
2SK439

Silicon N-Channel MOS FET

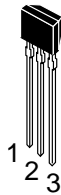
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Application

VHF amplifier

Outline

SPAK



- 1. Gate
- 2. Source
- 3. Drain

Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|---------------------------|-----------|-------------|------|
| Drain to source voltage | V_{DS} | 20 | V |
| Gate to source voltage | V_{GSS} | ±5 | V |
| Drain current | I_D | 30 | mA |
| Gate current | I_G | ±1 | mA |
| Channel power dissipation | Pch | 300 | mW |
| Channel temperature | Tch | 150 | °C |
| Storage temperature | Tstg | -55 to +150 | °C |

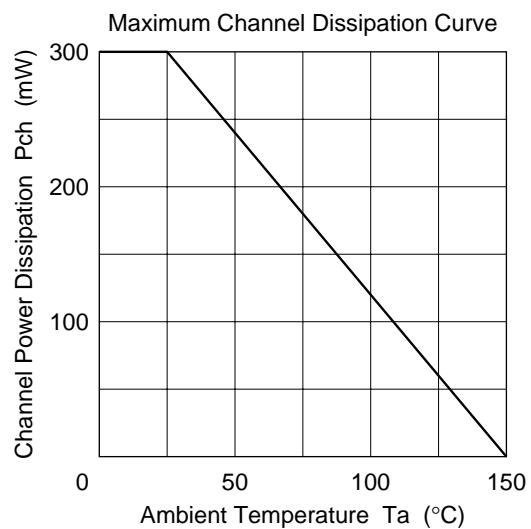
Electrical Characteristics (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|-----------------------------------|----------------|-----|------|------|------|--|
| Drain to source breakdown voltage | $V_{(BR)DSX}$ | 20 | — | — | V | $I_D = 100 \mu A, V_{GS} = -4 V$ |
| Gate cutoff current | I_{GSS} | — | — | ±20 | nA | $V_{GS} = \pm 5 V, V_{DS} = 0$ |
| Drain current | I_{DSS}^{*1} | 4 | — | 12 | mA | $V_{DS} = 10 V, V_{GS} = 0$ |
| Gate to source cutoff voltage | $V_{GS(off)}$ | 0 | — | -2.0 | V | $V_{DS} = 10 V, I_D = 10 \mu A$ |
| Forward transfer admittance | $ y_{fs} $ | 8 | 14 | — | mS | $V_{DS} = 10 V, V_{GS} = 0, f = 1 kHz$ |
| Input capacitance | Ciss | — | 2.5 | — | pF | $V_{DS} = 10 V, V_{GS} = 0, f = 1 MHz$ |
| Reverse transfer capacitance | Crss | — | 0.03 | — | pF | |
| Output capacitance | Coss | — | 1.8 | — | pF | $V_{DS} = 5 V, V_{GS} = 0, f = 1 MHz$ |
| Power gain | PG | — | 30 | — | dB | $V_{DS} = 10 V, V_{GS} = 0, f = 100 MHz$ |
| Noise figure | NF | — | 2.0 | — | dB | |

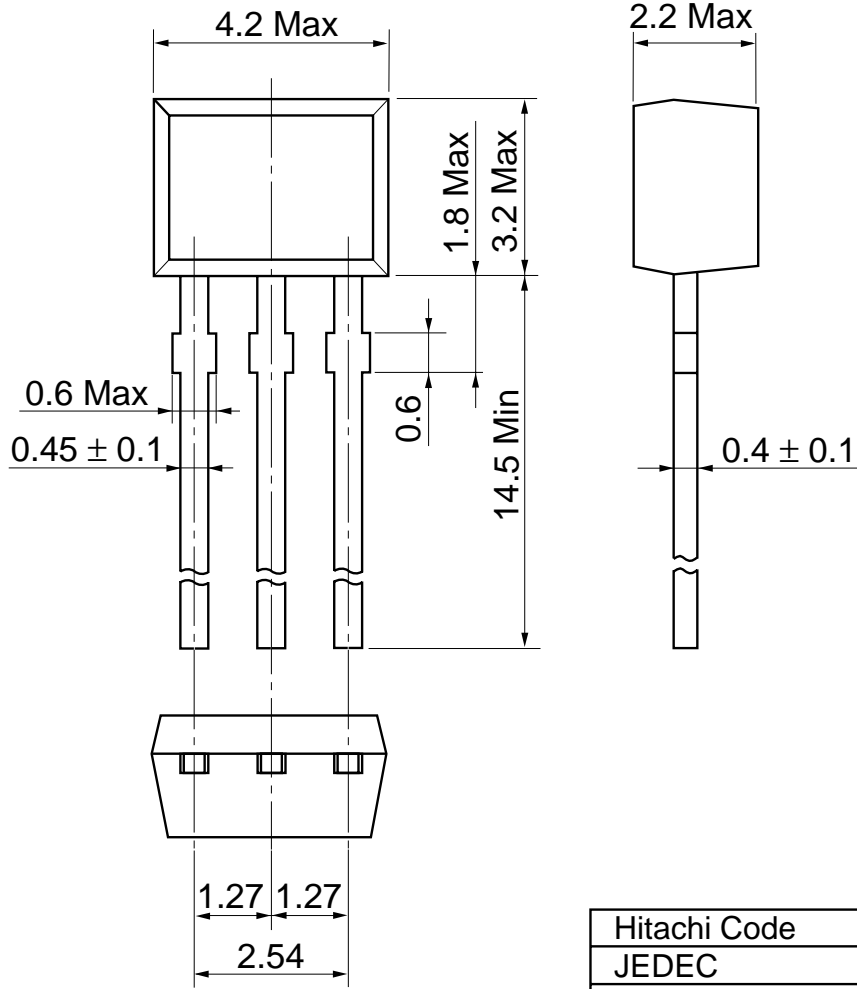
Note: 1. The 2SK439 is grouped by I_{DSS} as follows.

| Grade | D | E | F |
|-----------|--------|---------|---------|
| I_{DSS} | 4 to 8 | 6 to 10 | 8 to 12 |

See characteristic curves of 2SK359.



Unit: mm



| | |
|--------------------------|--------|
| Hitachi Code | SPAK |
| JEDEC | — |
| EIAJ | — |
| Weight (reference value) | 0.10 g |

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