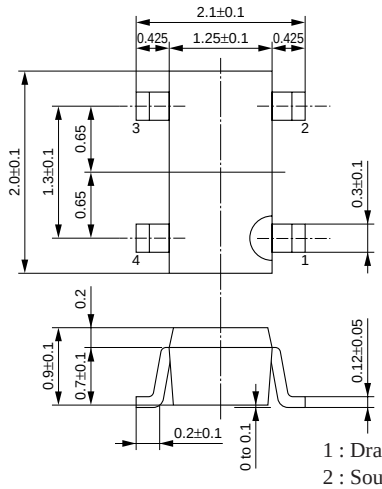
# 3SK271

## Silicon N-Channel 4-pin MOS

For VHF-UHF amplification

Unit : mm




S-Mini Type Package (4-pin)

### ■ Features

- Low noise-figure (NF)
- Large power gain PG
- Downsizing of sets by S-mini power package and automatic insertion by taping/magazine packing are available.

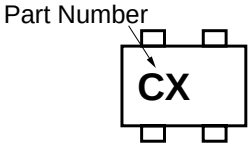
### ■ Absolute Maximum Ratings (Ta = 25˚C)

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Drain-Source voltage | $V_{DS}$ | 15 | V |
| Gate 1-Source voltage | $V_{G1S}$ | ±8 | V |
| Gate 2-Source voltage | $V_{G2S}$ | ±8 | V |
| Drain current | $I_D$ | ±30 | mA |
| Allowable power dissipation | $P_D$ | 150 | mW |
| Channel temperature | $T_{ch}$ | 150 | ˚C |
| Storage temperature | $T_{stg}$ | – 55 to +150 | ˚C |

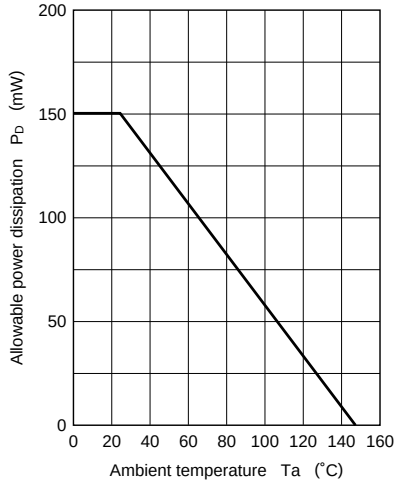
### ■ Electrical Characteristics (Ta = 25˚C)

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Drain current | $I_{DSS}$ | $V_{DS}$=10V, $V_{G1S}$= 1, $V_{G2S}$= 5V | 6 | | 25 | mA |
| Gate 1 cut-off current | $I_{G1SS}$ | $V_{DS}$=$V_{G2S}$= 0, $V_{G1S}$= ±8V | | | ±20 | nA |
| Gate 2 cut-off current | $I_{G2SS}$ | $V_{DS}$=$V_{G1S}$= 0, $V_{G2S}$= ±8V | | | ±20 | nA |
| Drain-Source voltage | $V_{DSX}$ | $I_D$= 50µA, $V_{G1S}$= –5V, $V_{G2S}$= 0 | 15 | | | V |
| Gate 1-Source cut-off voltage | $V_{G1SC}$ | $V_{DS}$=10V, $V_{G2S}$= 5V, $I_D$=100µA | –1.5 | | 1 | V |
| Gate 2-Source cut-off voltage | $V_{G2SC}$ | $V_{DS}$=10V, $V_{G1S}$= 5V, $I_D$=100µA | 0 | | 1 | V |
| Forward transadmittance | $\|Y_{fs}\|$ | $V_{DS}$=10V, $I_D$=10mA, $V_{G2S}$= 5V, f=1kHz | 21 | 26 | 31 | mS |
| Input capacitance | $C_{iss}$ | $V_{DS}$=10V, $V_{G1S}$=$V_{G2S}$= –5V, f=1MHz | 2.1 | 2.8 | 3.6 | pF |
| Output capacitance | $C_{oss}$ | | | 1.1 | 1.6 | pF |
| Feedback capacitance | $C_{rss}$ | | | 0.02 | | pF |
| Power gain | PG | $V_{DS}$= 6V, $I_D$= 8mA, $V_{G2S}$= 4V, f=790 to 810MHz(Sweep) | 15 | 20.5 | | dB |
| Noise figure | NF | | | 2.5 | 4.6 | dB |

