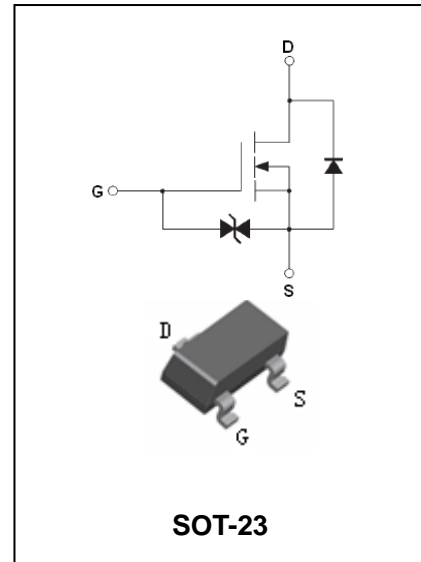# N-Channel Enhancement Mode Field Effect Transistor

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.

APPLICATIONS

- Interfacing,switching (30V,100mA)

SOT-23

ORDERING INFORMATION

Type No.	Marking	Package Code
2SK3018	KN	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter		Value	Units
V_{DSS}	Drain-Source voltage		30	V
V_{GSS}	Gate -Source voltage		±20	V
I_D I_{DP}[*1]	drain current	Continuous Pulsed	100 200	mA
I_{DR} I_{DRP}[*1]	Reverse drain current	Continuous Pulsed	100 200	mA
P_D[*2]	Total Power Dissipation(T_C=25℃)		200	mW
T_{ch}, T_{stg}	Channel and Storage Temperature		-55 to +150	℃

*1Pw≤10us,Duty cycle≤50%

*2With each pin mounted on the recommended lands.

http://www.lgesemi.com

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

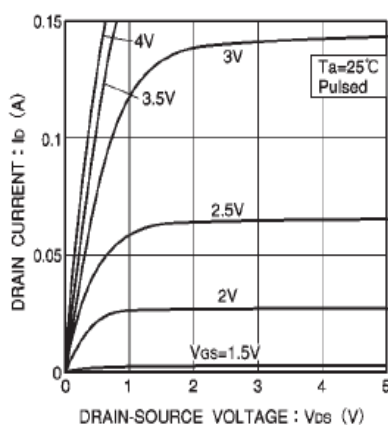| Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Gate- Source Leakage	I_{GSS}	$V_{GS}=\pm20V$, $V_{DS}=0V$			±1	uA
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V$, $I_D=10\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=3V$, $I_D=100\mu A$	0.8		1.5	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$, $V_{GS}=0V$			1	uA
Static drain-source on-state resistance	$R_{DS(on)}$	$I_D=10mA$, $V_{GS}=4V$		5	8	Ω
	$R_{DS(on)}$	$I_D=1mA$, $V_{GS}=2.5V$		7	13	Ω
Forward transfer admittance	$\left|Y_{fs}\right|$	$V_{DS}=3V$, $I_D=10mA$	20			mS
Input capacitance	C_{ISS}			13		
Output capacitance	C_{OSS}	$V_{DS}=5V$, $V_{GS}=0V$, $f=1.0MHz$		9		pF
Reverse transfer capacitance	C_{RSS}			4		
Turn-On Delay Time	$t_{D(ON)}$			15		ns
Rise time	t_r	$V_{DD}=5V$, $I_D=10mA$, $R_L=500\Omega$, $V_{GS}=5V$, $R_{GEN}=10\Omega$		35		ns
Turn-Off Delay Time	$t_{D(OFF)}$			80		ns
Fall time	T_r			80		ns

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Fig.1 Typical output characteristics
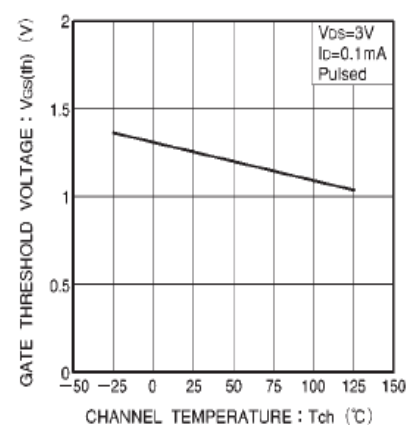

Fig.2 Typical transfer characteristics

Fig.3 Gate threshold voltage vs. channel temperature
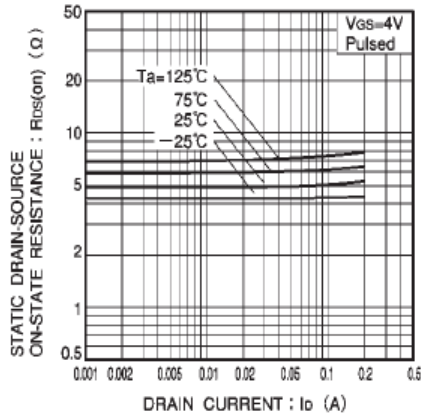
LGE

