25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{DS}	Drain-Source voltage	30	V
V _{GSS}	Gate-Source Voltage	±20	V
I _D	Continuous Drain Current	0.1	A
P _D	Power Dissipation	0.15	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C
R _{θJA}	Thermal Resistance from Junction to Ambient	625	°C /W

Equivalent circuit



MOSFET ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise noted)

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	uA
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			8	Ω
		V _{GS} = 2.5V, I _D = 1mA			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, R _g = 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.



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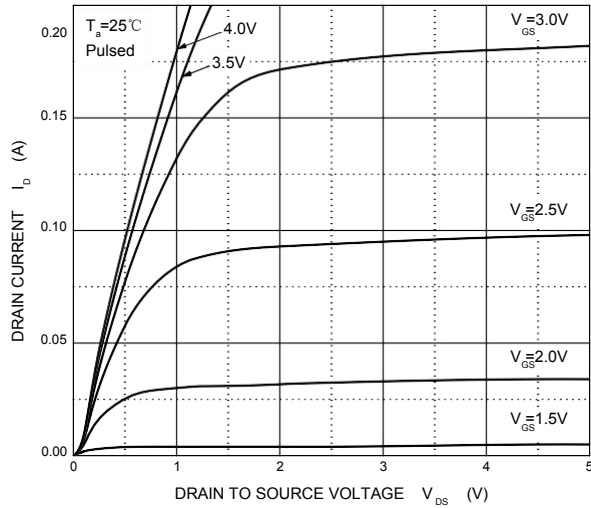
2SK3018WT



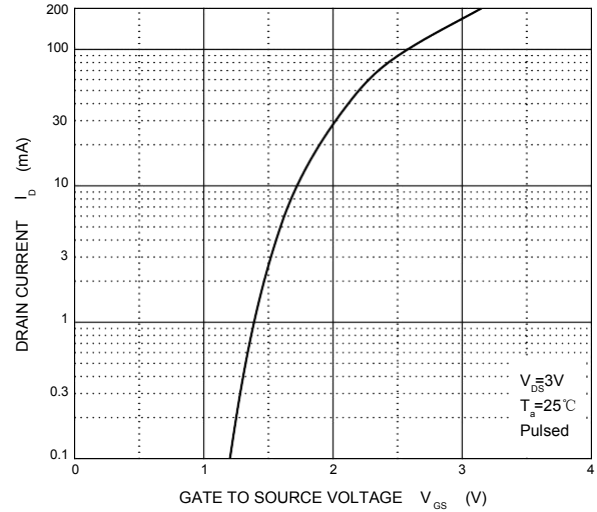
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Typical Characteristics

