

XP04878

Silicon N-channel MOSFET

For switching

■ Features

- Incorporating a built-in gate protection-diode
- Allowing 2.5 V drive
- S-Mini type 6-pin package, reduction of the mounting area and assembly cost by one half

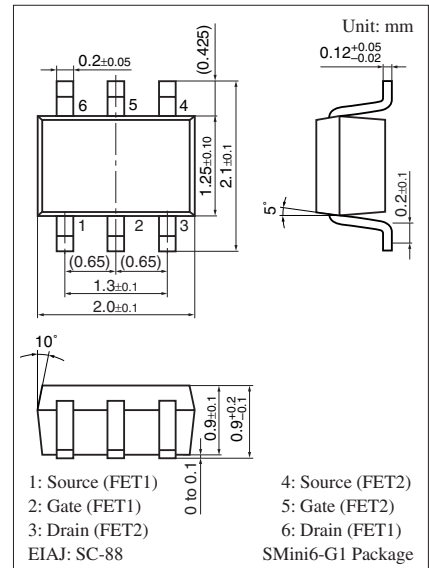
■ Basic Part Number of Element

- 2SK3539 × 2 elements

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

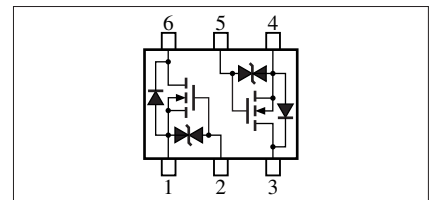
| Parameter | | Symbol | Rating | Unit |
|-------------------|-------------------------------|-----------|-------------|------------------|
| Rating of element | Drain to source voltage | V_{DSS} | 50 | V |
| | Gate to source voltage | V_{GSO} | ± 7 | V |
| | Drain current | I_D | 100 | mA |
| | Max drain current | I_{DP} | 200 | mA |
| Overall | Allowable power dissipation * | P_D | 150 | mW |
| | Channel temperature | T_{ch} | 150 | $^\circ\text{C}$ |
| | Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

Note) *: Total power dissipation



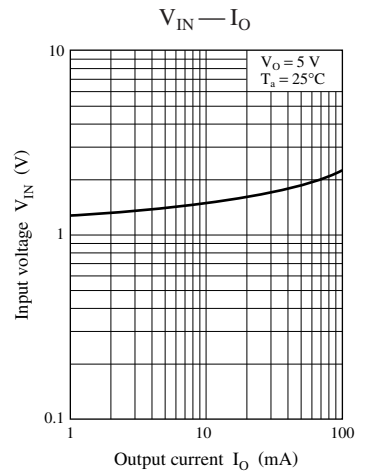
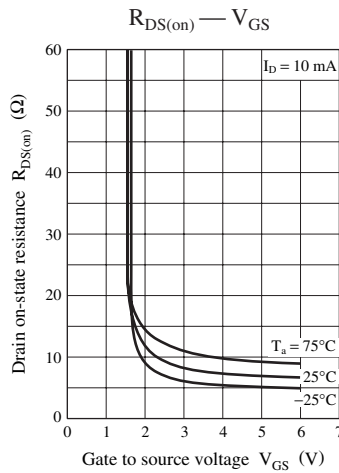
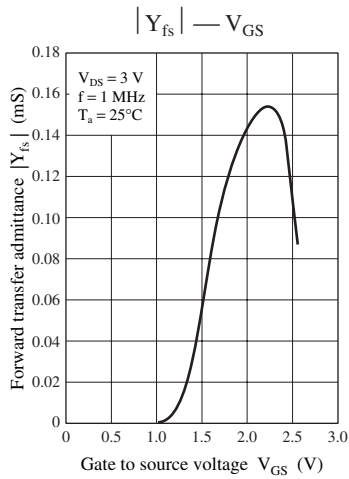
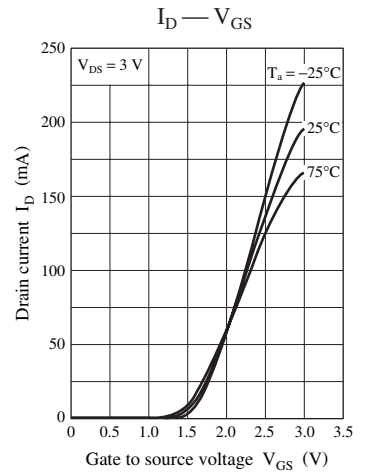
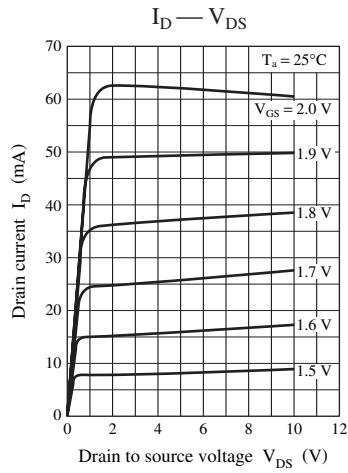
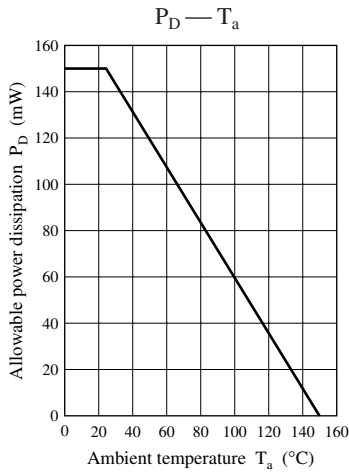
Marking Symbol: 7Y

Internal Connection



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

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|------------------------------|--------------|--|-----|-----|---------|---------------|
| Drain to source voltage | V_{DSS} | $I_D = 10 \mu\text{A}, V_{GS} = 0$ | 50 | | | V |
| Drain cut-off current | I_{DSS} | $V_{DS} = 50 \text{ V}, V_{GS} = 0$ | | | 1.0 | μA |
| Gate cut-off current | I_{GSS} | $V_{GS} = \pm 7 \text{ V}, V_{DS} = 0$ | | | ± 5 | μA |
| Gate threshold voltage | V_{th} | $I_D = 1 \mu\text{A}, V_{DS} = 3 \text{ V}$ | 0.9 | 1.2 | 1.5 | V |
| Drain on-state resistance | $R_{DS(on)}$ | $I_D = 10 \text{ mA}, V_{GS} = 2.5 \text{ V}$ | | 8 | 15 | Ω |
| | | $I_D = 10 \text{ mA}, V_{GS} = 4.0 \text{ V}$ | | 6 | 12 | |
| Forward transfer admittance | $ Y_{fs} $ | $I_D = 10 \text{ mA}, V_{GS} = 4.0 \text{ V}$ | 20 | 60 | | mS |
| Input capacitance | C_{iss} | $V_{DS} = 3 \text{ V}, V_{GS} = 0 \text{ V}, f = 1 \text{ MHz}$ | | 12 | | pF |
| Output capacitance | C_{oss} | | | 7 | | pF |
| Reverse transfer capacitance | C_{rss} | | | 3 | | pF |
| Turn-on time | t_{on} | $V_{DD} = 3 \text{ V}, V_{GS} = 0 \text{ V to } 3 \text{ V}, R_L = 470 \Omega$ | | 200 | | ns |
| Turn-off time | t_{off} | $V_{DD} = 3 \text{ V}, V_{GS} = 3 \text{ V to } 0 \text{ V}, R_L = 470 \Omega$ | | 200 | | ns |



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