

# 2SK601

## Silicon N-Channel MOS

For switching

### ■ Features

- Low ON-resistance  $R_{DS(on)}$
- High-speed switching
- Direct drive possible with CMOS, TTL
- Downsizing of sets by mini-power type package and automatic insertion by magazine packing are available.

### ■ Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Rating	Unit
Drain-Source voltage	$V_{DS}$	80	V
Gate-Source voltage	$V_{GS}$	20	V
Drain current	$I_D$	$\pm 0.5$	A
Max drain current	$I_{DP}$	$\pm 1$	A
Allowable power dissipation	$P_D^*$	1	W
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

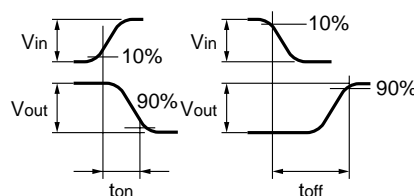
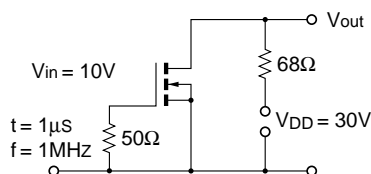
\* PC board : Copper foil area of drain portion should be  $1\text{cm}^2$  or more, thickness 1.7mm.

### ■ Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

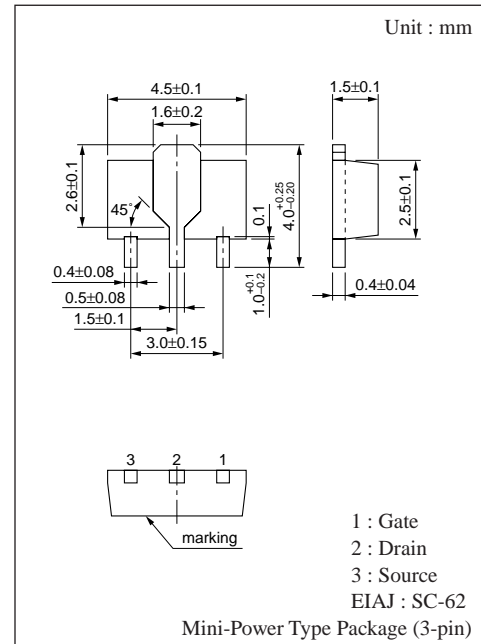
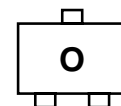
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	$I_{DSS}$	$V_{DS}=60\text{V}, V_{GS}=0$			10	$\mu\text{A}$
Gate-Source leakage current	$I_{GSS}$	$V_{GS}=20\text{V}, V_{DS}=0$			0.1	$\mu\text{A}$
Drain-Source breakdown voltage	$V_{DSS}$	$I_D=100\mu\text{A}, V_{GS}=0$	80			V
Gate threshold voltage	$V_{th}$	$I_D=1\text{mA}, V_{DS}=V_{GS}$	1.5		3.5	V
Drain-Source ON-resistance	$R_{DS(on)}^{*1}$	$I_D=0.5\text{A}, V_{GS}=10\text{V}$		2	4	$\Omega$
Forward transadmittance	$ Y_{fs} $	$I_D=0.2\text{A}, V_{DS}=15\text{V}, f=1\text{kHz}$		300		mS
Input capacitance	$C_{iss}$	$V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$		45		pF
Output capacitance	$C_{oss}$			30		pF
Feedback capacitance	$C_{rss}$			8		pF
Turn-on time	$t_{on}^{*2}$			15		ns
Turn-off time	$t_{off}^{*2}$			20		ns

