# 2SK2593G

## Silicon N-channel junction FET

For low-frequency amplification
For switching circuits

### ■ Features

- Low noise figure NF
- High gate-drain voltage (source open) $V_{GDO}$
- SSMini type package, allowing downsizing of the equipment and automatic insertion through the tape packing.

### ■ Package

- Code
  SSMini3-F3
- Pin Name
  1: Source
  2: Drain
  3: Gate

### ■ Marking Symbol: 2B

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

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Drain-sourse voltage | $V_{DS}$ | 55 | V |
| Gate-drain voltage (Source open) | $V_{GDO}$ | −55 | V |
| Gate-source voltage (Drain open) | $V_{GSO}$ | −55 | V |
| Drain current | $I_D$ | 30 | mA |
| Gate current | $I_G$ | 10 | mA |
| Power dissipation | $P_D$ | 125 | mW |
| Channel temperature | $T_{ch}$ | 125 | °C |
| Storage temperature | $T_{stg}$ | −55 to +125 | °C |

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

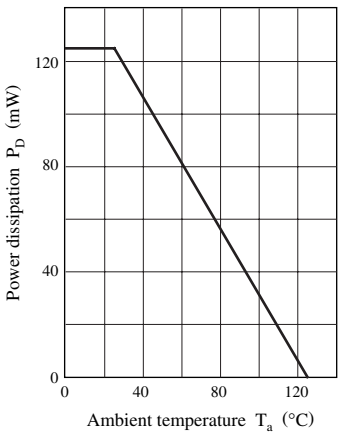
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Gate-drain surrender voltage | $V_{GDS}$ | $I_G = -100$ µA, $V_{DS} = 0$ | −55 | | | V |
| Drain-source current * | $I_{DSS}$ | $V_{DS} = 10$ V, $V_{GS} = 0$ | 1.0 | | 6.5 | mA |
| Gate-source cutoff current | $I_{GSS}$ | $V_{GS} = -30$ V, $V_{DS} = 0$ | | | −10 | nA |
| Gate-source cutoff voltage | $V_{GSC}$ | $V_{DS} = 10$ V, $I_D = 10$ µA | | | −5 | V |
| Forward transfer admittance | $\|Y_{fs}\|$ | $V_{DS} = 10$ V, $I_D = 5$ mA, f = 1 kHz | 2.5 | 7.5 | | mS |
| Short-circuit forward transfer capacitance (Common source) | $C_{iss}$ | $V_{DS} = 10$ V, $V_{GS} = 0$, f = 1 MHz | | 6.5 | | pF |
| Reverse transfer capacitance (Common source) | $C_{rss}$ | | | 1.9 | | pF |
| Noise figure | NF | $V_{DS} = 10$ V, $V_{GS} = 0$, f = 100 Hz<br>$R_g = 100$ kΩ | | 2.5 | | dB |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

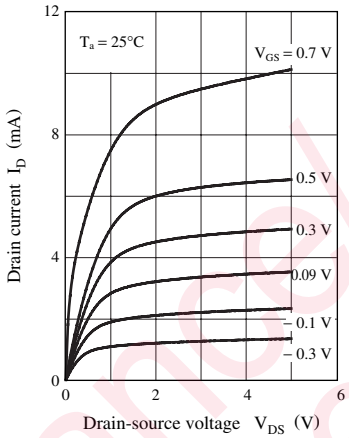
| Rank | P | Q |
|---|---|---|
| $I_{DSS}$ (mA) | 1.0 to 3.0 | 2.0 to 6.5 |

Maintenance/Discontinued
Discontinued maintenance type
Maintenance type
Discontinued typed
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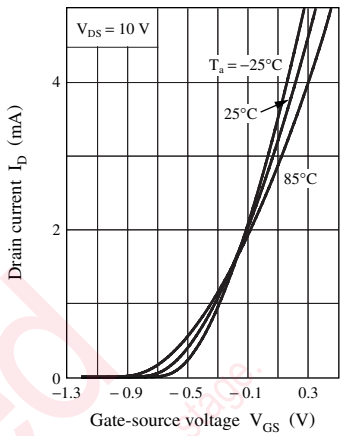
$P_D$ — $T_a$



