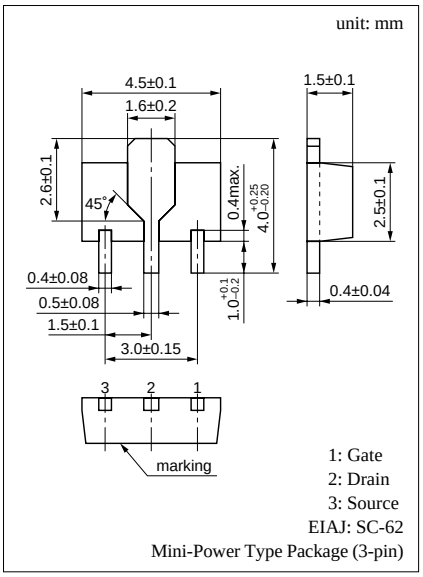
2SK601

Silicon N-Channel MOS FET

For switching



Marking Symbol: O

■ Features

- Low ON-resistance $R_{DS(on)}$
- High-speed switching
- Allowing to be driven directly by CMOS and TTL
- Mini-power type package, allowing downsizing of the sets and automatic insertion through the tape/magazine packing.

■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Ratings	Unit
Drain to Source voltage	V_{DS}	80	V
Gate to Source voltage	V_{GSO}	20	V
Drain current	I_D	±0.5	A
Max drain current	I_{DP}	±1	A
Allowable power dissipation	P_D*	1	W
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

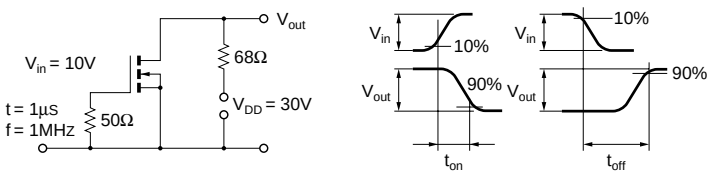
* PC board: Copper foil of the drain portion should have a area of 1cm^2 or more and the board thickness should be 1.7mm.

■ Electrical Characteristics (Ta = 25°C)

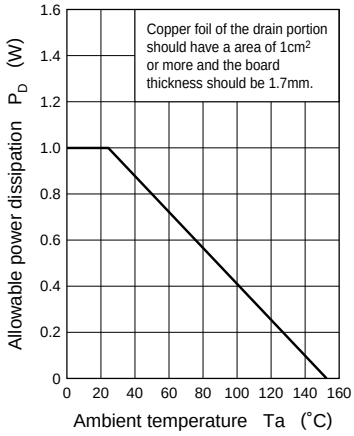
Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	I_{DSS}	V_{DS} = 60V, V_{GS} = 0			10	μA
Gate to Source leakage current	I_{GSS}	V_{GS} = 20V, V_{DS} = 0			0.1	μA
Drain to Source breakdown voltage	V_{DSS}	I_{DS} = 100μA, V_{GS} = 0	80			V
Gate threshold voltage	V_{th}	I_D = 1mA, V_{DS} = V_{GS}	1.5		3.5	V
Drain to Source ON-resistance	$R_{DS(on)}$*1	I_D = 0.5A, V_{GS} = 10V		2	4	Ω
Forward transfer admittance	$\|Y_{fs}\|$	I_D = 0.2A, V_{DS} = 15V, f = 1kHz		300		mS
Input capacitance (Common Source)	C_{iss}	V_{DS} = 10V, V_{GS} = 0, f = 1MHz		45		pF
Output capacitance (Common Source)	C_{oss}			30		pF
Reverse transfer capacitance (Common Source)	C_{rss}			8		pF
Turn-on time	t_{on}*2			15		ns
Turn-off time	t_{off}*2			20		ns

*1 Pulse measurement

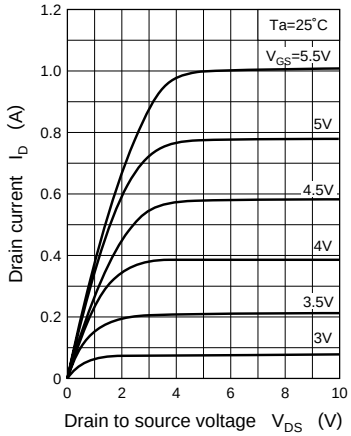
*2 t_{on}, t_{off} measurement circuit



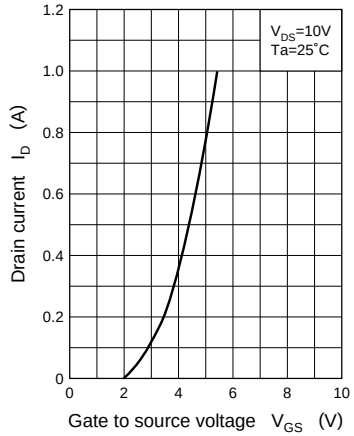
P_D — Ta



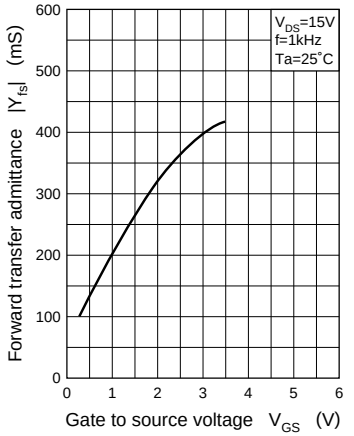
I_D — V_{DS}



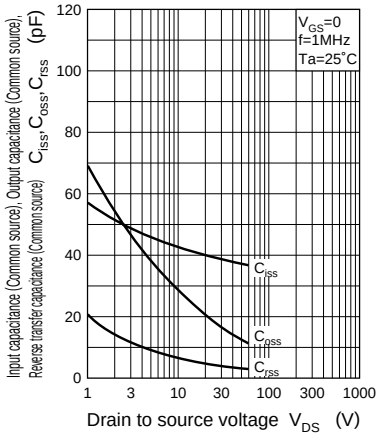
I_D — V_{GS}



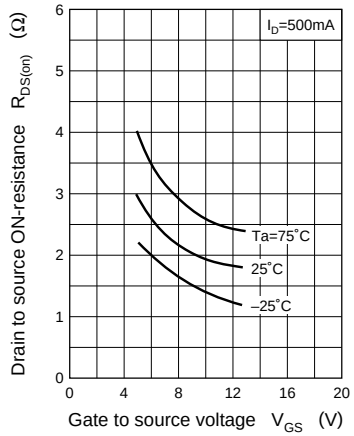
$|Y_{fs}|$ — V_{GS}



C_{iss}, C_{oss}, C_{rss} — V_{DS}



$R_{DS(on)}$ — V_{GS}



$R_{DS(on)}$ — Ta