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# 2SB1027

Silicon PNP Epitaxial

# HITACHI

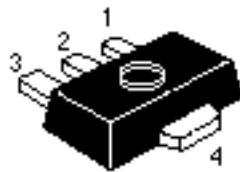
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## Application

Low frequency amplifier

## Outline

UPAK



- 1. Base
- 2. Collector
- 3. Emitter
- 4. Collector (Flange)

## 2SB1027

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

| Item                         | Symbol             | Ratings     | Unit |
|------------------------------|--------------------|-------------|------|
| Collector to base voltage    | $V_{CBO}$          | -180        | V    |
| Collector to emitter voltage | $V_{CEO}$          | -120        | V    |
| Emitter to base voltage      | $V_{EBO}$          | -5          | V    |
| Collector current            | $I_C$              | -1.5        | A    |
| Collector peak current       | $i_{C(peak)}^{*1}$ | -3          | A    |
| Collector power dissipation  | $P_C^{*2}$         | 1           | W    |
| Junction temperature         | $T_j$              | 150         | °C   |
| Storage temperature          | $T_{stg}$          | -55 to +150 | °C   |

Notes: 1. PW 10 ms, Duty cycle 20%

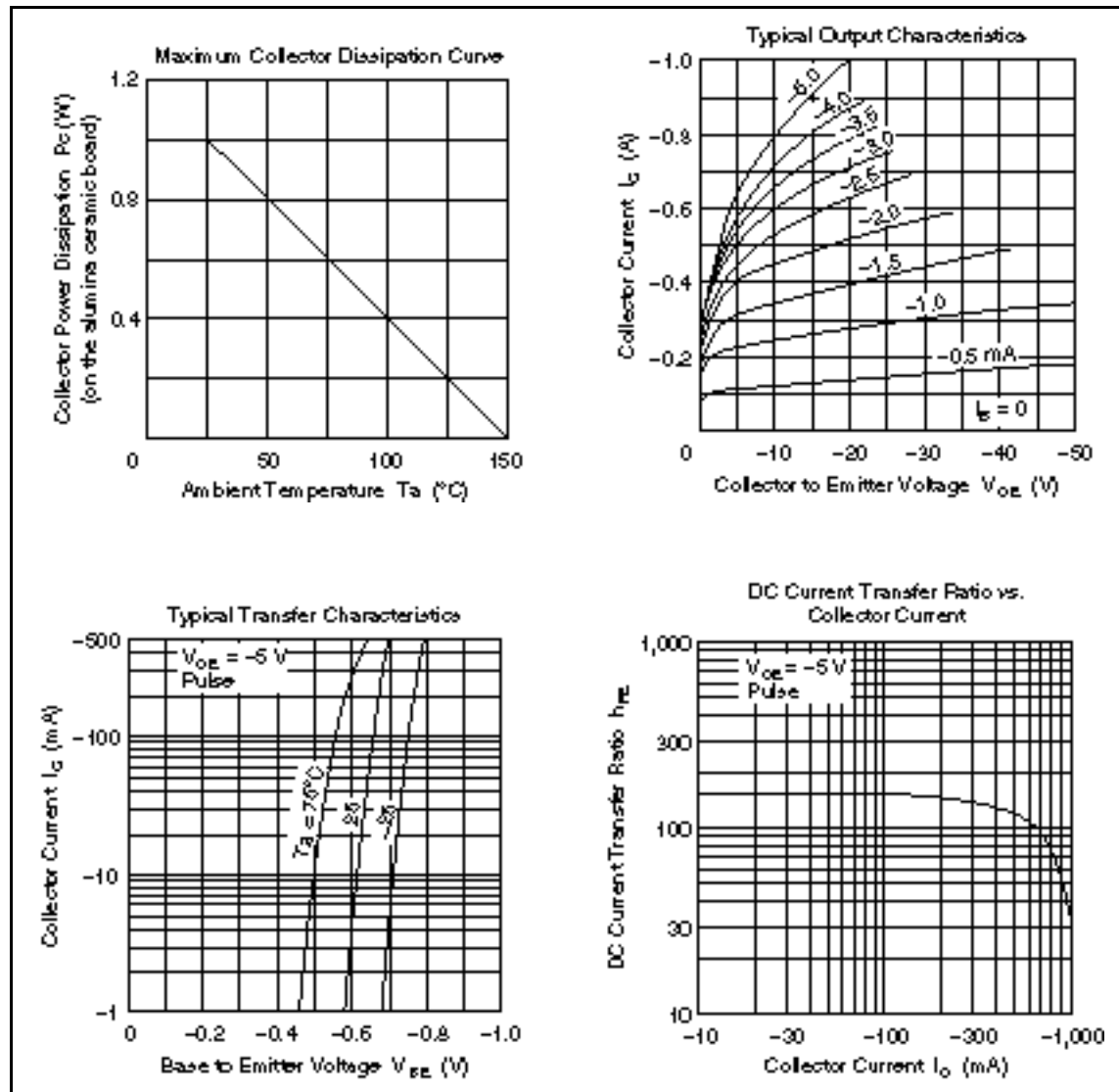
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

