

2SK665

Silicon N-Channel MOS FET

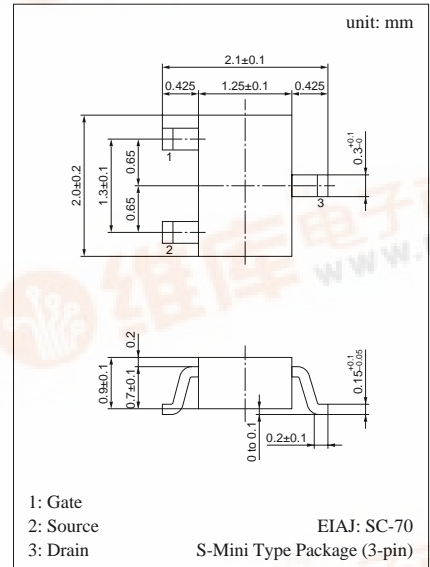
For switching

■ Features

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

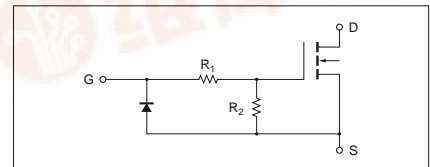
■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Ratings	Unit
Drain to Source voltage	V _{DS}	20	V
Gate to 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



Marking Symbol: 30

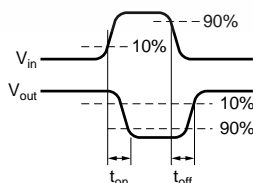
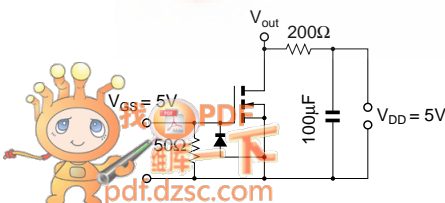
Internal Connection



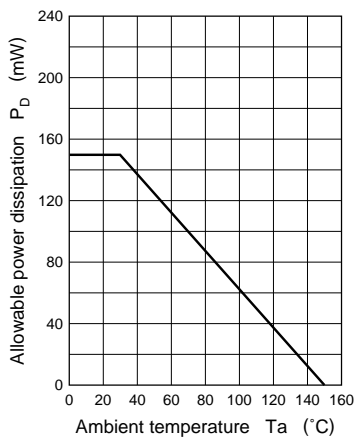
■ Electrical Characteristics (Ta = 25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	I _{DSS}	V _{DS} = 10V, V _{GS} = 0			10	μA
Gate to Source leakage current	I _{GSS}	V _{GS} = 8V, V _{DS} = 0	40		80	μA
Drain to 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 to Source ON-resistance	R _{DS(on)} ^{*3}	I _D = 20mA, V _{GS} = 5V			50	Ω
Forward transfer admittance	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 _{SL}	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

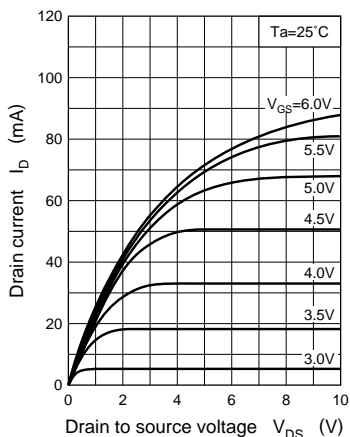
^{*1} Resistance ratio R₁/R₂ = 1/50 ^{*2} t_{on}, t_{off} measurement circuit ^{*3} Pulse measurement



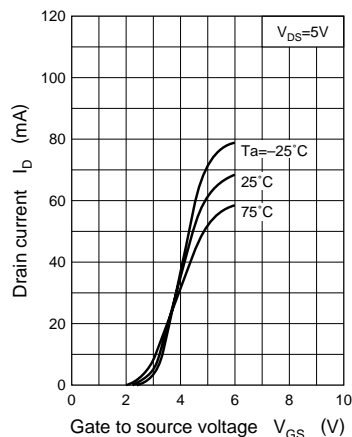
$P_D - T_a$



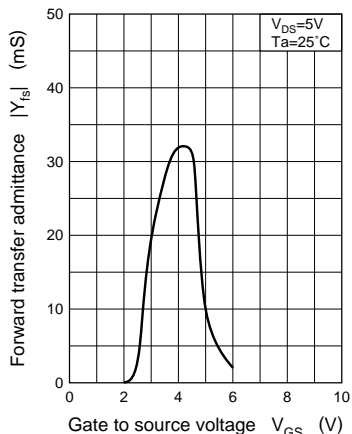
$I_D - V_{DS}$



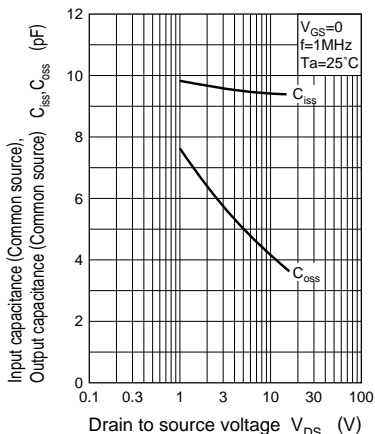
$I_D - V_{GS}$



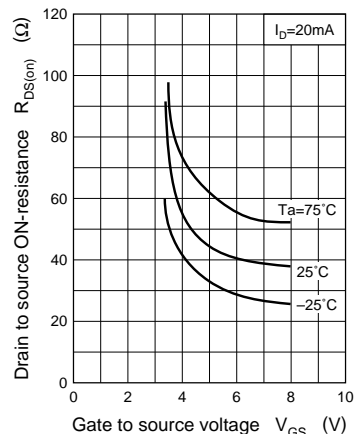
$|Y_{fs}| - V_{GS}$



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



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



$V_{IN} - I_O$

