

Small Signal MOSFET Transistor

2SK3019

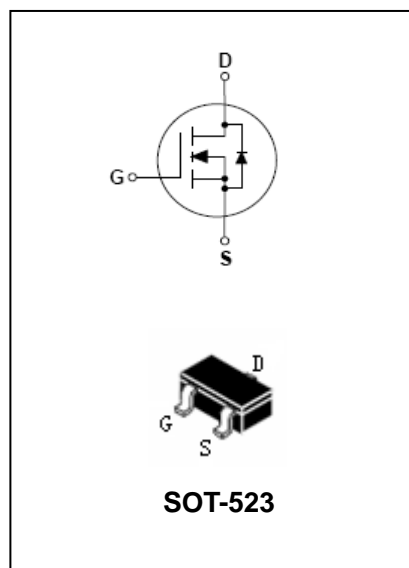
FEATURES

- Low on-resistance.
- Low voltage drive(2.5v)makes this device Ideal for portable equipment.
- Easily designed drive circuits.
- Fast switching speed.
- Easy to parallel.
- GS ESD 1000V



APPLICATIONS

- N-channel MOSFET.
- Interfacing, switching (30V, 100mA).



ORDERING INFORMATION

Type No.	Marking	Package Code
2SK3019	KN	SOT-523

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units	
V _{DSS}	Drain-Source voltage	30	V	
V _{GSS}	Gate -Source voltage	± 20	V	
I _D	Drain current	-continuous -Pulsed	100 200	mA
I _{DR}	Reverse Drain current	-continuous -Pulsed	100 200	mA
P _D	Power Dissipation	150	mW	
T _{ch}	Channel temperature	150	°C	
T _{stg}	Storage Temperature	-55 to +150	°C	

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=10\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=3V, I_D=-100\mu A$	0.8		1.5	
Gate-body Leakage	I_{GSS}	Forward $V_{DS}=0V, V_{GS}=20V$			1	μA
Reverse		Reverse $V_{DS}=0V, V_{GS}=-20V$			-1	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$			1.0	μA
Static drain-Source on-state resistance	$R_{DS(ON)}$	$V_{GS}=4V, I_D=10mA$ $V_{GS}=2.5V, I_D=1mA$		5 7	8 13	Ω
Forward transfer admittance	$ Y_{fs} $	$I_D=10mA, V_{DS}=3V$	20			ms
Input capacitance	C_{ISS}	$V_{DS}=5V, V_{GS}=0V, f=1.0MHz$		13		pF
Output capacitance	C_{OSS}			9		
Reverse transfer capacitance	C_{RSS}			4		
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD}=5V, I_D=10mA$ $R_L=500\Omega, V_{GS}=5V,$ $R_{GS}=10\Omega$		15		ns
Rise time	t_r			35		ns
Turn-Off Delay Time	$t_{D(OFF)}$			80		ns
Fall time	t_f			80		ns

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

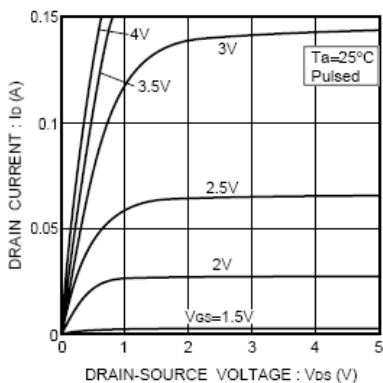


Fig.1 Typical output characteristics

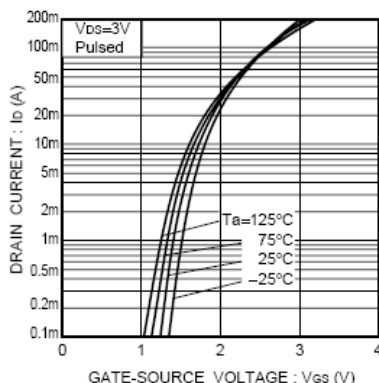


Fig.2 Typical transfer characteristics

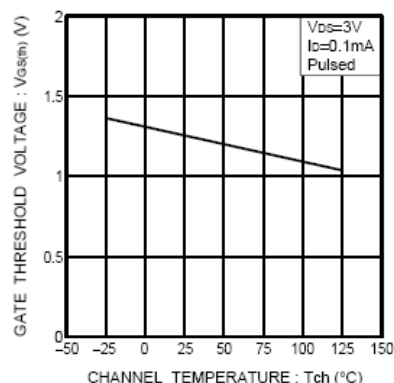


Fig.3 Gate threshold voltage vs. channel temperature

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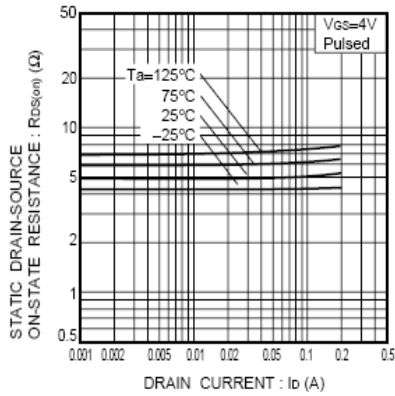


