# 2SK3973

## Silicon N-channel MOS FET

For switching circuits

### ■ Features

- Low ON resistance $R_{on}$
- High-speed switching
- Allowing 1.8 V drive
- SSSMini type package, allowing downsizing of the equipment and automatic insertion through the tape packing

### ■ Package

- Code
  SSSMini3-F1
- Pin Name
  1: Gate
  2: Source
  3: Drain

### ■ Marking Symbol: 5V

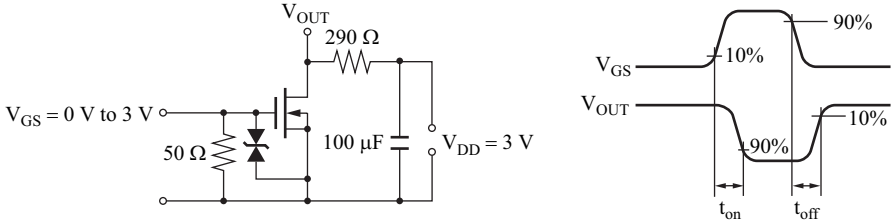
### ■ Absolute Maximum Ratings $T_a = 25°C$

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Drain-source surrender voltage | $V_{DSS}$ | 20 | V |
| Gate-source surrender voltage | $V_{GSS}$ | ±12 | V |
| Drain current | $I_D$ | 100 | mA |
| Peak drain current | $I_{DP}$ | 200 | mA |
| Power dissipation | $P_D$ | 100 | mW |
| Channel temperature | $T_{ch}$ | 125 | °C |
| Storage temperature | $T_{stg}$ | –55 to +125 | °C |

### ■ Electrical Characteristics $T_a = 25°C \pm 3°C$

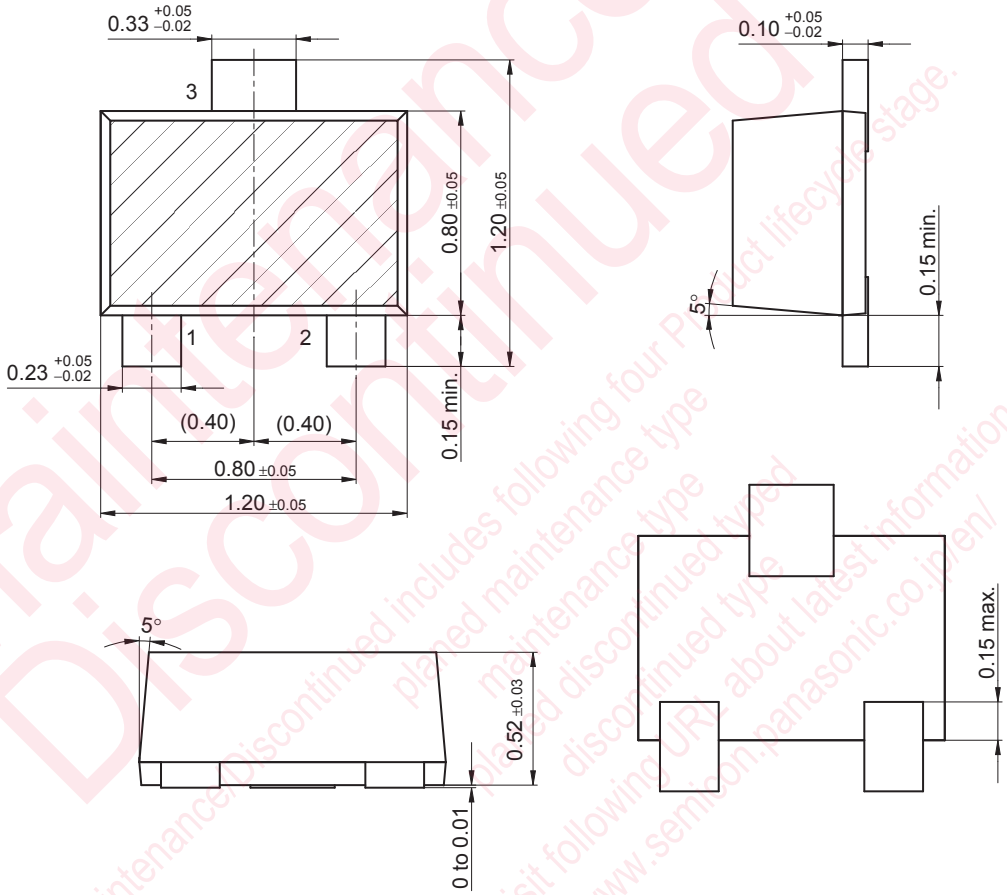
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Drain-source surrender voltage | $V_{DSS}$ | $I_D$ = 10 µA, $V_{GS}$ = 0 | 20 | | | V |
| Drain-source cutoff current | $I_{DSS}$ | $V_{DS}$ = 10 V, $V_{GS}$ = 0 | | | 1.0 | µA |
| Gate-source cutoff current | $I_{GSS}$ | $V_{GS}$ = ±10 V, $V_{DS}$ = 0 | | | ±10 | µA |
| Gate threshold voltage | $V_{TH}$ | $I_D$ = 50 µA, $V_{DS}$ = 5.0 V | 0.4 | 0.8 | 1.2 | V |
| Drain-source ON resistance | $R_{DS(on)}$ | $I_D$ = 1 mA, $V_{GS}$ = 1.8 V | | 6 | 13 | Ω |
| | | $I_D$ = 10 mA, $V_{GS}$ = 2.5 V | | 4 | 6 | |
| | | $I_D$ = 10 mA, $V_{GS}$ = 4.0 V | | 3 | 4 | |
| Forward transfer admittance | $\|Y_{fs}\|$ | $I_D$ = 10 mA, $V_{DS}$ = 3 V | 20 | 55 | | mS |
| Short-circuit input capacitance (Common source) | $C_{iss}$ | $V_{DS}$ = 3 V, $V_{GS}$ = 0, f = 1 MHz | | 10 | | pF |
| Short-circuit output capacitance (Common source) | $C_{oss}$ | | | 13 | | pF |
| Reverse transfer capacitance (Common source) | $C_{rss}$ | | | 5 | | pF |
| Turn-on time * | $t_{on}$ | $V_{DD}$ = 3 V, $V_{GS}$ = 0 V to 3 V, $I_D$ = 10 mA | | 250 | | ns |
| Turn-off time * | $t_{off}$ | $V_{DD}$ = 3 V, $V_{GS}$ = 3 V to 0 V, $I_D$ = 10 mA | | 480 | | ns |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. * : $t_{on}$ , $t_{off}$ measurement circuit



# SSSMini3-F1

Unit: mm



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