

# 3SK285

## Silicon N-Channel MOS FET

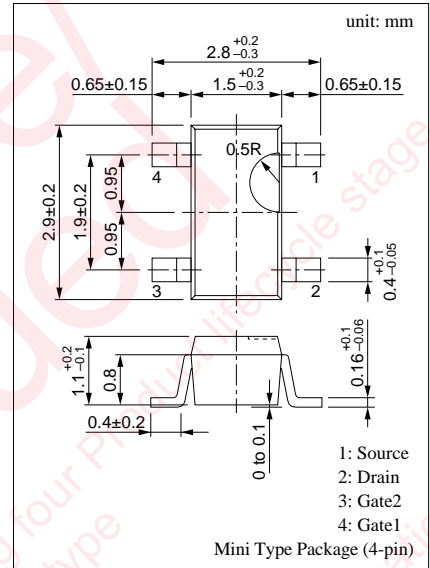
For UHF amplification

### ■ Features

- Low noise-figure (NF)
- Large power gain PG
- Mini-type package, allowing downsizing of the sets and automatic insertion through the tape/magazine packing.

### ■ Absolute Maximum Ratings (Ta = 25°C)

| Parameter                   | Symbol    | Ratings     | Unit |
|-----------------------------|-----------|-------------|------|
| Drain to Source voltage     | $V_{DS}$  | 13          | V    |
| Gate 1 to Source voltage    | $V_{G1S}$ | $\pm 8$     | V    |
| Gate 2 to Source voltage    | $V_{G2S}$ | $\pm 8$     | V    |
| Drain current               | $I_D$     | $\pm 30$    | mA   |
| Allowable power dissipation | $P_D$     | 150         | mW   |
| Channel temperature         | $T_{ch}$  | 150         | °C   |
| Storage temperature         | $T_{stg}$ | -55 to +150 | °C   |



Marking Symbol: HV

### ■ Electrical Characteristics (Ta = 25°C)

| Parameter                                    | Symbol     | Conditions  | min  | typ  | max      | Unit |
|--|------------|---|------|------|----------|------|
| Drain current                                | $I_{DS}$   | $V_{DS} = 10V, V_{G1S} = 1V, V_{G2S} = 4V$            | 10   | 18   | 25       | mA   |
| Gate 1 cut-off current                       | $I_{G1SS}$ | $V_{DS} = V_{G2S} = 0, V_{G1S} = \pm 8V$              |      |      | $\pm 20$ | nA   |
| Gate 2 cut-off current                       | $I_{G2SS}$ | $V_{DS} = V_{G1S} = 0, V_{G2S} = \pm 8V$              |      |      | $\pm 20$ | nA   |
| Gate 1 to Source cut-off voltage             | $V_{G1SC}$ | $V_{DS} = 10V, V_{G2S} = 4V, I_D = 0.1mA$             | -1   |      | 1        | V    |
| Gate 2 to Source cut-off voltage             | $V_{G2SC}$ | $V_{DS} = 10V, V_{G1S} = 4V, I_D = 0.1mA$             | 0    |      | 1        | V    |
| Drain to Source voltage                      | $V_{DSX}$  | $I_D = 50\mu A, V_{G1S} = -5V, V_{G2S} = 0$           | 15   |      |          | V    |
| Forward transfer admittance                  | $ Y_{fs} $ | $V_{DS} = 10V, I_D = 10mA, V_{G2S} = 4V, f = 1kHz$    | 24   | 29   | 34       | mS   |
| Input capacitance (Common Source)            | $C_{iss}$  | $V_{DS} = 10V, V_{G1S} = V_{G2S} = -5V$<br>$f = 1MHz$ | 1.4  | 1.7  | 2.2      | pF   |
| Output capacitance (Common Source)           | $C_{oss}$  |   | 0.9  | 1.2  |          | pF   |
| Reverse transfer capacitance (Common Source) | $C_{rss}$  |   | 0.02 |      |          | pF   |
| Power gain                                   | PG         | $V_{DS} = 8V, I_D = 8mA, V_{G2S} = 3V$                | 15.8 | 17.5 | 20       | dB   |
| Noise figure                                 | NF         | $f = 800MHz$  |      | 2.2  | 2.7      | dB   |

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