

2SK1228

Silicon N-channel MOSFET

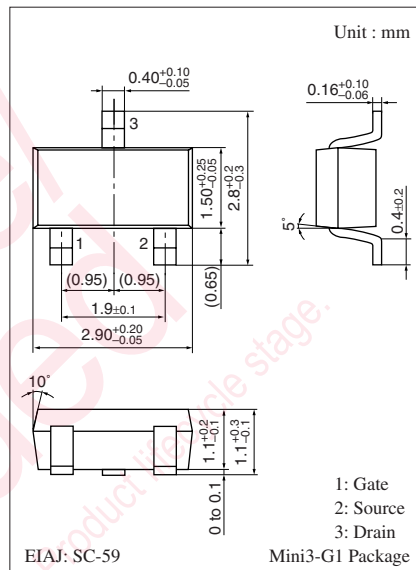
For switching circuits

■ Features

- High-speed switching
- Wide frequency band
- Incorporating a built-in gate protection-diode
- Allowing 2.5 V drive

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

| Parameter | Symbol | Rating | Unit |
|----------------------------------|-----------|-------------|------------------|
| Drain-source voltage | V_{DS} | 50 | V |
| Gate-source voltage (Drain open) | V_{GSO} | 10 | V |
| Drain current | I_D | 50 | mA |
| Peak drain current | I_{DP} | 100 | mA |
| Power dissipation | P_D | 150 | mW |
| Channel temperature | T_{ch} | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |



Marking Symbol: 4V

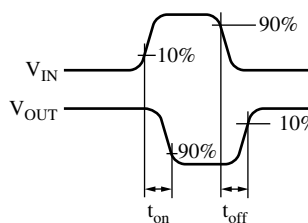
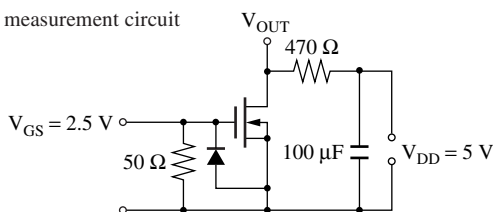
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

