# **2SK0601** (2SK601)

# Silicon N-channel MOSFET

### For switching

### ■ Features

- Low on-resistance R<sub>DS(on)</sub>
- 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 $T_a = 25$ °C

| Parameter                     | Symbol           | Rating      | 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 * | $P_{\mathrm{D}}$ | 1           | W    |
| Channel temperature           | $T_{ch}$         | 150         | °C   |
| Storage temperature           | $T_{stg}$        | -55 to +150 | °C   |

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

# Unit: mm 4.5±0.1 1.6±0.2 1.5±0.1 0.4±0.08 1.5±0.1 1

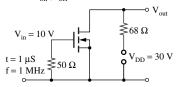
Marking Symbol: O

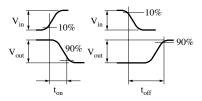
### ■ Electrical Characteristics $T_a = 25$ °C

| Parameter                                    | Symbol              | Conditions  | Min | Тур | Max | Unit |
|--|---------------------|---|-----|-----|-----|------|
| Drain to source cut-off current              | $I_{DSS}$           | $V_{DS} = 60 \text{ V}, V_{GS} = 0$                             |     |     | 10  | μΑ   |
| Gate to source leakage current               | $I_{GSS}$           | $V_{GS} = 20 \text{ V}, V_{DS} = 0$                             |     |     | 0.1 | μΑ   |
| Drain to source breakdown voltage            | V <sub>DSS</sub>    | $I_{DS} = 100 \ \mu A, \ V_{GS} = 0$                            | 80  |     |     | V    |
| Gate threshold voltage                       | V <sub>th</sub>     | $I_D = 1 \text{ mA}, V_{DS} = V_{GS}$                           | 1.5 |     | 3.5 | V    |
| Drain to source on-resistance *1             | R <sub>DS(on)</sub> | $I_D = 0.5 \text{ A}, V_{GS} = 10 \text{ V}$                    |     | 2   | 4   | Ω    |
| Forward transfer admittance                  | Y <sub>fs</sub>     | $I_D = 0.2 \text{ A}, V_{DS} = 15 \text{ V}, f = 1 \text{ kHz}$ |     | 300 |     | mS   |
| Input capacitance (common source)            | C <sub>iss</sub>    | $V_{DS} = 10 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$          |     | 45  |     | pF   |
| Output capacitance (common source)           | C <sub>oss</sub>    |   |     | 30  |     | pF   |
| Reverse transfer capacitance (common source) | $C_{rss}$           |   |     | 8   |     | pF   |
| Turn-on time *2                              | t <sub>on</sub>     |   |     | 15  |     | ns   |
| Turn-off time *2                             | t <sub>off</sub>    |   |     | 20  |     | ns   |

Note) \*1: Pulse measurement

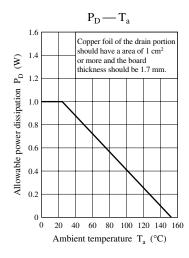
 $*2: t_{on}$ ,  $t_{off}$  measurement circuit

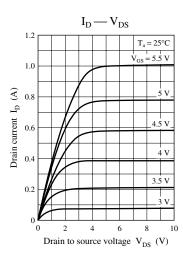


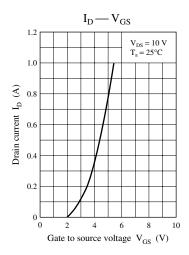


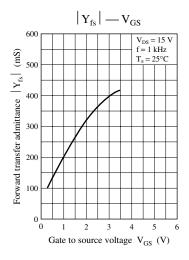
Note) The part number in the parenthesis shows conventional part number.

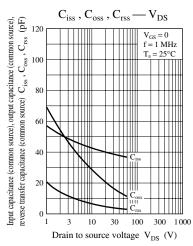
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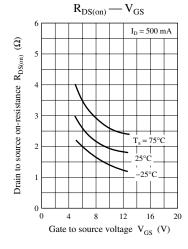


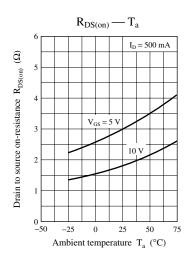












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