

# 2SB1030, 2SB1030A

## Silicon PNP epitaxial planer type

For low-frequency amplification

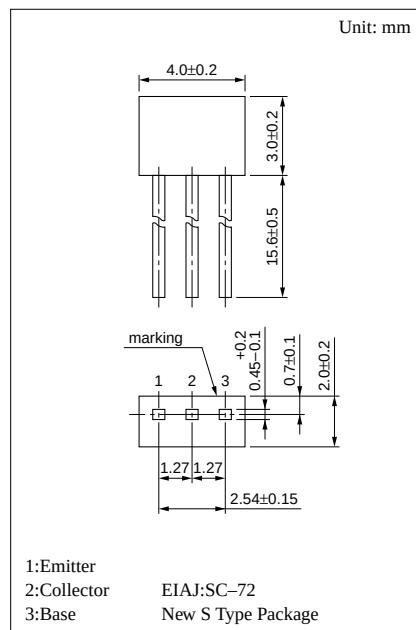
Complementary to 2SD1423 and 2SD1423A

### Features

- Optimum for high-density mounting.
- Allowing supply with the radial taping.

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

| Parameter                    | Symbol           | Ratings    | Unit |
|------------------------------|------------------|------------|------|
| Collector to base voltage    | V <sub>CBO</sub> | -30        | V    |
| 2SB1030A                     |                  | -60        |      |
| Collector to emitter voltage | V <sub>CEO</sub> | -25        | V    |
| 2SB1030A                     |                  | -50        |      |
| Emitter to base voltage      | V <sub>EBO</sub> | -7         | V    |
| Peak collector current       | I <sub>CP</sub>  | -1         | A    |
| Collector current            | I <sub>C</sub>   | -0.5       | A    |
| Collector power dissipation  | P <sub>C</sub>   | 300        | mW   |
| Junction temperature         | T <sub>j</sub>   | 150        | °C   |
| Storage temperature          | T <sub>stg</sub> | -55 ~ +150 | °C   |



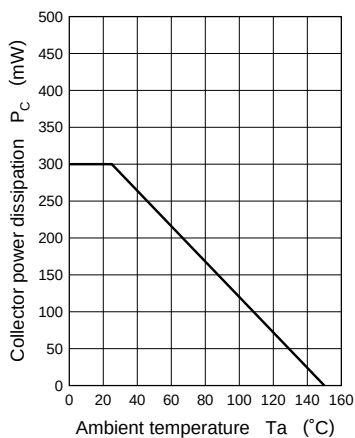
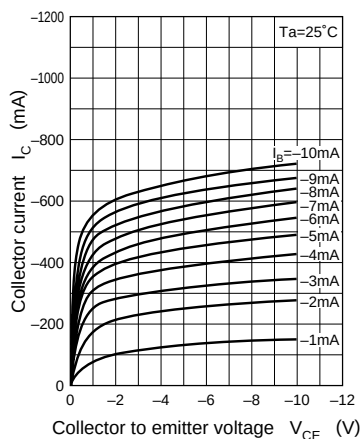
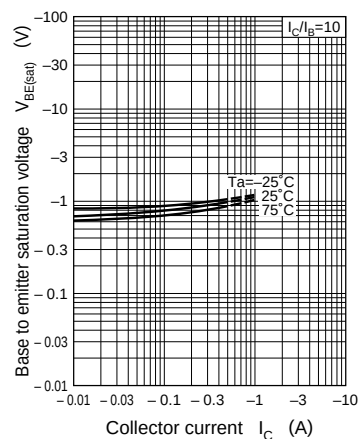
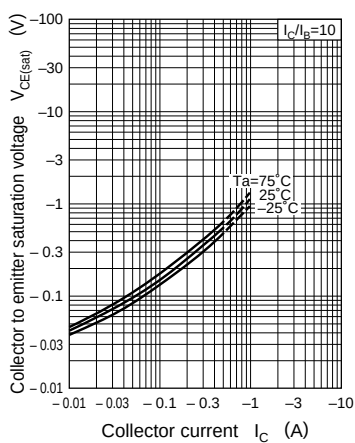
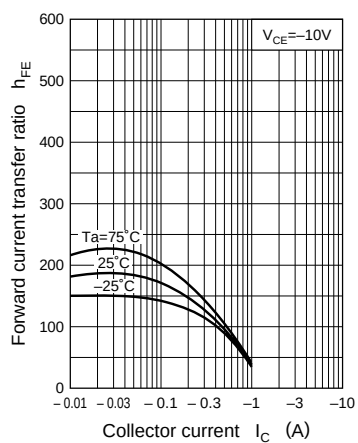
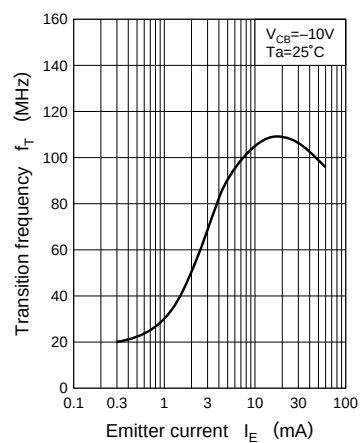
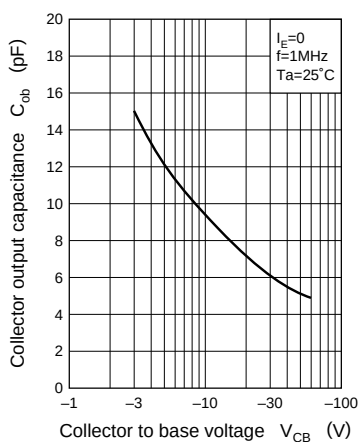
### Electrical Characteristics (Ta=25°C)