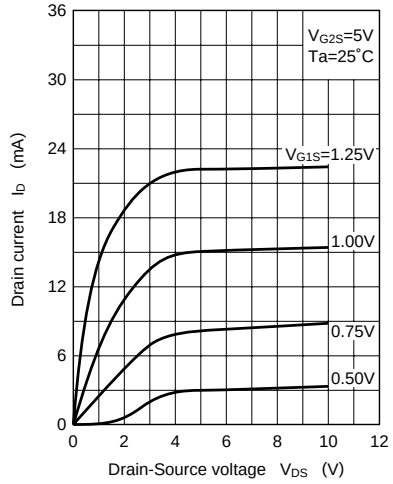
### ■ Marking



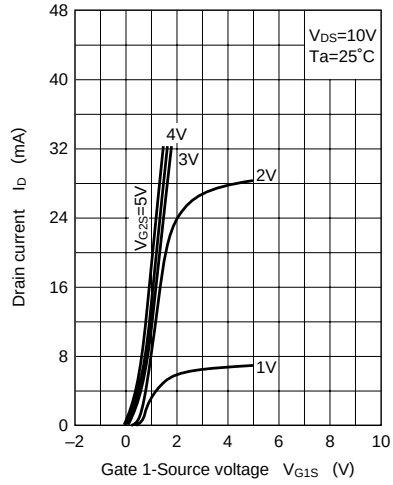
$P_D - Ta$



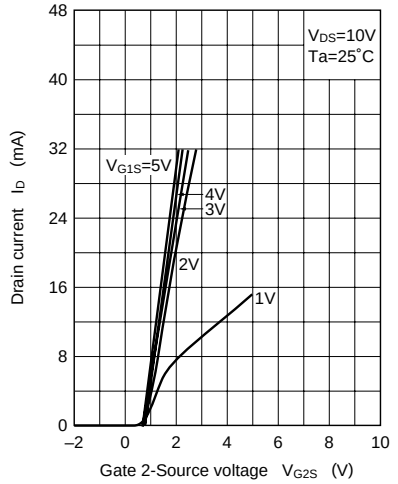

$I_D - V_{DS}$



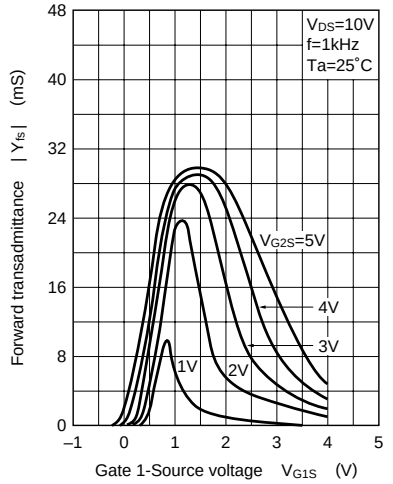

$I_D - V_{G1S}$



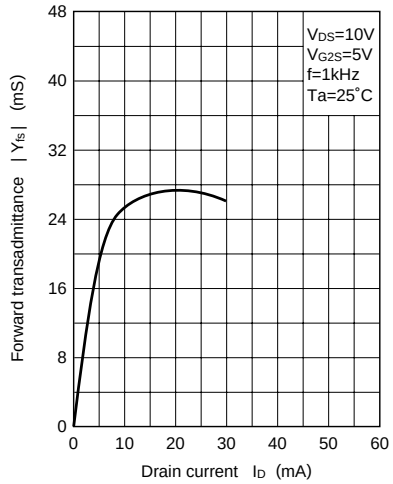

$I_D - V_{G2S}$



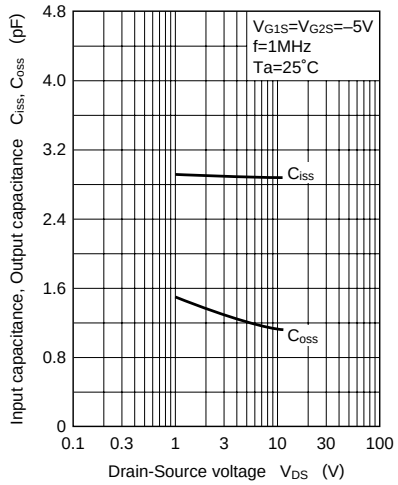

$|Y_{fs}| - V_{G1S}$




$|Y_{fs}| - I_D$




$C_{iss}, C_{oss} - V_{DS}$




$I_D - V_{G1S}$