

# 2SK655

## Silicon N-Channel MOS FET

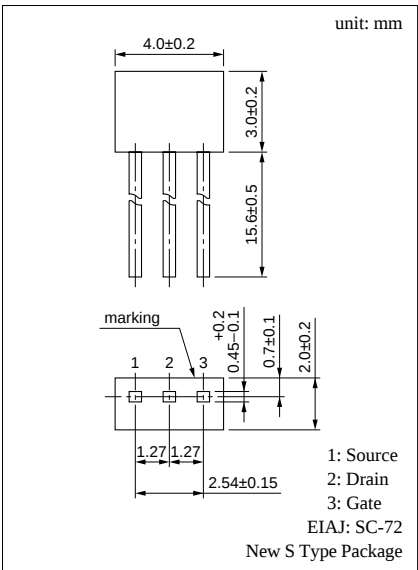
For switching

### ■ Features

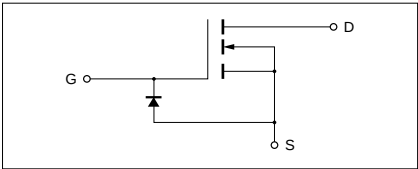
- High-speed switching
- Allowing to supply with the radial taping

### ■ Absolute Maximum Ratings (Ta = 25°C)

| Parameter                   | Symbol    | Ratings     | Unit |
|-----------------------------|-----------|-------------|------|
| Drain to Source voltage     | $V_{DS}$  | 50          | 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 | $P_D$     | 200         | mW   |
| Channel temperature         | $T_{ch}$  | 150         | °C   |
| Storage temperature         | $T_{stg}$ | -55 to +150 | °C   |



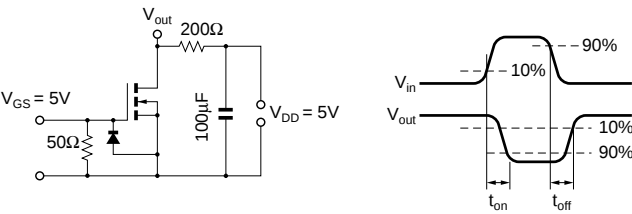
### Internal Connection

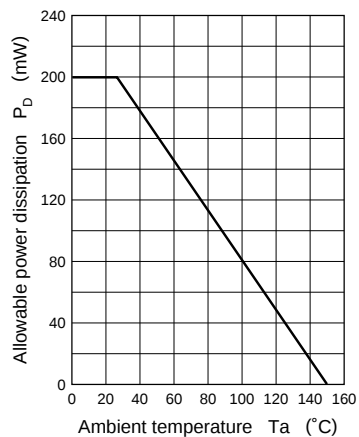
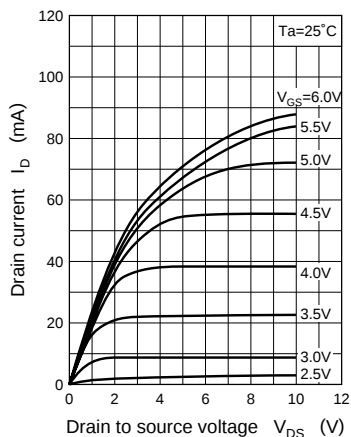
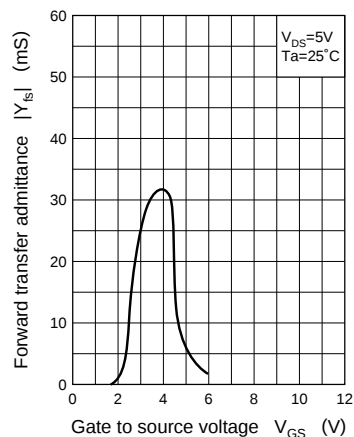
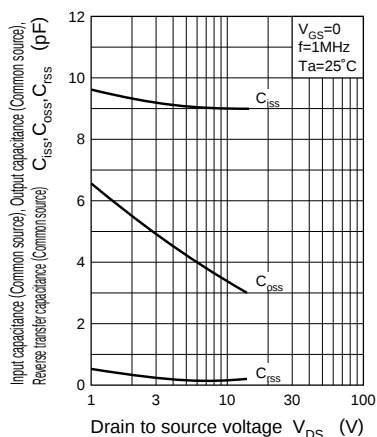
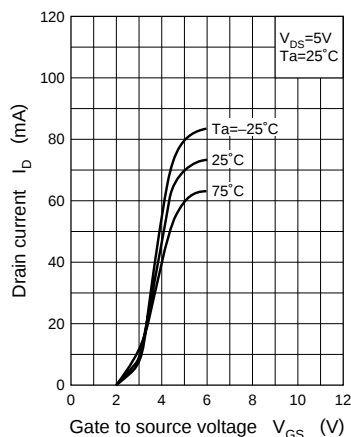
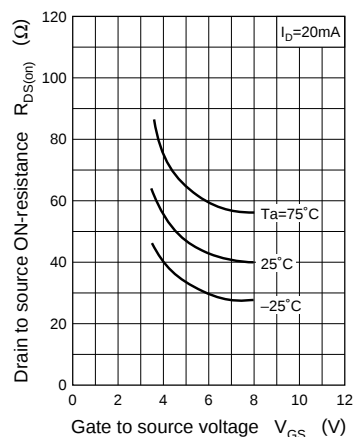