RoHS COMPLIANT

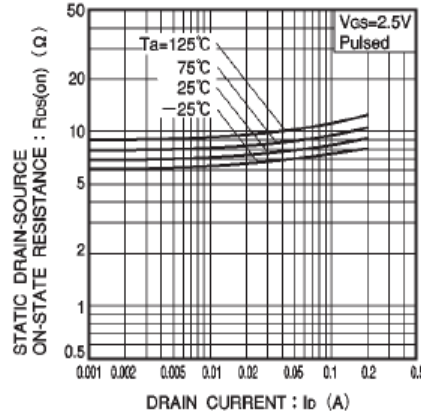Fig.4 Static drain-source on-state resistance vs. drain current (I)

Fig.5 Static drain-source on-state resistance vs. drain current (II)
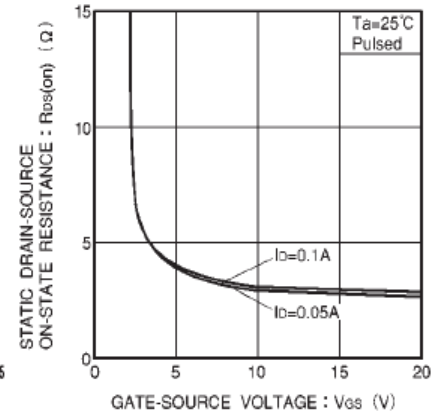
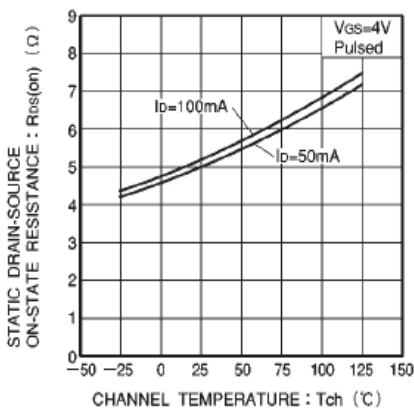Fig.6 Static drain-source on-state resistance vs. gate-source voltage

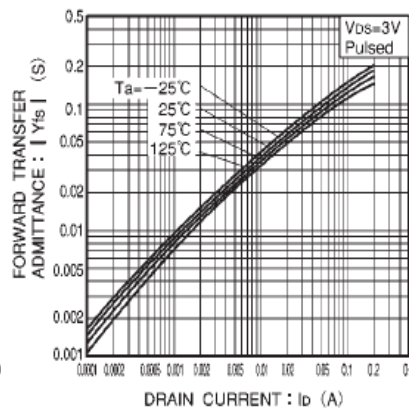Fig.7 Static drain-source on-state resistance vs. channel temperature

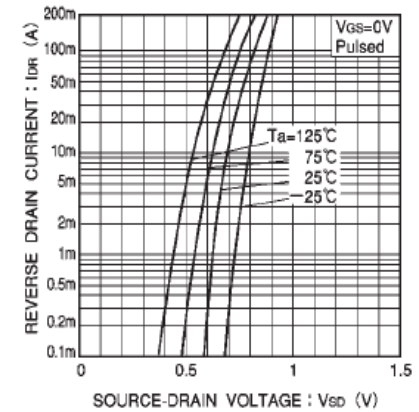Fig.8 Forward transfer admittance vs. drain current

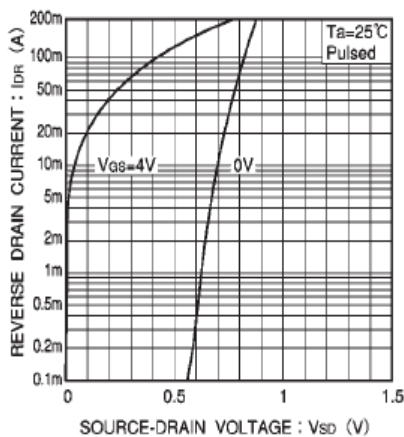Fig.9 Reverse drain current vs. source-drain voltage (I)

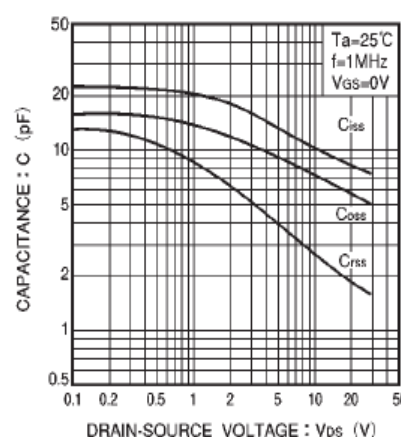Fig.10 Reverse drain current vs. source-drain voltage (II)
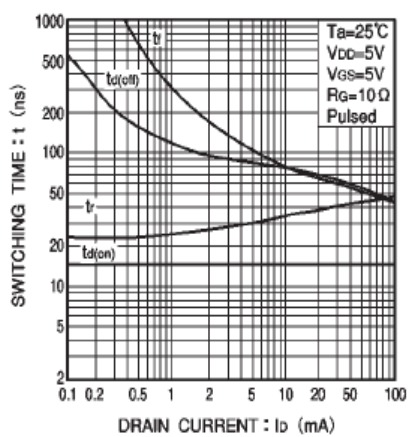
Fig.11 Typical capacitance vs. drain-source voltage

