2SK665

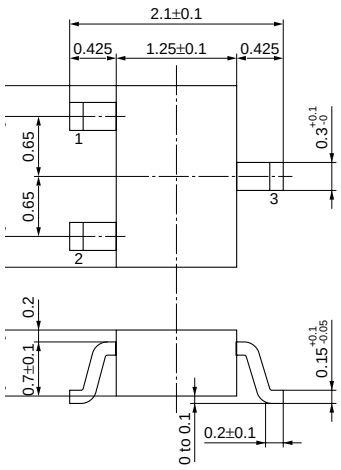
Silicon N-Channel MOS

For switching

■ Features

- High-speed switching
- Small drive current owing to high input impedance
- Extremely high electrostatic destruction voltage

Unit : mm

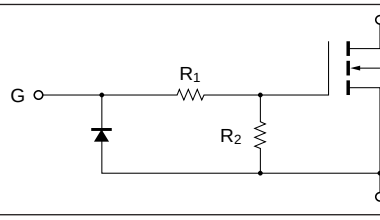


1 : Gate
2 : Source EIAJ : SC-70
3 : Drain S-Mini Type Package (3-pin)

■ Absolute Maximum Ratings (Ta = 25˚C)

Parameter	Symbol	Rating	Unit
Drain-Source voltage	V_{DS}	20	V
Gate-Source voltage	V_{GSO}	8	V
Drain current	I_D	±100	mA
Max drain current	I_{DP}	±200	mA
Allowable power dissipation	P_D	150	mW
Channel temperature	T_{ch}	150	˚C
Storage temperature	T_{stg}	– 55 to +150	˚C

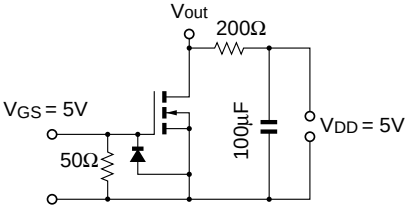
■ Internal Connection

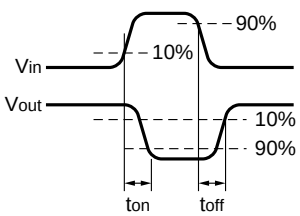


■ Electrical Characteristics (Ta = 25˚C)

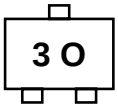
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	I_{DSS}	V_{DS}=10V, V_{GS}= 0			10	µA
Gate-Source leakage current	I_{GSS}	V_{GS}= 8V, V_{DS}= 0	40		80	µA
Drain-Source breakdown voltage	V_{DSS}	I_D=100µA, V_{GS}= 0	20			V
Gate threshold voltage	V_{th}	I_D=100µA, V_{DS}= V_{GS}	1.5		3.5	V
Drain-Source ON-resistance	$R_{DS(on)}$	I_D= 20mA, V_{GS}= 5V			50	Ω
Forward transadmittance	$\|Y_{fs}\|$	I_D= 20mA, V_{DS}= 5V, f=1kHz	20			mS
High level output voltage	V_{OH}	V_{DD}= 5V, V_{GS}=1V, R_L= 200Ω	4.5			V
Low level output voltage	V_{OL}	V_{DD}= 5V, V_{GS}= 5V, R_L= 200Ω			1	V
Input resistance	$R_1 + R_2$ * 1		100		200	kΩ
Turn-on time	t_{on} * 2	V_{DD}= 5V, V_{GS}= 0 to 5V, R_L= 200Ω			1	µs
Turn-off time	t_{off} * 2	V_{DD}= 5V, V_{GS}= 5 to 0V, R_L= 200Ω			1	µs

* 1 Resistance ratio R_1/R_2=1/50 * 2 t_{on}, t_{off} measurement circuit * 3 Pulse measurement