| Parameter                               | Symbol                          | Conditions                                                    | min | typ   | max  | Unit |
|-----------------------------------------|---------------------------------|---------------------------------------------------------------|-----|-------|------|------|
| Collector cutoff current                | I <sub>CBO</sub>                | V <sub>CB</sub> = -20V, I <sub>E</sub> = 0                    |     |       | -0.1 | μA   |
|                                         | I <sub>CEO</sub>                | V <sub>CE</sub> = -20V, I <sub>B</sub> = 0                    |     |       | -1   | μA   |
| Collector to base voltage               | V <sub>CBO</sub>                | I <sub>C</sub> = -10μA, I <sub>E</sub> = 0                    | -30 |       |      | V    |
|                                         |                                 |                                                               | -60 |       |      |      |
| Collector to emitter voltage            | V <sub>CEO</sub>                | I <sub>C</sub> = -2mA, I <sub>B</sub> = 0                     | -25 |       |      | V    |
|                                         |                                 |                                                               | -50 |       |      |      |
| Emitter to base voltage                 | V <sub>EBO</sub>                | I <sub>E</sub> = -10μA, I <sub>C</sub> = 0                    | -7  |       |      | V    |
| Forward current transfer ratio          | h <sub>FE1</sub> * <sup>1</sup> | V <sub>CE</sub> = -10V, I <sub>C</sub> = -150mA* <sup>2</sup> | 85  |       | 340  |      |
|                                         | h <sub>FE2</sub>                | V <sub>CE</sub> = -10V, I <sub>C</sub> = -500mA* <sup>2</sup> | 40  |       |      |      |
| Collector to emitter saturation voltage | V <sub>CE(sat)</sub>            | I <sub>C</sub> = -300mA, I <sub>B</sub> = -30mA* <sup>2</sup> |     | -0.35 | -0.6 | V    |
| Transition frequency                    | f <sub>T</sub>                  | V <sub>CB</sub> = -10V, I <sub>E</sub> = 50mA, f = 200MHz     |     | 200   |      | MHz  |
| Collector output capacitance            | C <sub>ob</sub>                 | V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f = 1MHz          |     | 6     | 15   | pF   |

\*<sup>2</sup> Pulse measurement

\*<sup>1</sup>h<sub>FE1</sub> Rank classification

| Rank             | Q        | R         | S         |
|------------------|----------|-----------|-----------|
| h <sub>FE1</sub> | 85 ~ 170 | 120 ~ 240 | 170 ~ 340 |

$P_C - T_a$  $I_C - V_{CE}$  $V_{BE(sat)} - I_C$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $C_{ob} - V_{CB}$  $NV - I_C$ 