Fig.4 Static drain-source on-state resistance vs. drain current (I)

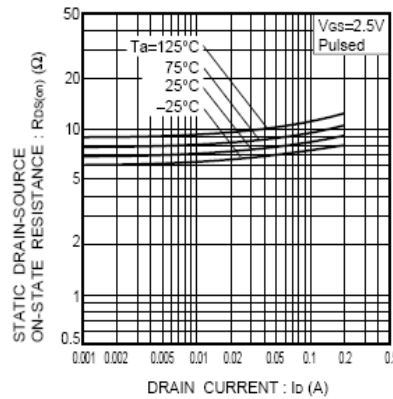


Fig.5 Static drain-source on-state resistance vs. drain current (II)

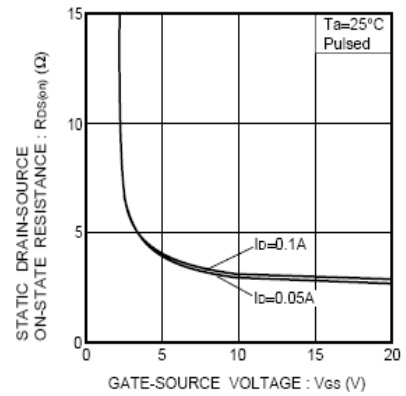


Fig.6 Static drain-source on-state resistance vs. gate-source voltage

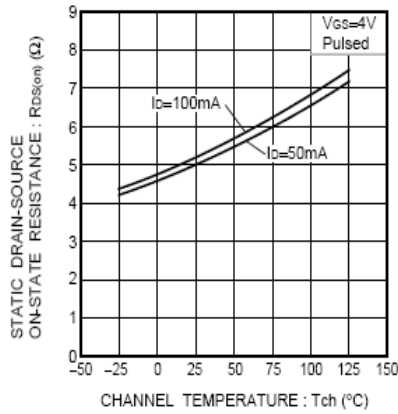


Fig.7 Static drain-source on-state resistance vs. channel temperature

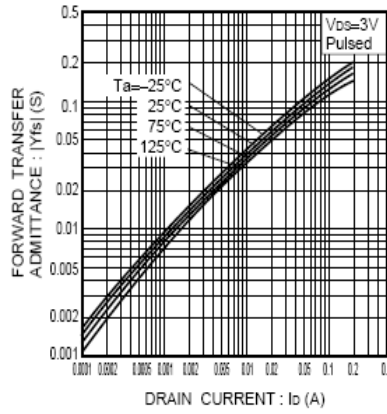


Fig.8 Forward transfer admittance vs. drain current

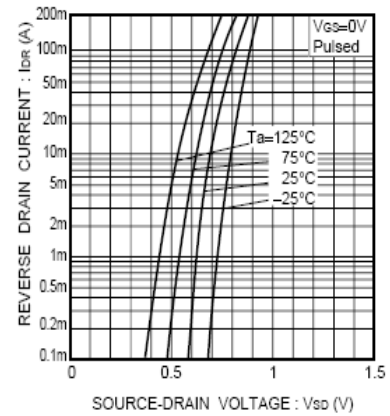


Fig.9 Reverse drain current vs. source-drain voltage (I)

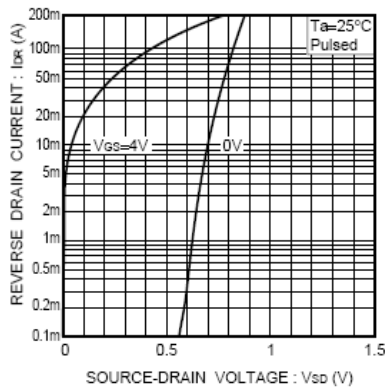


Fig.10 Reverse drain current vs. source-drain voltage (II)

