
2SK435

Silicon N-Channel Junction FET

HITACHI

Application

Low frequency / High frequency amplifier

Outline

TO-92 (2)



1. Drain
2. Source
3. Gate

Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|---------------------------|-----------|-------------|------|
| Drain to source voltage | V_{DS} | 22 | V |
| Gate to source voltage | V_{GSO} | -22 | V |
| Drain current | I_D | 100 | mA |
| Gate current | I_G | 10 | mA |
| Channel power dissipation | Pch | 300 | mW |
| Channel temperature | Tch | 150 | °C |
| Storage temperature | Tstg | -55 to +150 | °C |

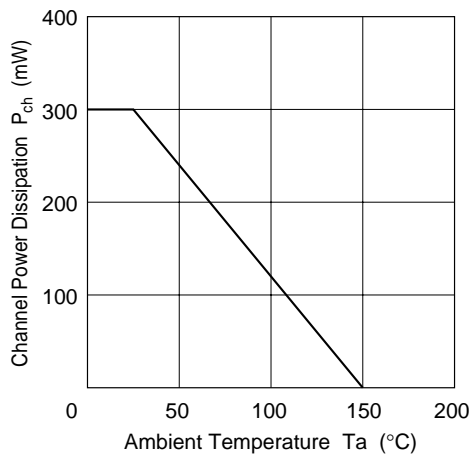
Electrical Characteristics (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|----------------------------------|----------------|-----|-----|------|------|--|
| Gate to source breakdown voltage | $V_{(BR)GSS}$ | -22 | — | — | V | $I_G = -10 \mu A, V_{DS} = 0$ |
| Gate cutoff current | I_{GSS} | — | — | -10 | nA | $V_{GS} = -15 V, V_{DS} = 0$ |
| Gate to source cutoff voltage | $V_{GS(off)}$ | — | — | -2.5 | V | $V_{DS} = 5 V, I_D = 10 \mu A$ |
| Drain current | I_{DSS}^{*1} | 6 | — | 40 | mA | $V_{DS} = 5 V, V_{GS} = 0, \text{Pulse test}$ |
| Forward transfer admittance | $ y_{fs} $ | 20 | — | — | mS | $V_{DS} = 5 V, I_D = 10 \text{ mA}, f = 1 \text{ kHz}$ |
| Input capacitance | Ciss | — | 9.0 | 11.0 | pF | $V_{DS} = 5 V, V_{GS} = 0, f = 1 \text{ MHz}$ |
| Reverse transfer capacitance | Crss | — | 2.8 | 4.0 | pF | $V_{DS} = 5 V, V_{GS} = 0, f = 1 \text{ MHz}$ |
| Noise figure | NF | — | 0.5 | 3.0 | dB | $V_{DS} = 5 V, I_D = 1 \text{ mA}, f = 1 \text{ kHz}, R_G = 1 \text{ k}\Omega$ |

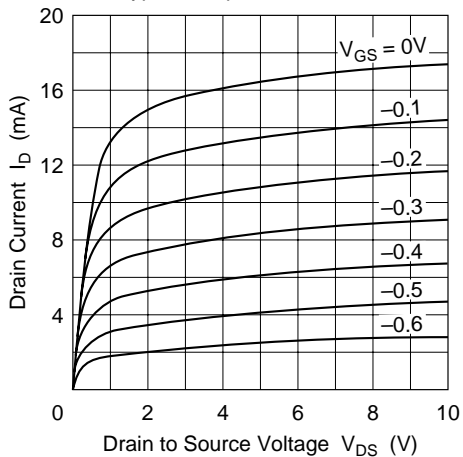
Note: 1. The 2SK435 is grouped by I_{DSS} as follows.

| Grade | B | C | D | E |
|-----------|---------|----------|----------|----------|
| I_{DSS} | 6 to 14 | 12 to 22 | 18 to 30 | 26 to 40 |

