

2SK601

Silicon N-Channel MOS FET

For switching

■ 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 ($T_a = 25^\circ\text{C}$)

| 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 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to $+150$ | $^\circ\text{C}$ |

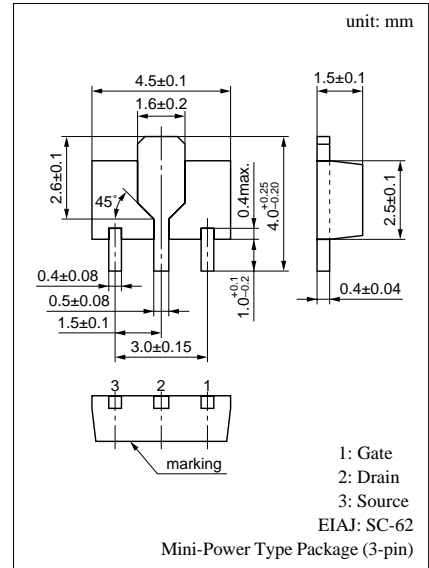
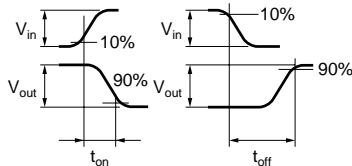
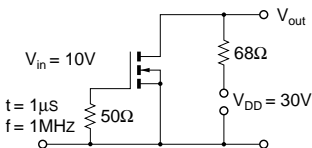
* PC board: Copper foil of the drain portion should have an area of 1cm^2 or more and the board thickness should be 1.7mm.

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

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|--|-------------------|---|-----|-----|-----|---------------|
| Drain to Source cut-off current | I_{DSS} | $V_{DS} = 60\text{V}, V_{GS} = 0$ | | | 10 | μA |
| Gate to Source leakage current | I_{GSS} | $V_{GS} = 20\text{V}, V_{DS} = 0$ | | | 0.1 | μA |
| Drain to 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 to Source ON-resistance | $R_{DS(on)}^{*1}$ | $I_D = 0.5\text{A}, V_{GS} = 10\text{V}$ | | 2 | 4 | Ω |
| Forward transfer admittance | $ Y_{fs} $ | $I_D = 0.2\text{A}, V_{DS} = 15\text{V}, f = 1\text{kHz}$ | | 300 | | mS |
| Input capacitance (Common Source) | C_{iss} | $V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{MHz}$ | | 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 |

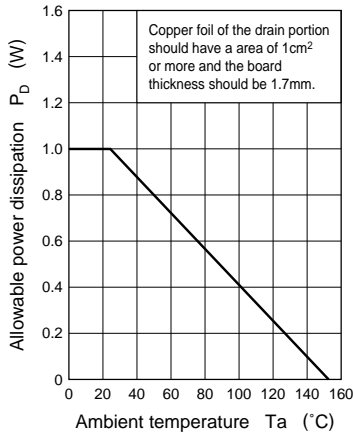
*1 Pulse measurement

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

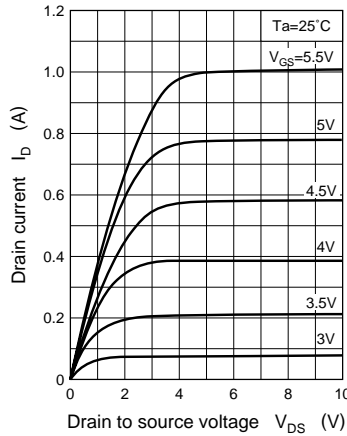


Marking Symbol: O

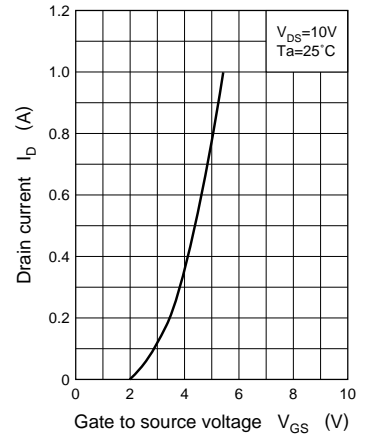
$P_D - T_a$



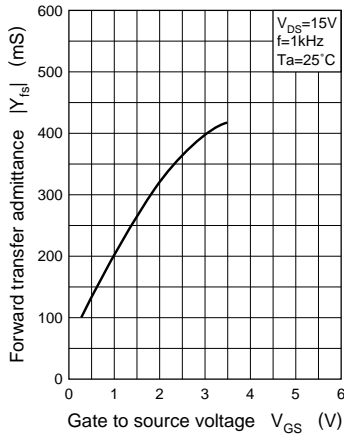
$I_D - V_{DS}$



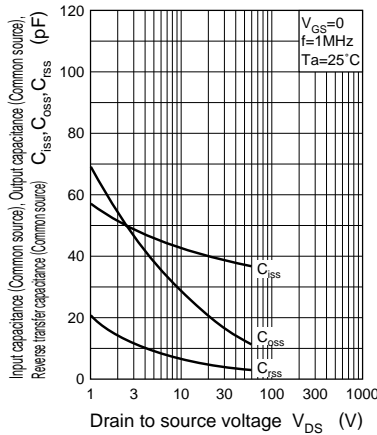
$I_D - V_{GS}$



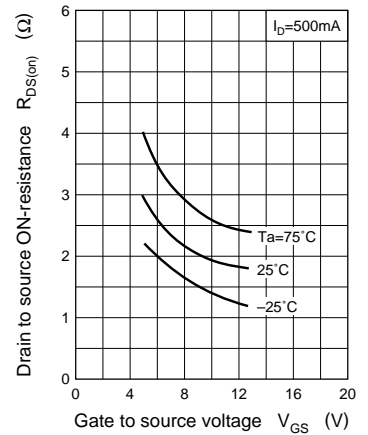
$|Y_{fs}| - V_{GS}$



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



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



$R_{DS(on)} - T_a$