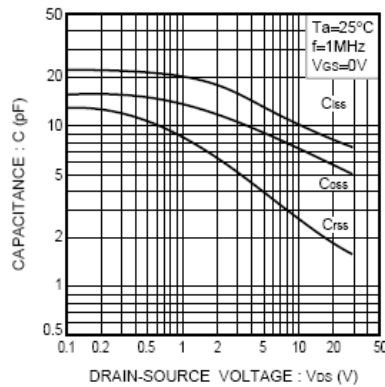


Fig.11 Typical capacitance vs. drain-source voltage

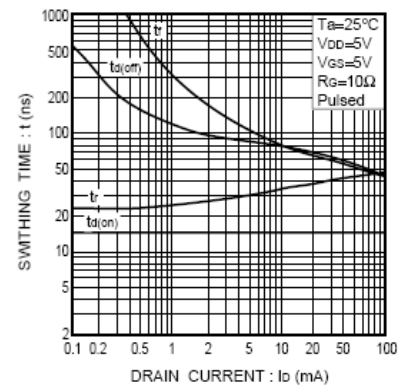


Fig.12 Switching characteristics (See Figures 13 and 14 for the measurement circuit and resultant waveforms)

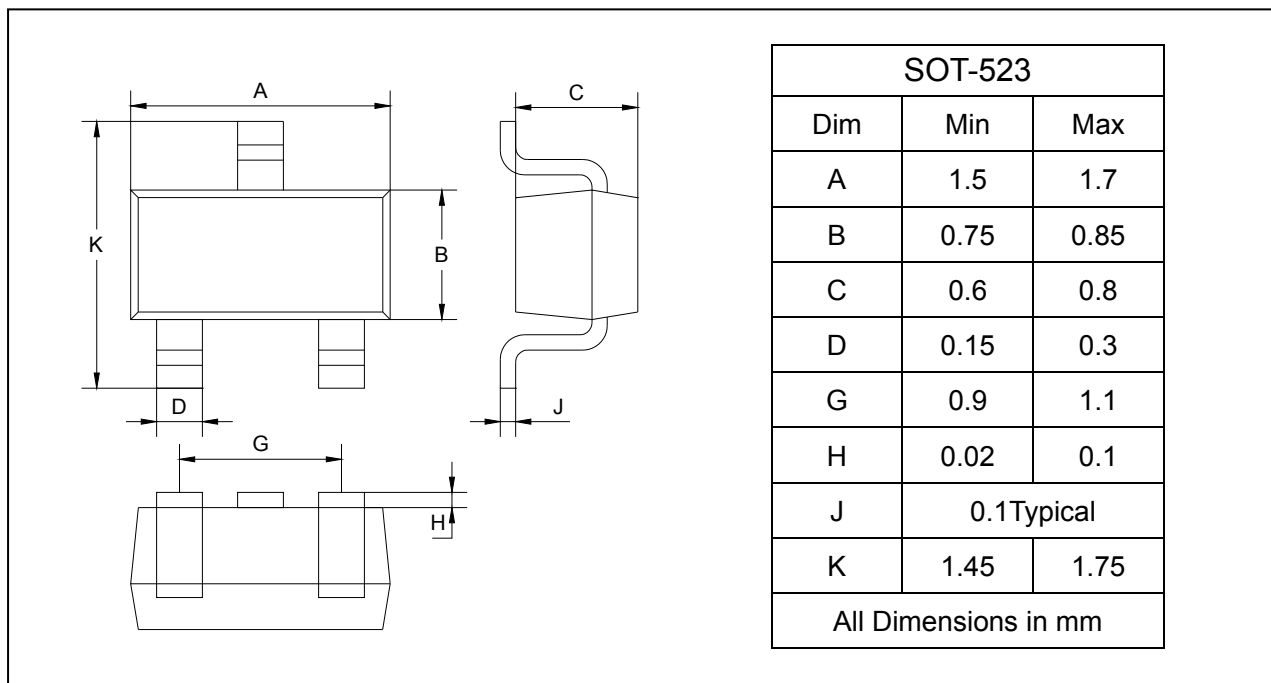
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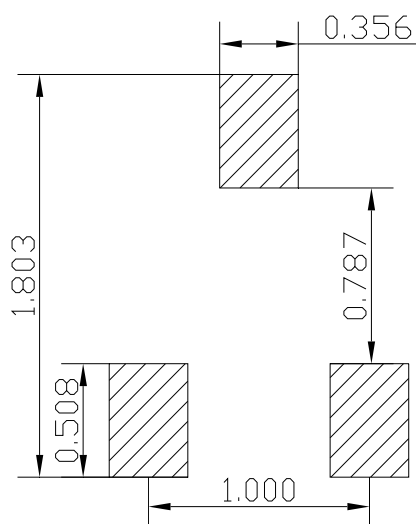
PACKAGE OUTLINE

Plastic surface mounted package

SOT-523



SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
2SK3019	SOT-523	3000/Tape&Reel