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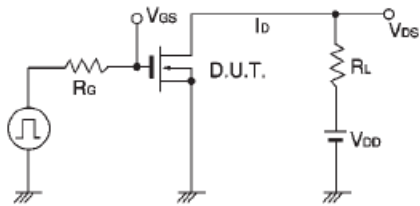
Switching characteristics measurement circuit

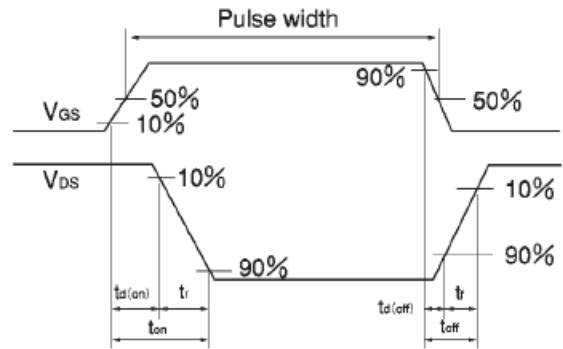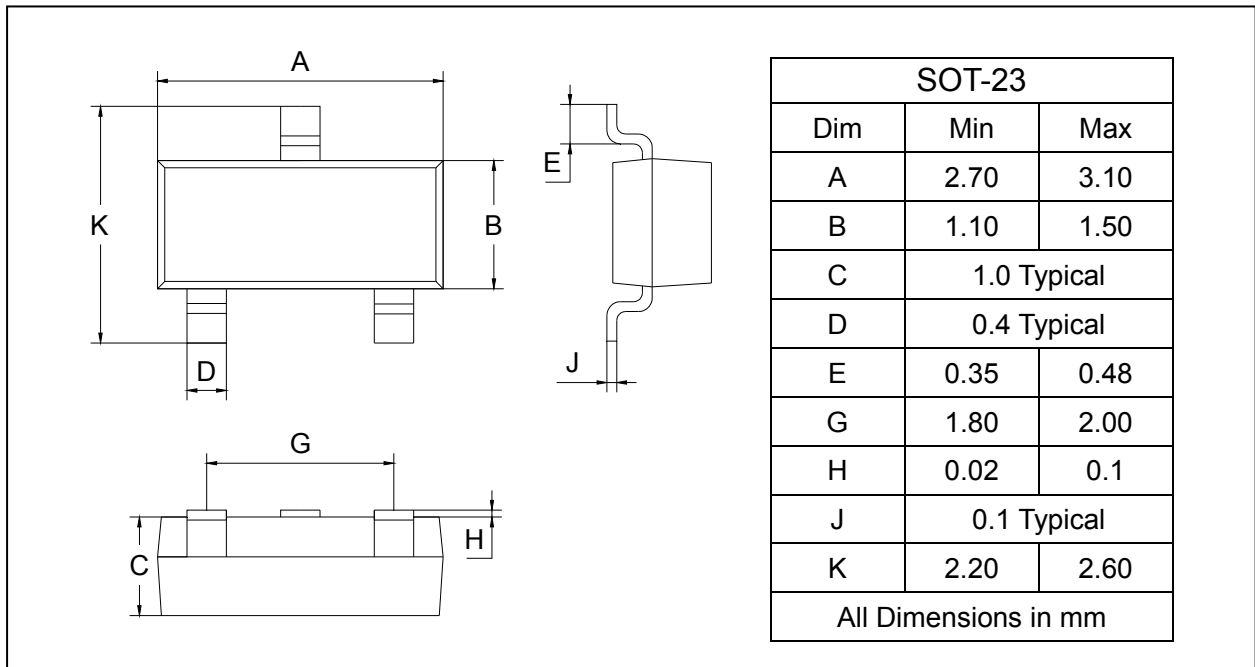Fig.13   Switching time measurement circuit

Fig.14   Switching time waveforms
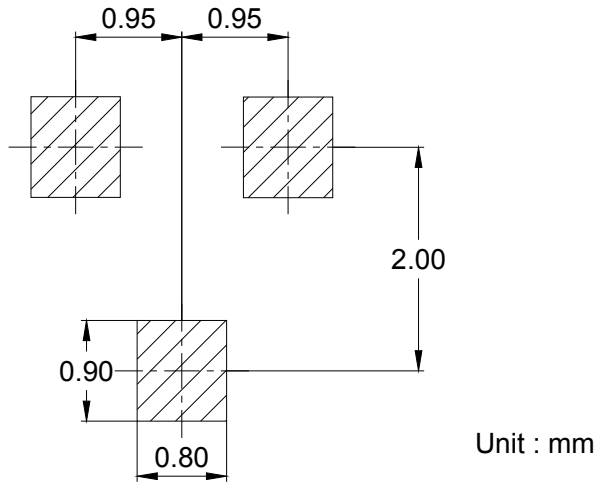
PACKAGE OUTLINE

Plastic surface mounted package   SOT-23

SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT

0.95   0.95

2.00

0.90

0.80

Unit : mm

PACKAGE　INFORMATION

Device	Package	Shipping
2SK3018	SOT-23	3000/Tape&Reel