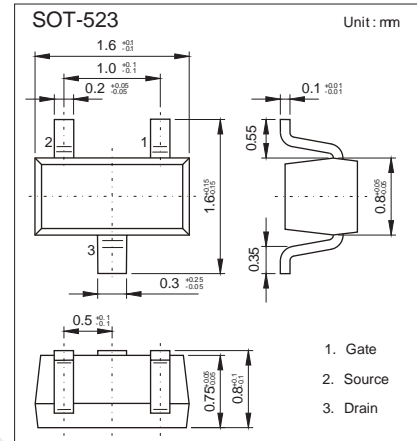
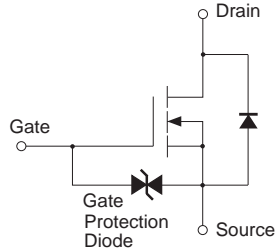


N-Channel MOSFET 2SK3019

■ Features

- Low on-resistance.
- Fast switching speed.
- Low voltage drive (2.5V) makes this device ideal for portable equipment.
- Easily designed drive circuits.
- Easy to parallel.



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	± 100	mA
Continuous Drain Current Pulsed *1	I_{DP}	± 400	
Power Dissipation *2	P_D	150	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

*1 $P_w \leq 10\mu\text{s}$, Duty cycle $\leq 1\%$

*2 With each pin mounted on the recommended lands.

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	$I_D = 100\mu\text{A}$, $V_{GS} = 0\text{V}$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 30\text{V}$, $V_{GS} = 0\text{V}$			1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{DS} = 0\text{V}$, $V_{GS} = \pm 20\text{V}$			± 1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 100\mu\text{A}$	0.8		1.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 4\text{V}$, $I_D = 10\text{mA}$		5	8	Ω
		$V_{GS} = 2.5\text{V}$, $I_D = 1\text{mA}$		7	13	
Forward Transfer admittance	$ Y_{fs} $	$V_{DS} = 3\text{V}$, $I_D = 10\text{mA}$	20			mS
Input Capacitance	C_{iss}	$V_{GS} = 0\text{V}$, $V_{DS} = 5\text{V}$, $f = 1\text{MHz}$		13		pF
Output Capacitance	C_{oss}			9		
Reverse Transfer Capacitance	C_{rss}			4		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS} = 5\text{V}$, $V_{DS} = 5\text{V}$, $R_L = 500\Omega$, $R_{GEN} = 10\Omega$ $I_D = 10\text{mA}$		15		ns
Turn-On Rise Time	t_r			35		
Turn-Off Delay Time	$t_{d(off)}$			80		
Turn-Off Fall Time	t_f			80		

■ Marking

Marking	KN
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N-Channel MOSFET

2SK3019

■ Typical Characteristics

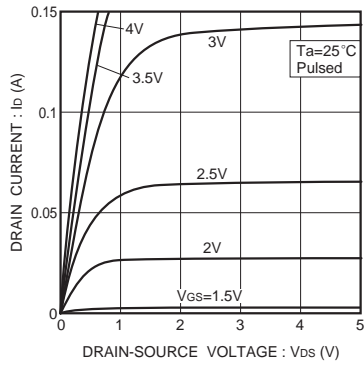


Fig.1 Typical output characteristics

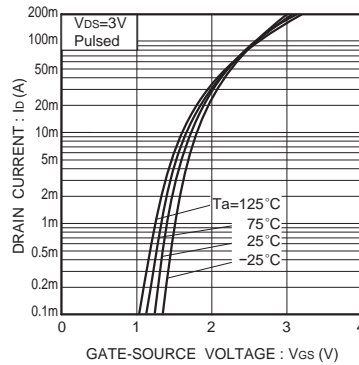


Fig.2 Typical transfer characteristics

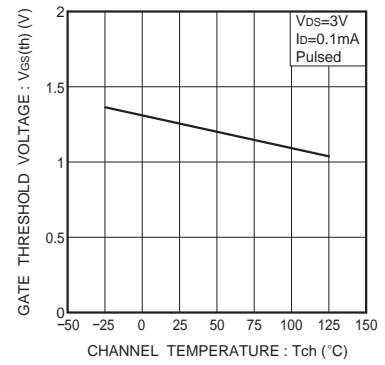


Fig.3 Gate threshold voltage vs. channel temperature

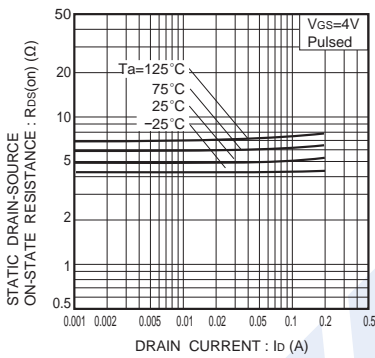


Fig.4 Static drain-source on-state resistance vs. drain current (I)