\*1 Pulse measurement

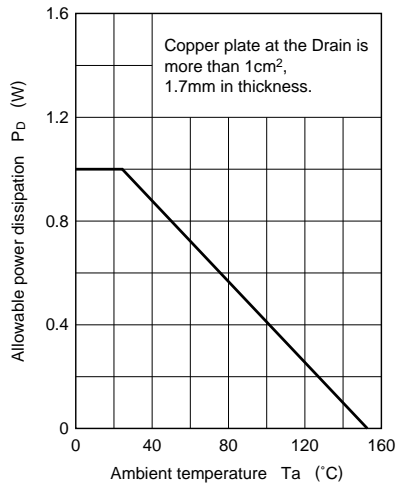
\*2  $t_{on}, t_{off}$  measurement circuit



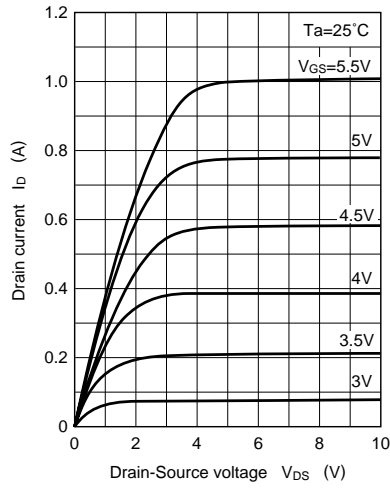
### ■ Marking



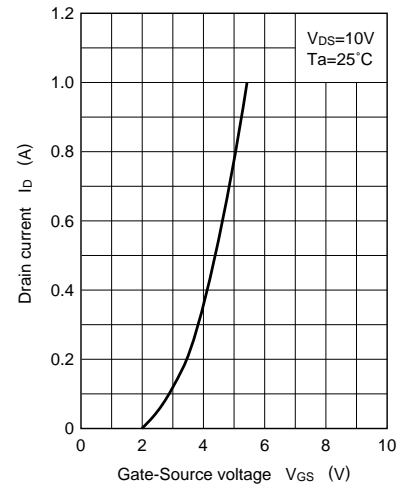
$P_D - T_a$



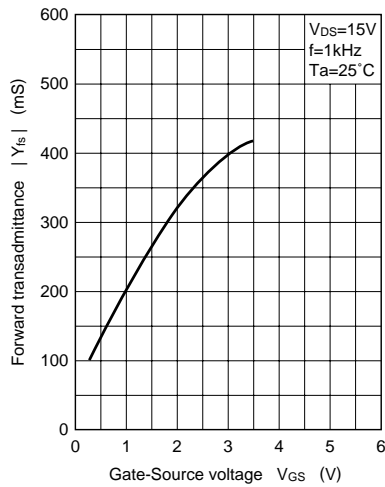
$I_D - V_{DS}$



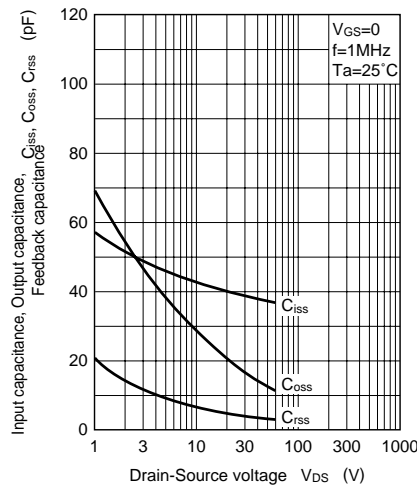
$I_D - V_{GS}$



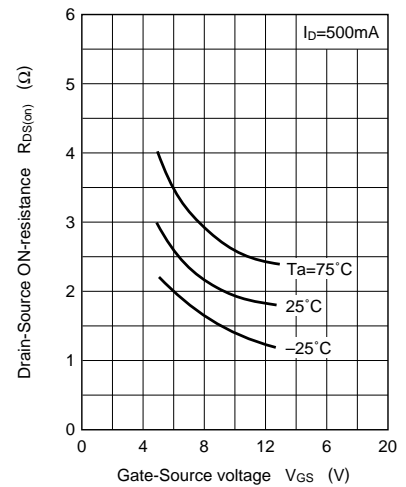
$|Y_{fs}| - V_{GS}$



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



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



$R_{DS(on)} - T_a$