### ■ Electrical Characteristics (Ta = 25°C)

| Parameter                                    | Symbol       | Conditions                                                | min | typ | max | Unit     |
|----------------------------------------------|--------------|-----------------------------------------------------------|-----|-----|-----|----------|
| Drain to Source cut-off current              | $I_{DSS}$    | $V_{DS} = 10V, V_{GS} = 0$                                |     |     | 10  | $\mu A$  |
| Gate to Source leakage current               | $I_{GSS}$    | $V_{GS} = 8V, V_{DS} = 0$                                 |     |     | 50  | $\mu A$  |
| Drain to Source breakdown voltage            | $V_{DSS}$    | $I_D = 100\mu A, V_{GS} = 0$                              | 50  |     |     | V        |
| Gate threshold voltage                       | $V_{th}$     | $I_D = 100\mu A, V_{DS} = V_{GS}$                         | 1.5 |     | 3.5 | V        |
| Drain to Source ON-resistance                | $R_{DS(on)}$ | $I_D = 20mA, V_{GS} = 5V$                                 |     |     | 50  | $\Omega$ |
| Forward transfer admittance                  | $ Y_{fs} $   | $I_D = 20mA, V_{DS} = 5V, f = 1kHz$                       | 20  | 35  |     | mS       |
| Input capacitance (Common Source)            | $C_{iss}$    | $V_{DS} = 5V, V_{GS} = 0, f = 1MHz$                       |     | 10  | 15  | pF       |
| Output capacitance (Common Source)           | $C_{oss}$    |                                                           |     | 4   | 5   | pF       |
| Reverse transfer capacitance (Common Source) | $C_{rss}$    |                                                           |     | 0.5 | 1   | pF       |
| Turn-on time                                 | $t_{on}^*$   | $V_{DD} = 5V, V_{GS} = 0 \text{ to } 5V, R_L = 200\Omega$ |     | 10  |     | ns       |
| Turn-off time                                | $t_{off}^*$  | $V_{DD} = 5V, V_{GS} = 5 \text{ to } 0V, R_L = 200\Omega$ |     | 20  |     | ns       |

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



$P_D - T_a$  $I_D - V_{DS}$  $|Y_{fs}| - V_{GS}$  $C_{iss}, C_{oss}, C_{rss} - V_{DS}$  $I_D - V_{GS}$  $R_{DS(on)} - V_{GS}$  $V_{IN} - I_O$ 