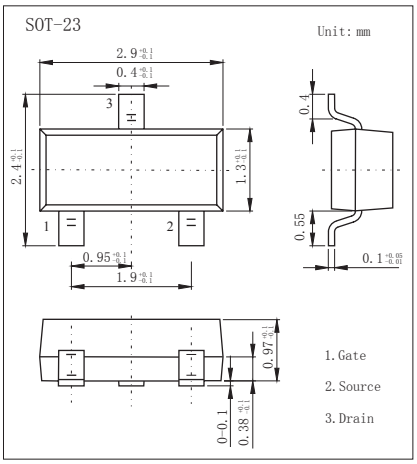
SHENZHEN HAOCHANG SEMICONDUCTOR CO.,LTD.

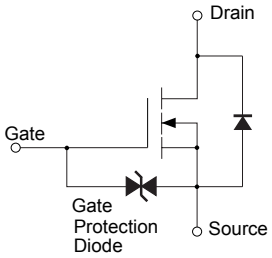
SOT-23 Plastic-Encapsulate MOSFETS

2SK3018 N-Channel MOSFET



■ 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 Ta = 25℃

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	200	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

*1 Pw≤10μs, Duty cycle≤1%

*2 With each pin mounted on the recommended lands.

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=100μA, V_{GS}=0V	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V, V_{GS}=0V			1	uA
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±1	uA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250μA	0.8		1.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=4V, I_D=10mA		5	8	Ω
		V_{GS}=2.5V, I_D=1mA		7	13	
Forward Transfer admittance	| Y_{fs} |	V_{DS}=3V, I_D=10mA	20			mS
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=5V, f=1MHz		13		pF
Output Capacitance	C_{oss}			9		
Reverse Transfer Capacitance	C_{rss}			4		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=5V, V_{DS}=5V, R_L=500Ω, R_{GEN}=10Ω		15		ns
Turn-On Rise Time	t_r			35		
Turn-Off DelayTime	$t_{d(off)}$			80		
Turn-Off Fall Time	t_f	I_D=10mA		80		

■ Marking

Marking	KN

■ Typical Characterisitics

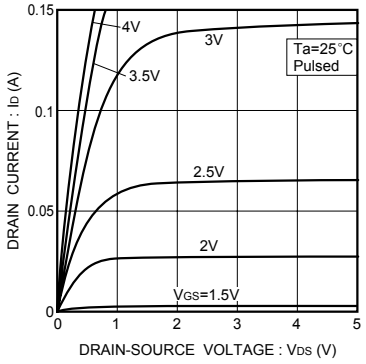


Fig.1 Typical output characteristics

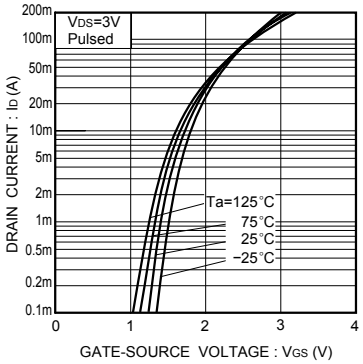


Fig.2 Typical transfer characteristics

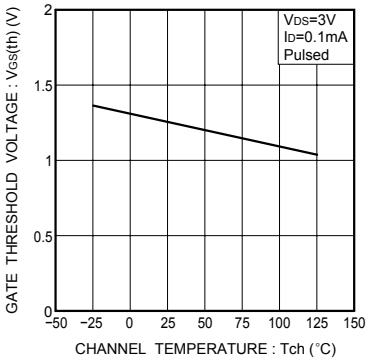


Fig.3 Gate threshold voltage vs. channel temperature

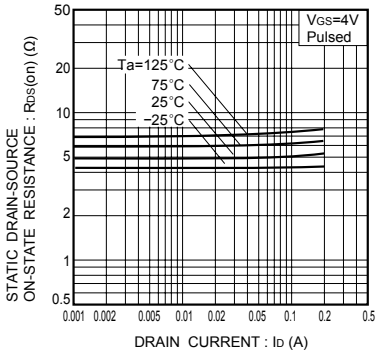


Fig.4 Static drain-source on-state resistance vs. drain current (Ⅰ)