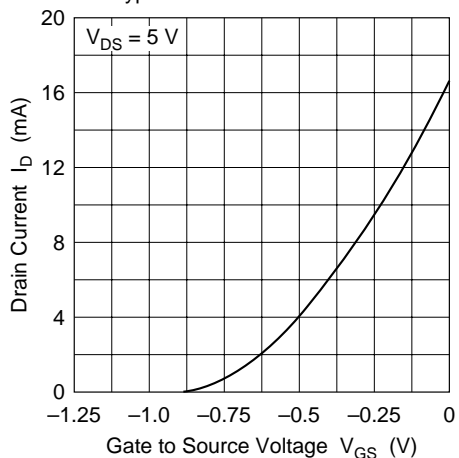
Maximum Channel Dissipation Curve



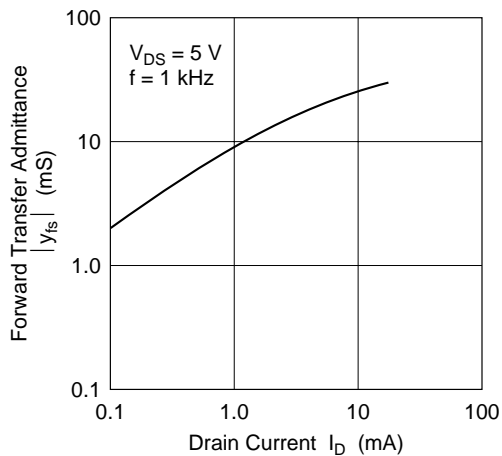
Typical Output Characteristics

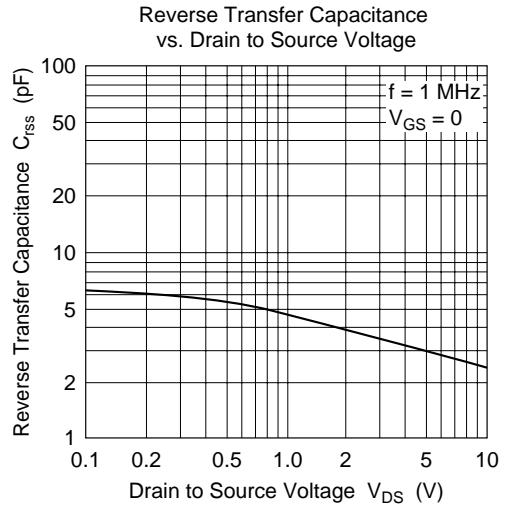
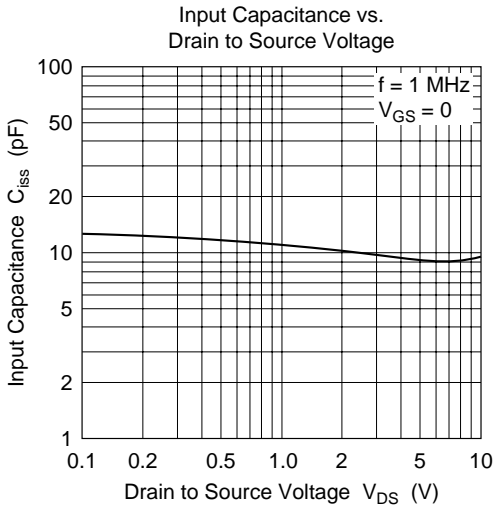
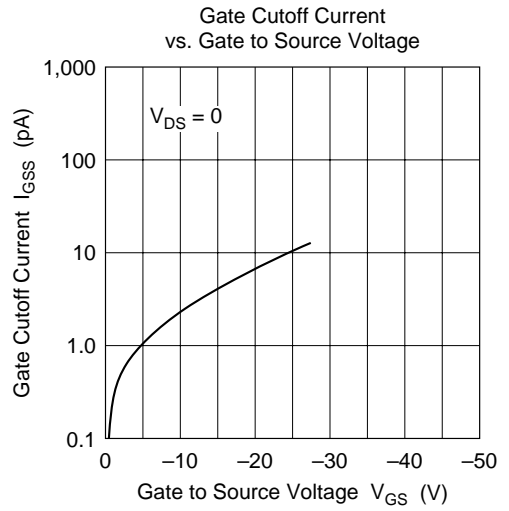
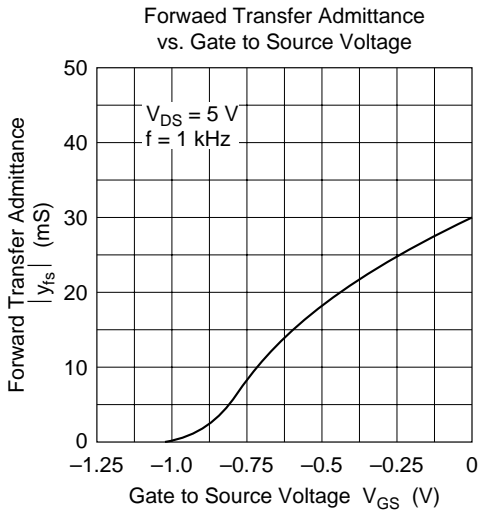