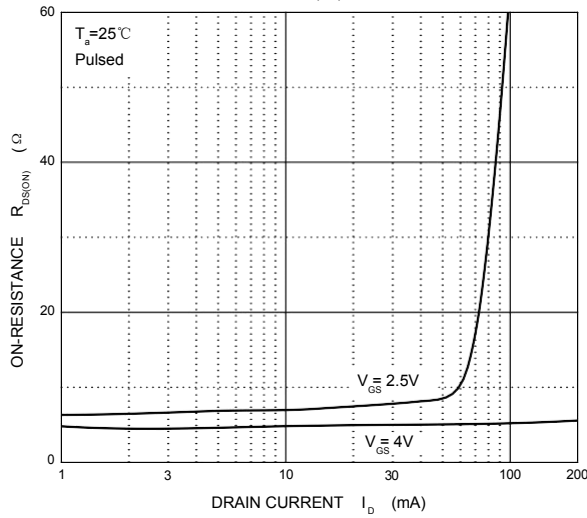
Output Characteristics



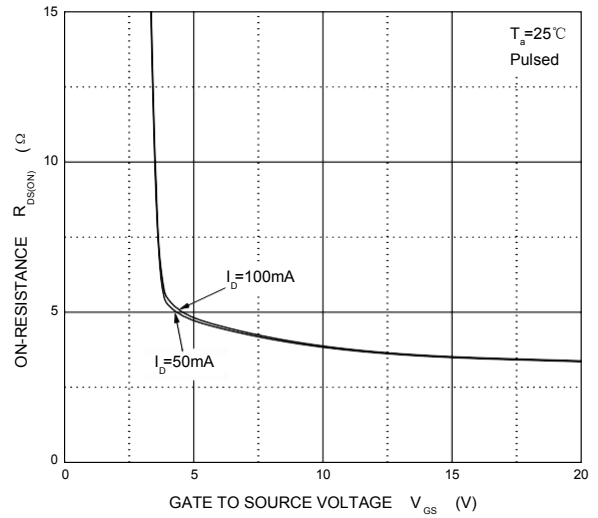
Transfer Characteristics



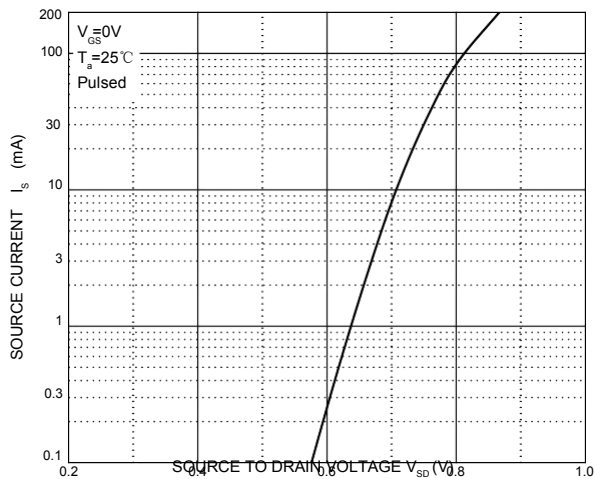
$R_{DS(ON)}$ vs I_D



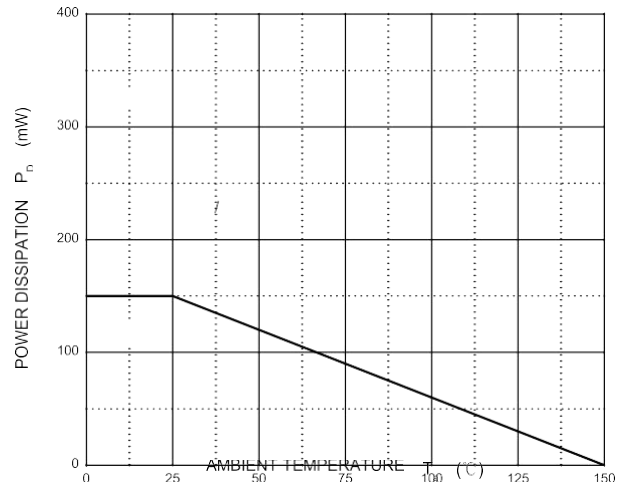
$R_{DS(ON)}$ vs V_{GS}



I_S vs V_{SD}



P_D vs T_a





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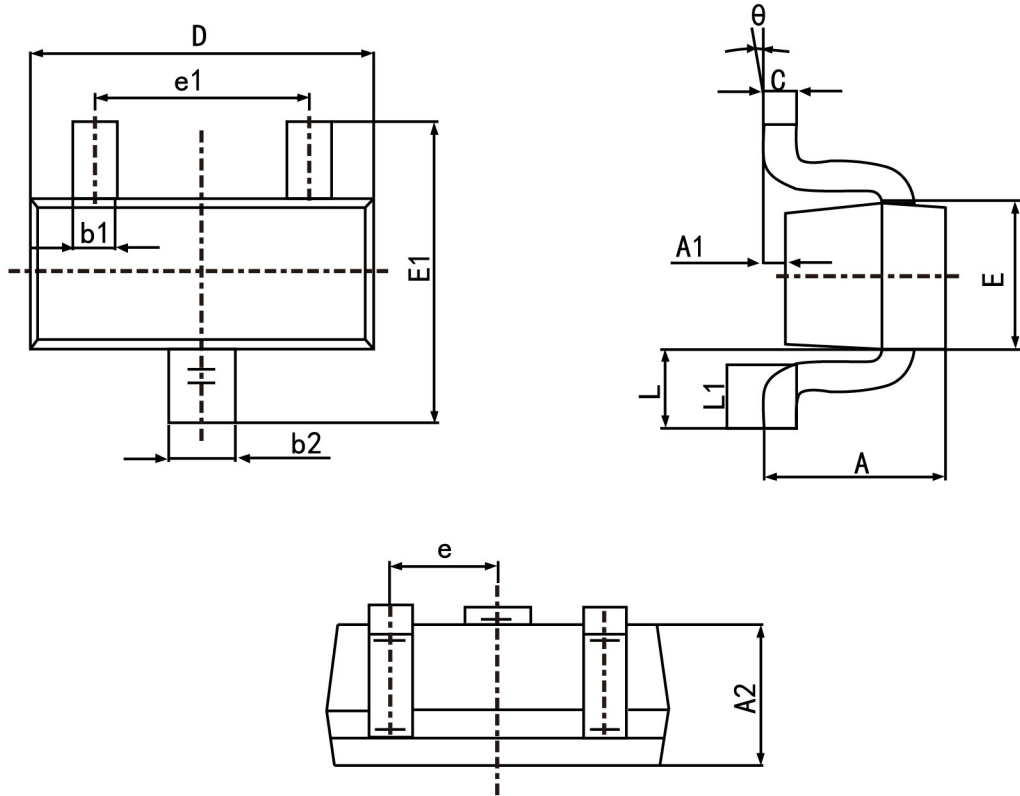
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SOT-523 Package Outline Dimensions



Symbol	Dimension in Millimeters	
	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
c	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500	TYP.
e1	0.900	1.100
L	0.400 REF.	
L1	0.260	0.460
θ	0°	8°