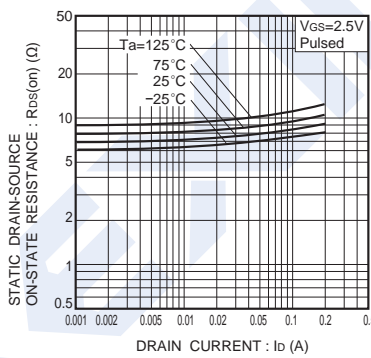


Fig.5 Static drain-source on-state resistance vs. drain current (II)

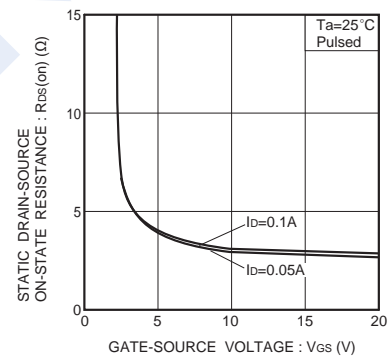


Fig.6 Static drain-source on-state resistance vs. gate-source voltage

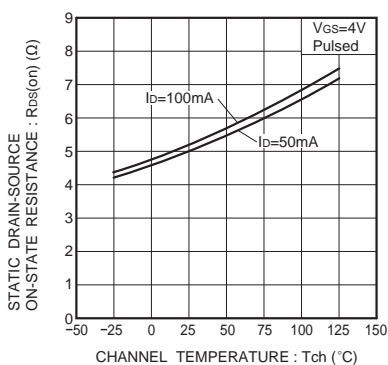


Fig.7 Static drain-source on-state resistance vs. channel temperature

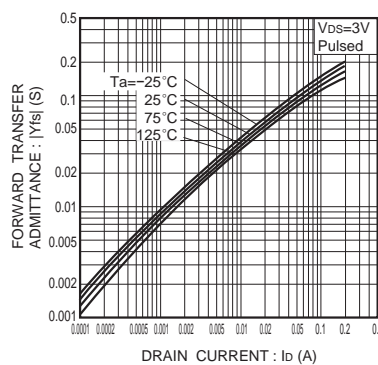


Fig.8 Forward transfer admittance vs. drain current

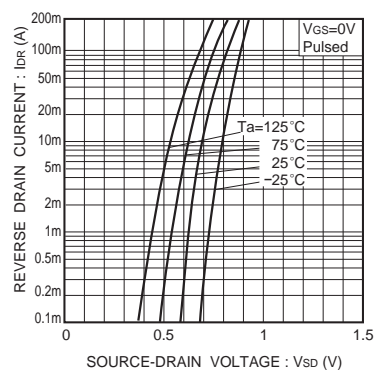


Fig.9 Reverse drain current vs. source-drain voltage (I)

N-Channel MOSFET 2SK3019

■ Typical Characteristics

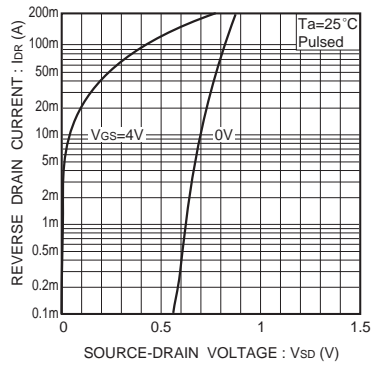


Fig.10 Reverse drain current vs. source-drain voltage (II)

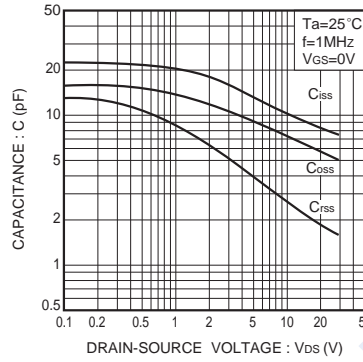


Fig.11 Typical capacitance vs. drain-source voltage

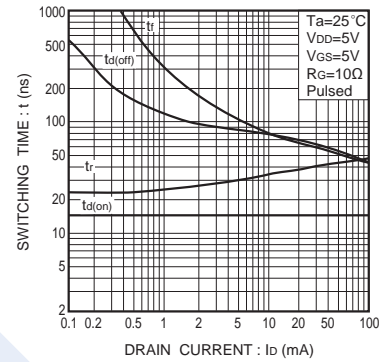


Fig.12 Switching characteristics