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# 2SA1617

Silicon PNP Epitaxial

# HITACHI

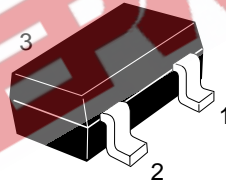
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## Application

High voltage amplifier

## Outline

MPAK



1. Emitter
2. Base
3. Collector

## 2SA1617

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

| Item                         | Symbol    | Ratings     | Unit |
|------------------------------|-----------|-------------|------|
| Collector to base voltage    | $V_{CBO}$ | -55         | V    |
| Collector to emitter voltage | $V_{CEO}$ | -50         | 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   |

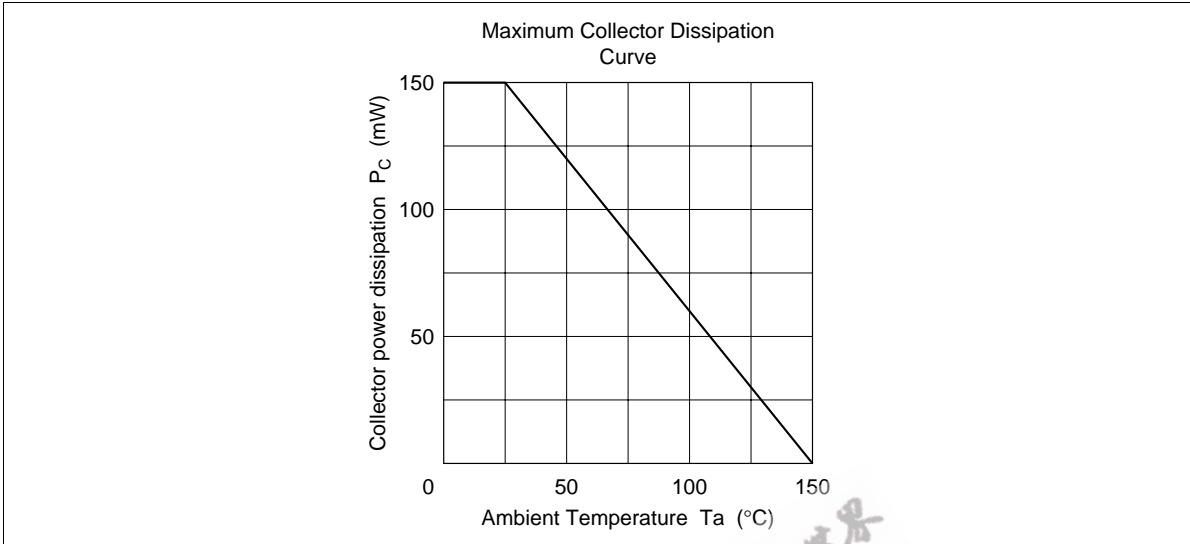
### Electrical Characteristics (Ta = 25°C)

| Item                                    | Symbol        | Min | Typ | Max  | Unit    | Test conditions                               |
|---|---------------|-----|-----|------|---------|---|
| Collector to base breakdown voltage     | $V_{(BR)CBO}$ | -55 | —   | —    | V       | $I_C = -10 \mu A, I_E = 0$                    |
| Collector to emitter breakdown voltage  | $V_{(BR)CEO}$ | -50 | —   | —    | 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 | $\mu A$ | $V_{CB} = -30 \text{ V}, I_E = 0$             |
| Emitter cutoff current                  | $I_{EBO}$     | —   | —   | -0.5 | $\mu A$ | $V_{EB} = -2 \text{ V}, I_C = 0$              |
| DC current transfer ratio               | $h_{FE}^{*1}$ | 100 | —   | 320  |         | $V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | —   | —   | -0.2 | V       | $I_C = -10 \text{ mA}, I_B = -1 \text{ mA}$   |
| Base to emitter voltage                 | $V_{BE}$      | —   | —   | -0.8 | V       | $V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$ |

Note: 1. The 2SA1617 is grouped by  $h_{FE}$  as follows.

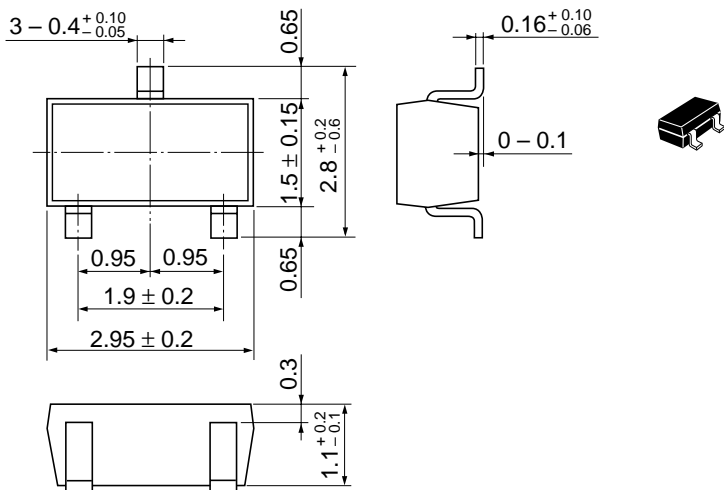
| Grade    | B          | C          |
|----------|------------|------------|
| Mark     | VIB        | VIC        |
| $h_{FE}$ | 100 to 200 | 160 to 320 |

See characteristic curves of 2SA1031



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Unit: mm



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

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