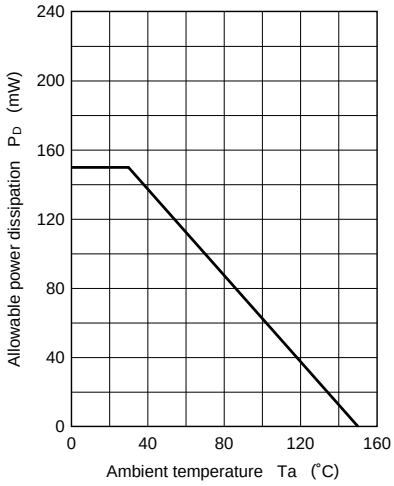




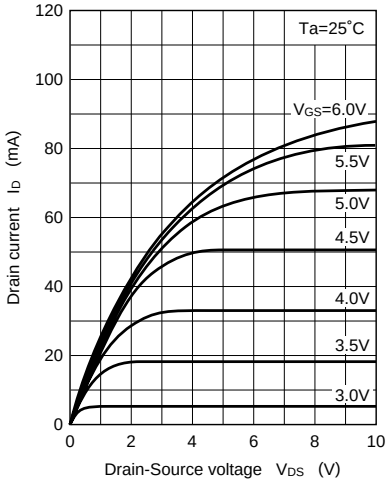
■ Marking



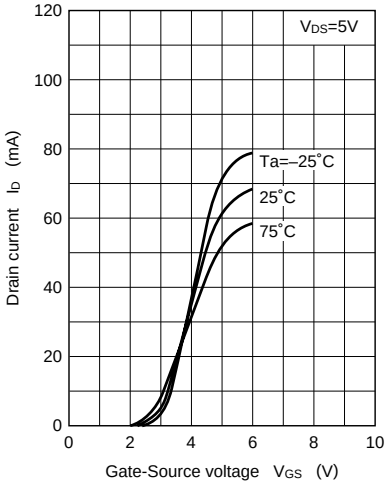
$P_D - Ta$



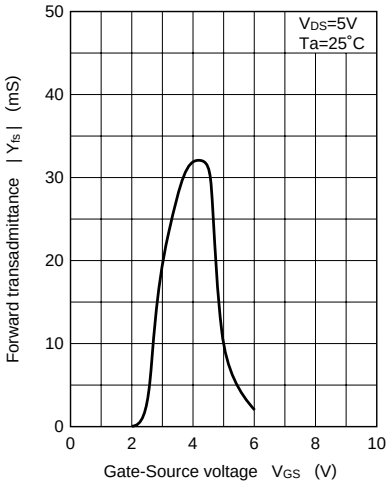
$I_D - V_{DS}$



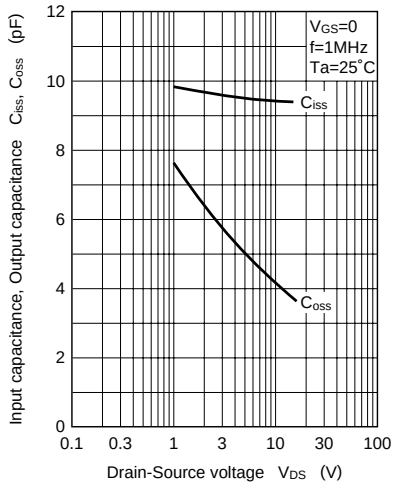
$I_D - V_{GS}$



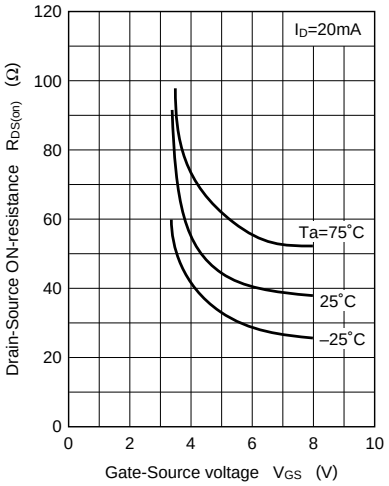
$|Y_{fs}| - V_{GS}$



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



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



$V_{IN} - I_O$