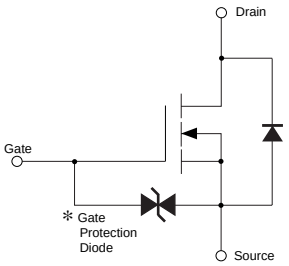
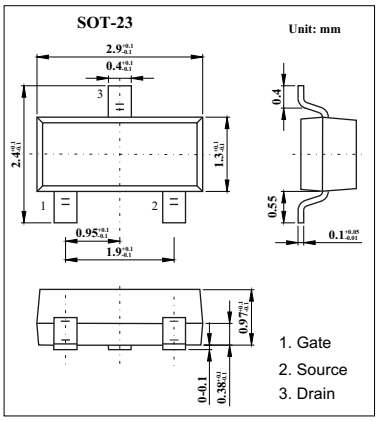
N-Channel MOSFET

2SK3018

■ Features

- Low on-resistance.
- Fast switching speed.
- Silicon N-channel MOSFET
- Drive circuits can be simple.





■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Drain-source voltage	V_{DSS}	30	V
Gate-source voltage	V_{GSS}	±20	V
Drain current	I_D	100	mA
	I_{DP}*[1]	400	
Total power dissipation	P_D *[2]	200	mW
Channel to ambient	$R_{th(ch-a)}$ *[2]	625	°C/W
Channel Temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

*1. Pw≤10μs, duty cycle≤1%.

*2. With each pin mounted on the recommended lands.

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Gate-source leakage	I_{GSS}	V_{GS} =±20 V , V_{DS} = 0 V			±1	μA
Drain-source Breakdown voltage	$V_{(BR)DSS}$	I_D= 10 μA, V_{GS} = 0V	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} = 30 V, V_{GS} = 0V			1	μA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} = 3 V, I_D= 100 μA	0.8		1.5	V
Static drain-source on-state resistance	$R_{DS(on)}$	I_D= 10 mA, V_{GS} = 4V I_D= 1mA, V_{GS} = 2.5V		5 7	8 13	Ω
Forward transfer admittance	$\|Y_{fs}\|$	V_{DS} = 3 V, I_D= 10 mA	20			mS
Input capacitance	C_{iss}	V_{DS} = 5 V,		13		pF
Output capacitance	C_{oss}	V_{DS} = 0 V,		9		pF
Reverse transfer capacitance	C_{rss}	f= 1MHz		4		pF
Turn-on delay time	$t_{d(on)}$	I_D= 10 mA, V_{DD}= 5 V,		15		ns
Rise time	t_r	V_{GS}= 5 V,		35		ns
Turn-off time	$t_{d(off)}$	R_L=500Ω		80		ns
Fall time	t_r	R_G= 10Ω		80		ns