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# 2SC2619

Silicon NPN Epitaxial

# HITACHI

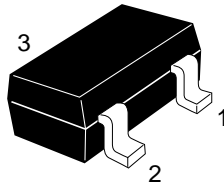
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## Application

High frequency amplifier

## Outline

MPAK



- 1. Emitter
- 2. Base
- 3. Collector

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

| Item                         | Symbol    | Ratings     | Unit |
|------------------------------|-----------|-------------|------|
| Collector to base voltage    | $V_{CBO}$ | 30          | V    |
| Collector to emitter voltage | $V_{CEO}$ | 30          | V    |
| Emitter to base voltage      | $V_{EBO}$ | 5           | V    |
| Collector current            | $I_C$     | 100         | mA   |
| Collector power dissipation  | $P_C$     | 150         | mW   |
| Junction temperature         | $T_j$     | 150         | °C   |
| Storage temperature          | $T_{stg}$ | -55 to +150 | °C   |

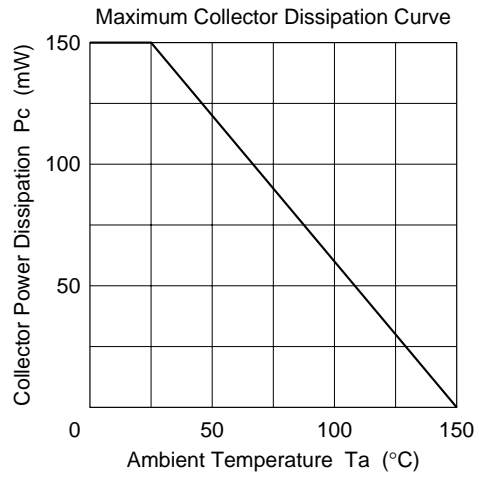
## Electrical Characteristics (Ta = 25°C)

| Item                                    | Symbol        | Min | Typ | Max  | Unit    | Test conditions   |
|---|---------------|-----|-----|------|---------|---|
| Collector to base breakdown voltage     | $V_{(BR)CBO}$ | 30  | —   | —    | V       | $I_C = 10 \mu A, I_E = 0$   |
| Collector to emitter breakdown voltage  | $V_{(BR)CEO}$ | 30  | —   | —    | V       | $I_C = 1 \text{ mA}, R_{BE} = \infty$   |
| Emitter to base breakdown voltage       | $V_{(BR)EBO}$ | 5   | —   | —    | V       | $I_E = 10 \mu A, I_C = 0$   |
| Collector cutoff current                | $I_{CBO}$     | —   | —   | 0.5  | $\mu A$ | $V_{CB} = 20 \text{ V}, I_C = 0$  |
| Emitter cutoff current                  | $I_{EBO}$     | —   | —   | 0.5  | $\mu A$ | $V_{EB} = 2 \text{ V}, I_C = 0$   |
| DC current transfer ratio               | $h_{FE}^{*1}$ | 35  | —   | 200  |         | $V_{CE} = 12 \text{ V}, I_C = 2 \text{ mA}$                                     |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | —   | —   | 1.1  | V       | $I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$                                       |
| Base to emitter voltage                 | $V_{BE}$      | —   | —   | 0.75 | V       | $V_{CE} = 12 \text{ V}, I_C = 2 \text{ mA}$                                     |
| Gain bandwidth product                  | $f_T$         | —   | 230 | —    | MHz     | $V_{CE} = 12 \text{ V}, I_C = 2 \text{ mA}$                                     |
| Collector output capacitance            | $C_{ob}$      | —   | —   | 3.5  | pF      | $V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$                             |
| Noise figure                            | NF            | —   | 5.0 | —    | dB      | $V_{CE} = 6 \text{ V}, I_C = 2 \text{ mA}, f = 1 \text{ MHz}, R_g = 500 \Omega$ |

Note: 1. The 2SC2619 is grouped by  $h_{FE}$  as follows.

| Grade    | A        | B         | C          |
|----------|----------|-----------|------------|
| Mark     | FA       | FB        | FC         |
| $h_{FE}$ | 35 to 75 | 60 to 120 | 100 to 200 |

See characteristic curves of 2SC460.





|                          |          |
|--------------------------|----------|
| Hitachi Code             | MPAK     |
| JEDEC                    | —        |
| EIAJ                     | Conforms |
| Weight (reference value) | 0.011 g  |

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