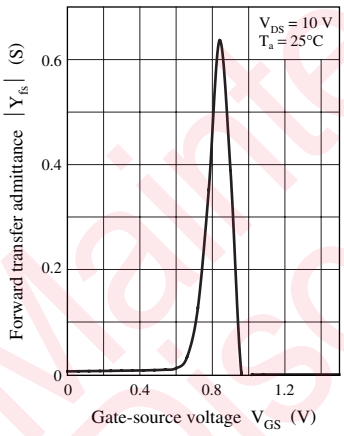

$I_D$ — $V_{DS}$



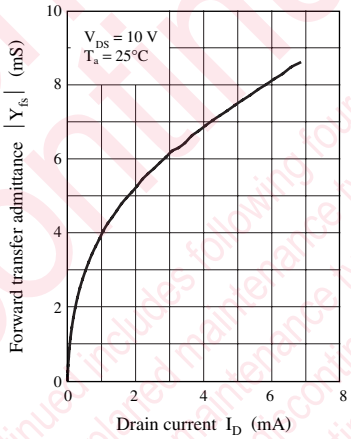

$I_D$ — $V_{GS}$




$|Y_{fs}|$ — $V_{GS}$



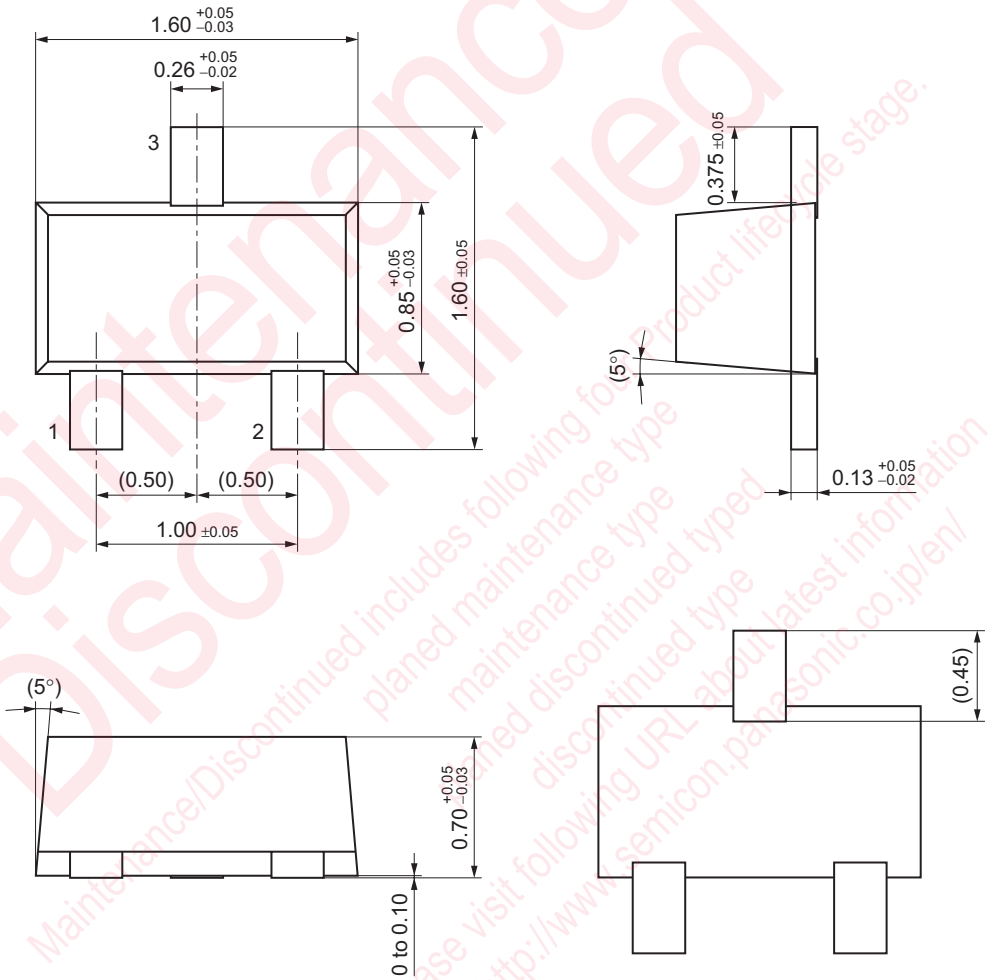

$|Y_{fs}|$ — $I_D$




Maintenance/Discontinued
Discontinued
Maintenance/Discontinued includes following four Product lifecycle stage.
planed maintenance type
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# SSMini3-F3

Unit: mm




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