

# 2SK655

## Silicon N-Channel MOS

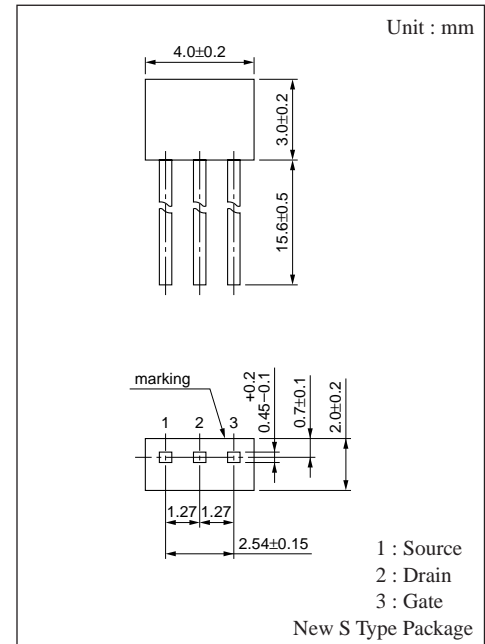
For switching

### ■ Features

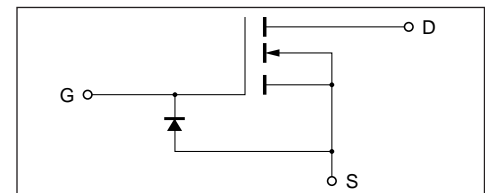
- High-speed switching
- Radial taping possible

### ■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Rating	Unit
Drain-Source voltage	V <sub>DS</sub>	50	V
Gate-Source voltage	V <sub>GSO</sub>	8	V
Drain current	I <sub>D</sub>	±100	mA
Max drain current	I <sub>DP</sub>	±200	mA
Allowable power dissipation	P <sub>D</sub>	200	mW
Channel temperature	T <sub>ch</sub>	150	°C
Storage temperature	T <sub>stg</sub>	- 55 to +150	°C



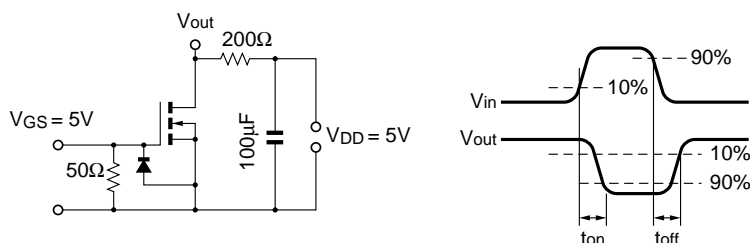
### ■ Internal Connection



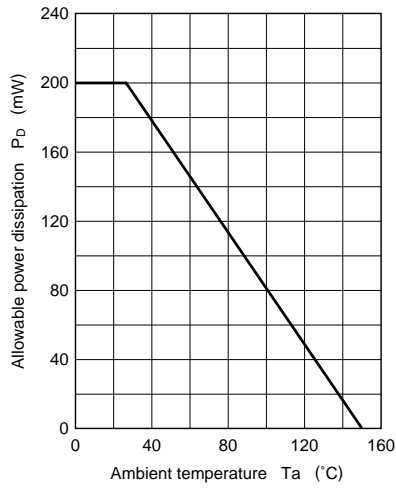
### ■ Electrical Characteristics (Ta = 25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	I <sub>DSS</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> = 0			10	μA
Gate-Source leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = 8V, V <sub>DS</sub> = 0			50	nA
Drain-Source breakdown voltage	V <sub>DSS</sub>	I <sub>D</sub> =100μA, V <sub>GS</sub> = 0	50			V
Gate threshold voltage	V <sub>th</sub>	I <sub>D</sub> =100μA, V <sub>DS</sub> = V <sub>GS</sub>	1.5		3.5	V
Drain-Source ON-resistance	R <sub>DS(on)</sub>	I <sub>D</sub> = 20mA, V <sub>GS</sub> = 5V			50	Ω
Forward transadmittance	Y <sub>fs</sub>	I <sub>D</sub> = 20mA, V <sub>DS</sub> = 5V, f=1kHz	20	35		mS
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 5V, V <sub>GS</sub> = 0, f=1MHz		10	15	pF
Output capacitance	C <sub>oss</sub>		4	5	pF	
Feedback capacitance	C <sub>rss</sub>		0.5	1	pF	
Turn-on time	t <sub>on</sub> *	V <sub>DD</sub> = 5V, V <sub>GS</sub> = 0 to 5V, R <sub>L</sub> = 200Ω		10		ns
Turn-off time	t <sub>off</sub> *	V <sub>DD</sub> = 5V, V <sub>GS</sub> = 5 to 0V, R <sub>L</sub> = 200Ω		20		ns