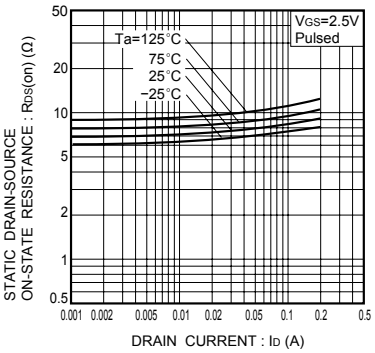


Fig.5 Static drain-source on-state resistance vs. drain current (Ⅱ)

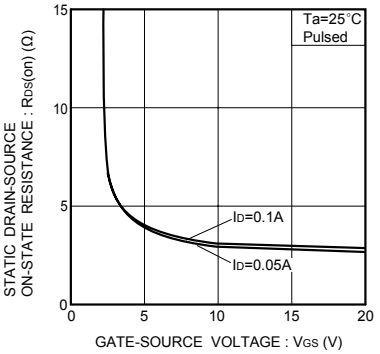


Fig.6 Static drain-source on-state resistance vs. gate-source voltage

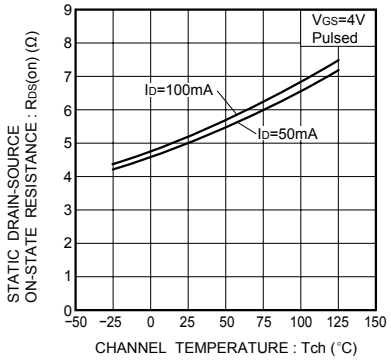


Fig.7 Static drain-source on-state resistance vs. channel temperature

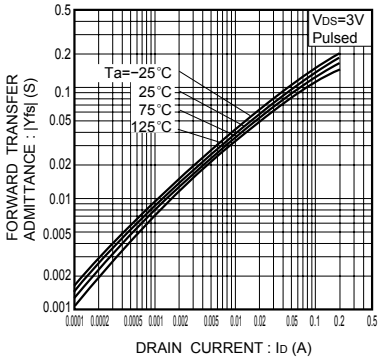


Fig.8 Forward transfer admittance vs. drain current

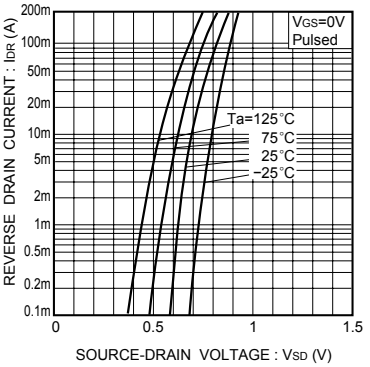


Fig.9 Reverse drain current vs. source-drain voltage (Ⅰ)

■ Typical Characterisitics

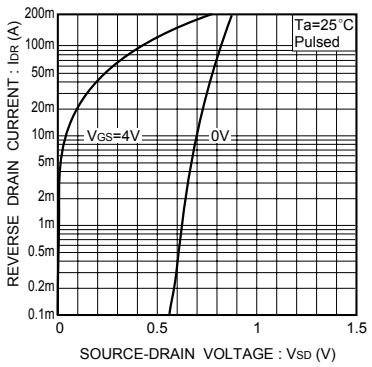


Fig.10 Reverse drain current vs. source-drain voltage (II)

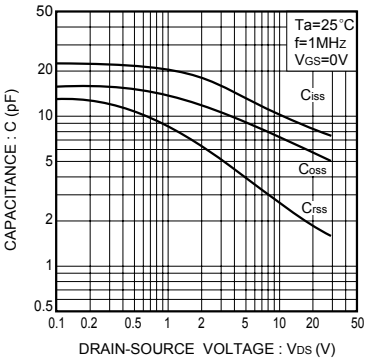


Fig.11 Typical capacitance vs. drain-source voltage

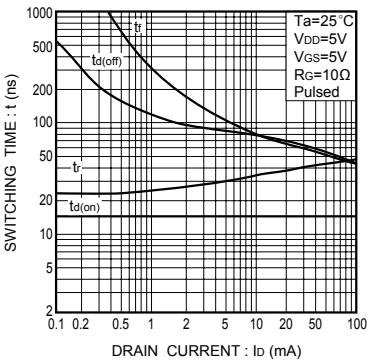


Fig.12 Switching characteristics (See Figures 13 and 14 for the measurement circuit and resultant waveforms)