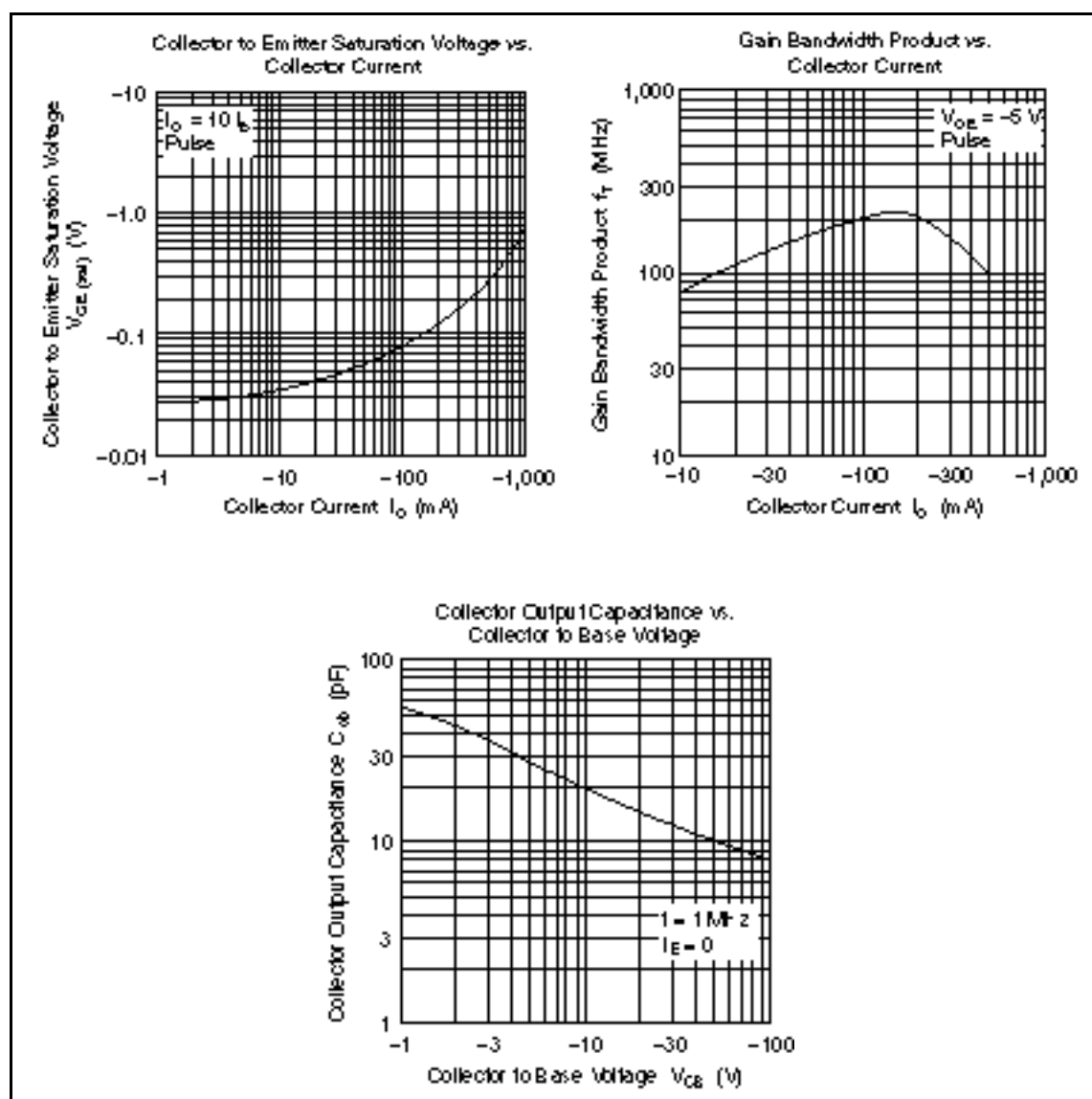
### Electrical Characteristics (Ta = 25°C)

| Item                                    | Symbol         | Min  | Typ | Max  | Unit | Test conditions   |
|---|----------------|------|-----|------|------|---|
| Collector to base breakdown voltage     | $V_{(BR)CBO}$  | -180 | —   | —    | V    | $I_C = -1 \text{ mA}$ , $I_E = 0$                         |
| Collector to emitter breakdown voltage  | $V_{(BR)CEO}$  | -120 | —   | —    | V    | $I_C = -10 \text{ mA}$ , $R_{BE} =$                       |
| Emitter to base breakdown voltage       | $V_{(BR)EBO}$  | -5   | —   | —    | V    | $I_E = -1 \text{ mA}$ , $I_C = 0$                         |
| Collector cutoff current                | $I_{CBO}$      | —    | —   | -10  | μA   | $V_{CB} = -160 \text{ V}$ , $I_E = 0$                     |
| DC current transfer ratio               | $h_{FE1}^{*1}$ | 60   | —   | 320  |      | $V_{CE} = -5 \text{ V}$ , $I_C = -0.15 \text{ A}$ , pulse |
|   | $h_{FE2}$      | 30   | —   | —    |      | $V_{CE} = -5 \text{ V}$ , $I_C = -0.5 \text{ A}$ , pulse  |
| Collector to emitter saturation voltage | $V_{CE(sat)}$  | —    | —   | -1.0 | V    | $I_C = -0.5 \text{ A}$ , $I_B = -50 \text{ mA}$ , Pulse   |
| Base to emitter voltage                 | $V_{BE}$       | —    | —   | -0.9 | V    | $V_{CE} = -5 \text{ V}$ , $I_C = -0.15 \text{ A}$ , pulse |

Note: 1. The 2SB1027 is grouped by  $h_{FE1}$  as follows.

| Mark      | EH        | EJ         | EK         |
|-----------|-----------|------------|------------|
| $h_{FE1}$ | 60 to 120 | 100 to 200 | 160 to 320 |





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