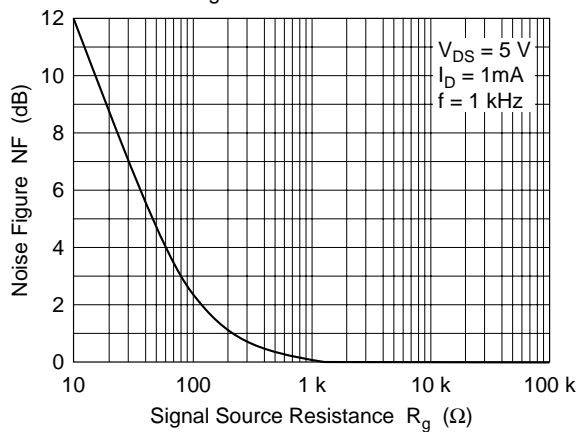
Typical Transfer Characteristics



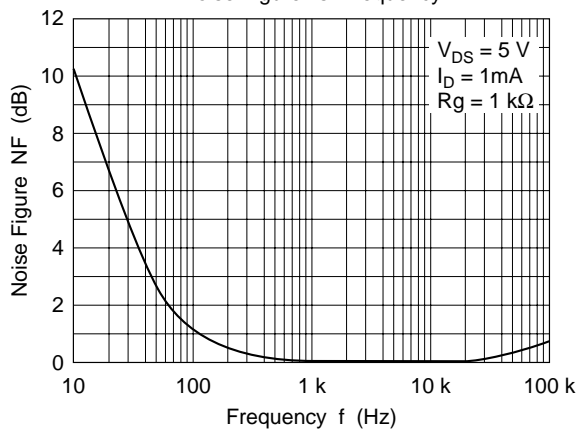
Forward Transfer Admittance vs. Drain Current

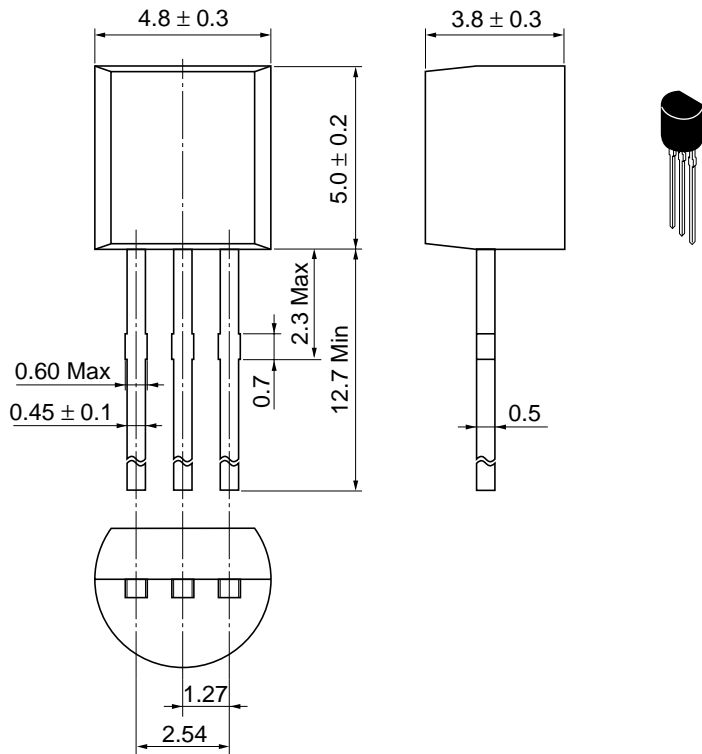




Noise Figure vs.
Signal Source Resistance

Noise Figure vs. Frequency





| | |
|--------------------------|-----------|
| Hitachi Code | TO-92 (2) |
| JEDEC | Conforms |
| EIAJ | Conforms |
| Weight (reference value) | 0.25 g |

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