

2SK0655 (2SK655)

Silicon N-Channel MOS FET

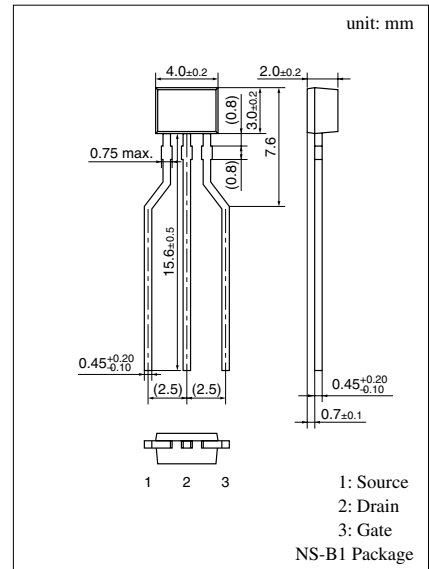
For switching

■ Features

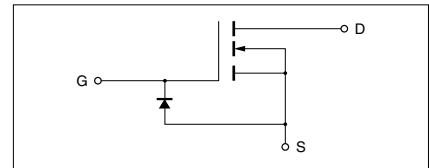
- High-speed switching
- Allowing to supply with the radial taping

■ 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 |



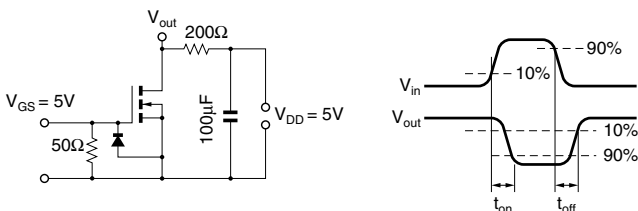
Internal Connection



■ Electrical Characteristics (Ta = 25°C)

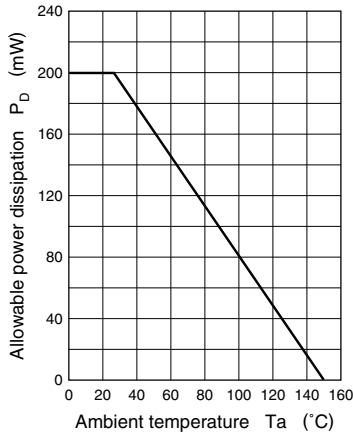
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|--|--------------|---|-----|-----|-----|----------|
| Drain to Source cut-off current | I_{DSS} | $V_{DS} = 10V, V_{GS} = 0$ | | | 10 | μA |
| Gate to Source leakage current | I_{GSS} | $V_{GS} = 8V, V_{DS} = 0$ | | | 50 | μA |
| Drain to 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 | Ω |
| 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

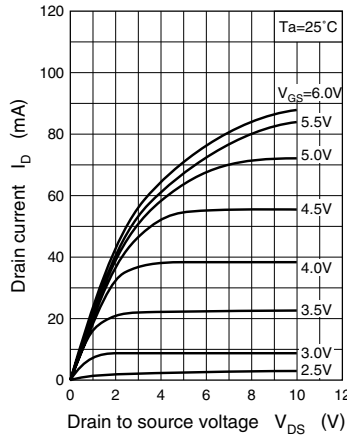


Note) The part number in the parenthesis shows conventional part number.

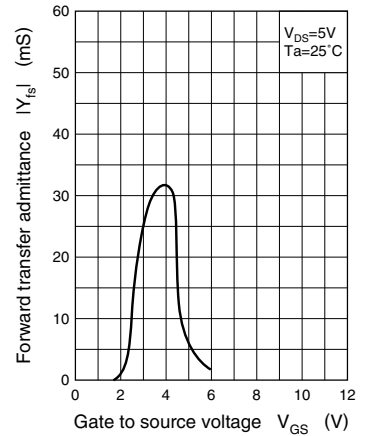
$P_D - T_a$



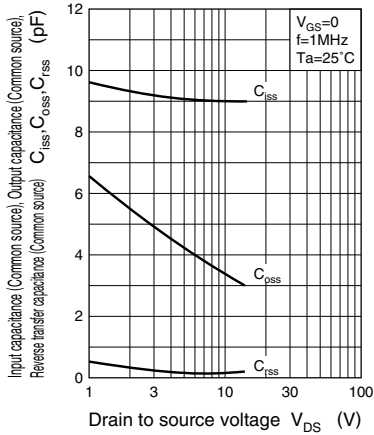
$I_D - V_{DS}$



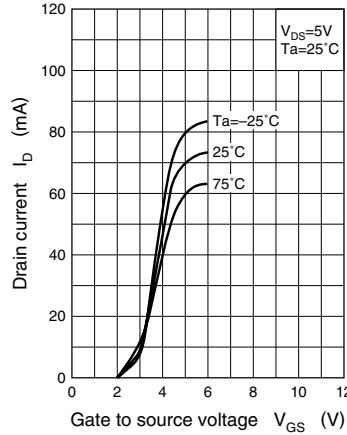
$|Y_{fs}| - V_{GS}$



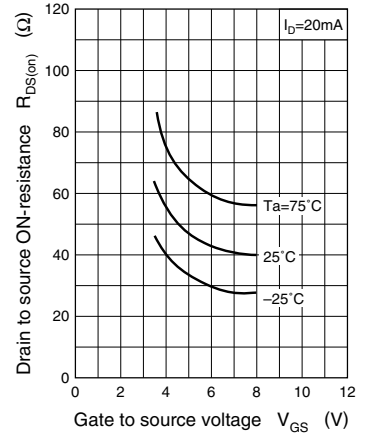
$C_{iss}, C_{oss}, C_{rss} - V_{DS}$



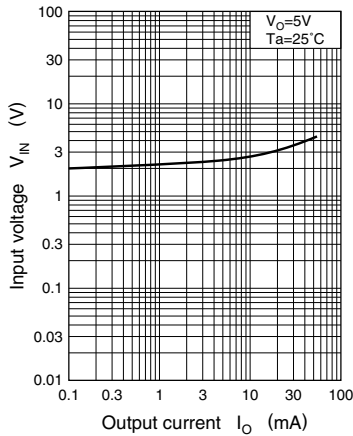
$I_D - V_{GS}$



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



$V_{IN} - I_O$



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