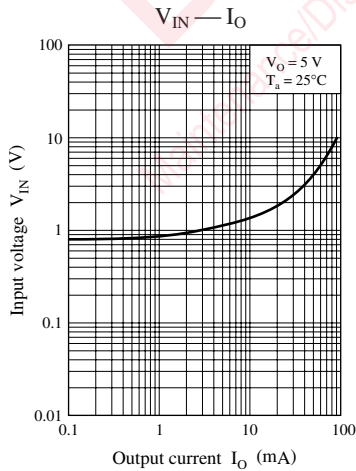
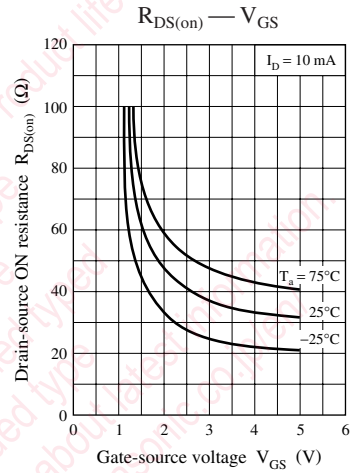
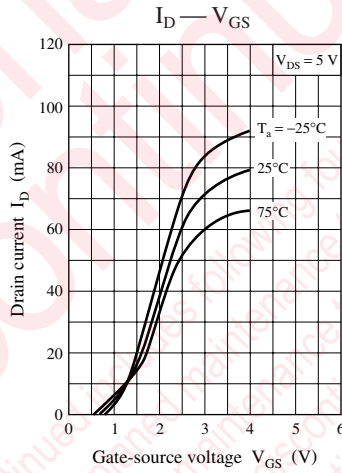
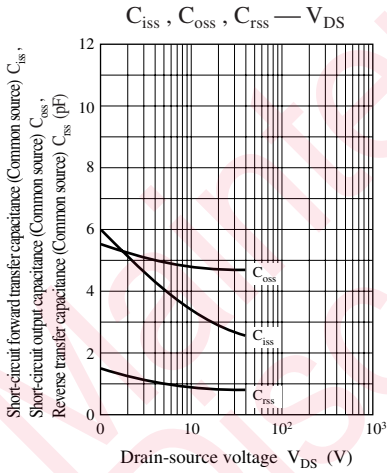
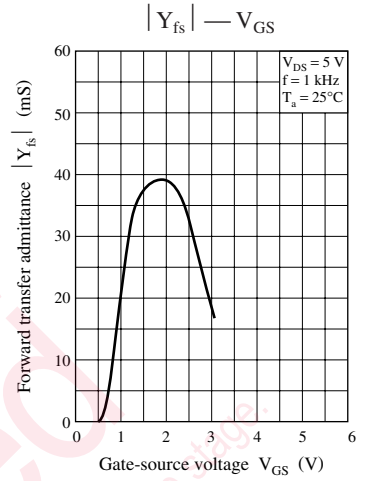
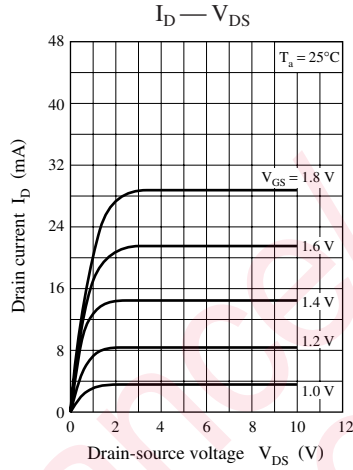
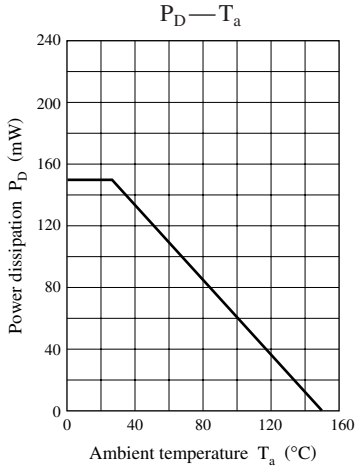
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|--|--------------|---|-----|-----|-----|---------------|
| Drain-source surrender voltage | V_{DSS} | $I_D = 10 \mu\text{A}, V_{GS} = 0$ | 50 | 100 | | V |
| Drain-source cutoff current | I_{DSS} | $V_{DS} = 20 \text{V}, V_{GS} = 0$ | | | 1.0 | μA |
| Gate-source cutoff current | I_{GSS} | $V_{GS} = 10 \text{V}, V_{DS} = 0$ | | | 1.0 | μA |
| Gate threshold voltage | V_{th} | $I_D = 100 \mu\text{A}, V_{DS} = 5 \text{V}$ | 0.5 | 0.8 | 1.1 | V |
| Forward transfer admittance | $ Y_{fs} $ | $I_D = 10 \text{mA}, V_{DS} = 5 \text{V}, f = 1 \text{kHz}$ | 20 | 39 | | mS |
| Drain-source ON resistance | $R_{DS(on)}$ | $I_D = 10 \text{mA}, V_{GS} = 2.5 \text{V}$ | | 27 | 50 | Ω |
| Short-circuit forward transfer capacitance (Common source) | C_{iss} | $V_{DS} = 5 \text{V}, V_{GS} = 0, f = 1 \text{MHz}$ | | 4.5 | | pF |
| Short-circuit output capacitance (Common source) | C_{oss} | | | 4.1 | | pF |
| Reverse transfer capacitance (Common source) | C_{rss} | | | 1.2 | | pF |
| Turn-on time *1, 2 | t_{on} | $V_{DD} = 5 \text{V}, V_{GS} = 0 \text{V to } 2.5 \text{V}, R_L = 470 \Omega$ | | 0.2 | | μs |
| Turn-off time *1, 2 | t_{off} | $V_{DD} = 5 \text{V}, V_{GS} = 2.5 \text{V to } 0 \text{V}, R_L = 470 \Omega$ | | 0.2 | | μs |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *1: Pulse measurement

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





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standard applications or general electronic equipment (such as office
and household appliances).

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