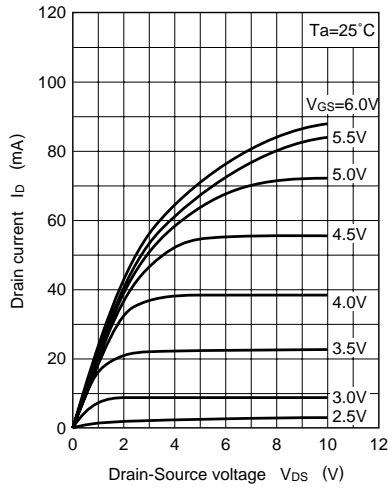
\* t<sub>on</sub>, t<sub>off</sub> measurement circuit



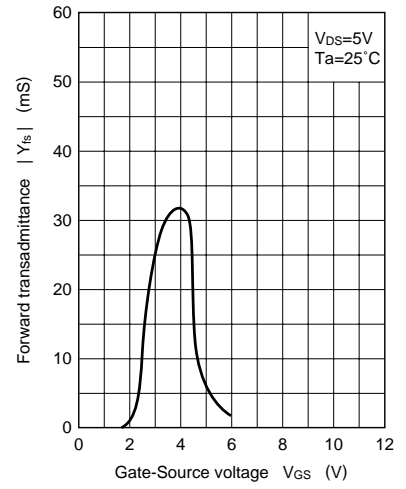
$P_D - T_a$



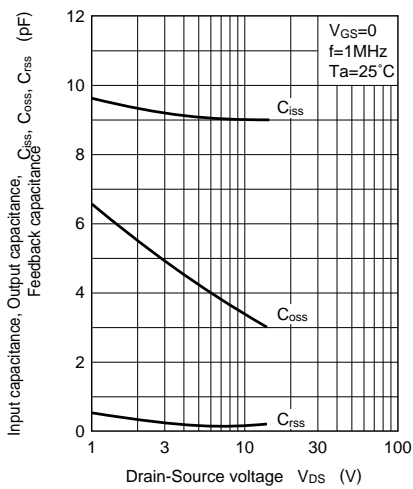
$I_D - V_{DS}$



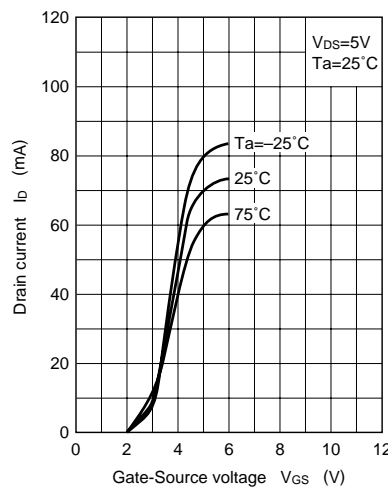
$|Y_{fs}| - V_{GS}$



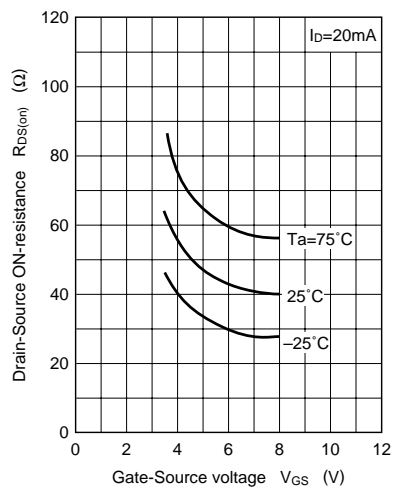
$C_{iss}, C_{oss}, C_{rss} - V_{DS}$



$I_D - V_{GS}$



$R_{DS(on)} - V_{GS}$



$V_{IN} - I_O$

