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# 2SK1215

Silicon N-Channel MOS FET

# HITACHI

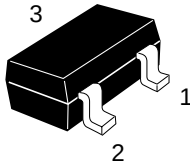
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## Application

VHF amplifier

## Outline

CMPAK



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

Absolute Maximum Ratings (Ta = 25°C)

| Item                      | Symbol         | Ratings     | Unit |
|---------------------------|----------------|-------------|------|
| Drain to source voltage   | $V_{DSX}^{*1}$ | 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            | 100         | mW   |
| Channel temperature       | Tch            | 150         | °C   |
| Storage temperature       | Tstg           | −55 to +150 | °C   |

Note: 1.  $V_{GS} = -4$  V

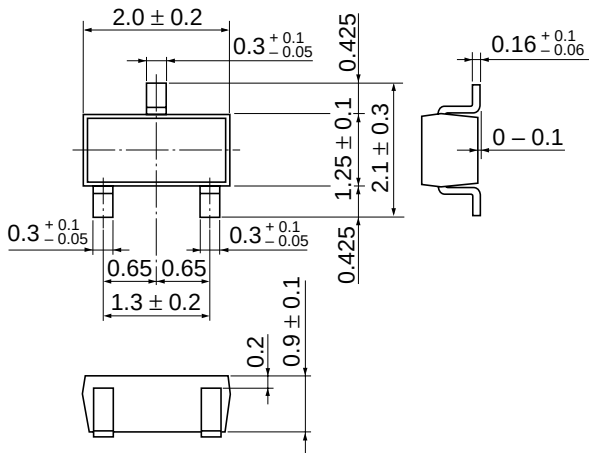
Electrical Characteristics (Ta = 25°C)

| Item                              | Symbol         | Min | Typ  | Max  | Unit | Test conditions                                  |
|-----------------------------------|----------------|-----|------|------|------|--------------------------------------------------|
| Drain to source breakdown voltage | $V_{(BR)DSX}$  | 20  | —    | —    | V    | $I_D = 100\text{ }\mu\text{A}$ , $V_{GS} = -4$ 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, $I_D = 10\text{ }\mu\text{A}$   |
| 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      |
| Output capacitance                | Coss           | —   | 1.6  | —    | pF   |                                                  |
| Reverse transfer capacitance      | Crss           | —   | 0.03 | —    | pF   |                                                  |
| Power gain                        | PG             | 24  | —    | —    | dB   | $V_{DS} = 10$ V, $V_{GS} = 0$ ,<br>$f = 100$ MHz |
| Noise figure                      | NF             | —   | —    | 3    | dB   |                                                  |

Note: 1. The 2SK1215 is grouped by  $I_{DSS}$  as follows.

| Grade     | D      | E       | F       |
|-----------|--------|---------|---------|
| Mark      | IGD    | IGE     | IGF     |
| $I_{DSS}$ | 4 to 8 | 6 to 10 | 8 to 12 |

See characteristic curves of 2SK359.



|                          |          |
|--------------------------|----------|
| Hitachi Code             | CMPAK    |
| JEDEC                    | —        |
| EIAJ                     | Conforms |
| Weight (reference value) | 0.006 g  |

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