

2SB1030, 2SB1030A

Silicon PNP epitaxial planar type

For low-frequency amplification

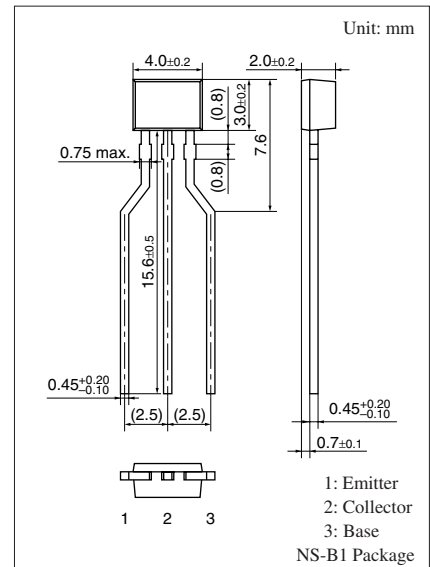
Complementary to 2SD1423 and 2SD1423A

■ Features

- Optimum for high-density mounting
- Allowing supply with the radial tapping

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|--|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | 2SB1030 | -30 | V |
| | 2SB1030A | -60 | |
| Collector-emitter voltage (Base open) | 2SB1030 | -25 | V |
| | 2SB1030A | -50 | |
| Emitter-base voltage (Collector open) | V_{EBO} | -7 | V |
| Collector current | I_C | -0.5 | A |
| Peak collector current | I_{CP} | -1 | A |
| Collector power dissipation | P_C | 300 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |



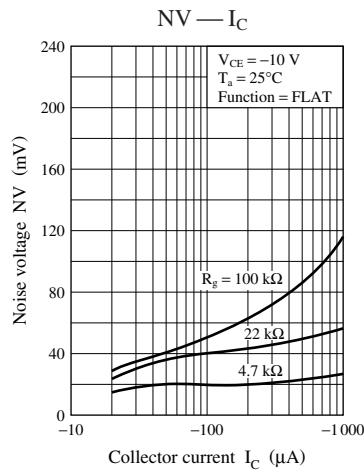
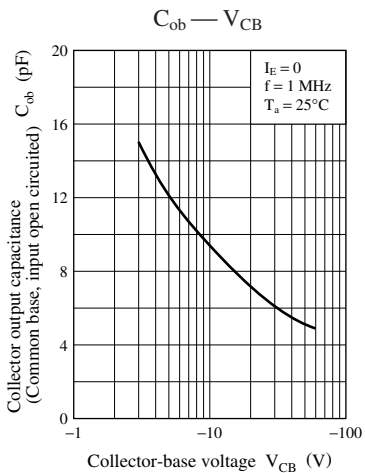
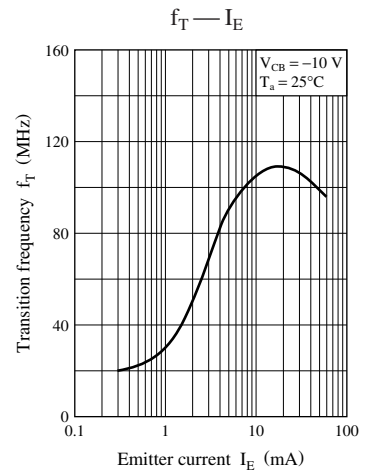
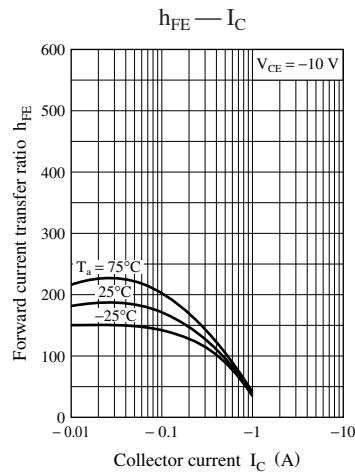
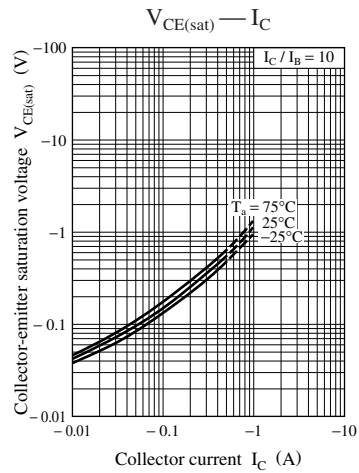
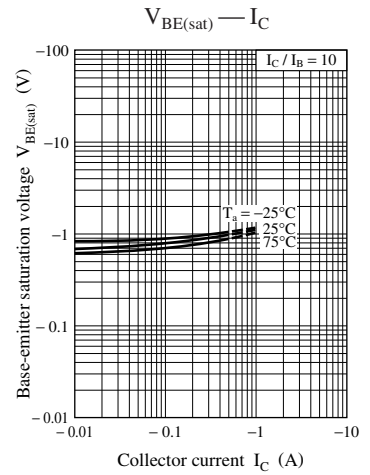
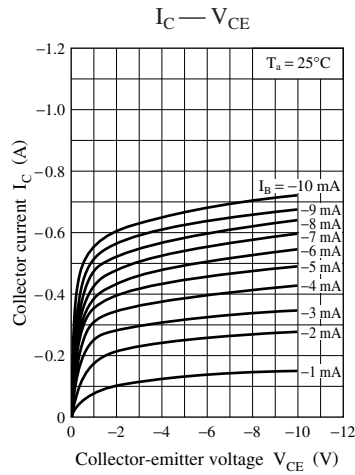
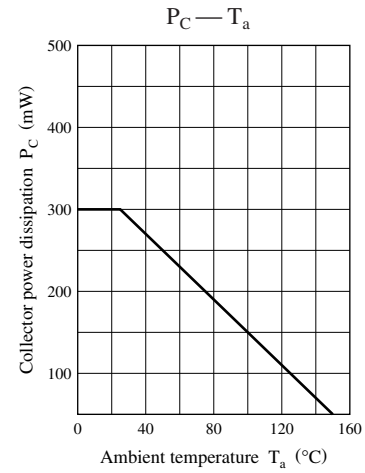
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---------------|--|-----|-------|-------|---------------|
| Collector-base voltage (Emitter open) | 2SB1030 | $I_C = -10 \mu\text{A}, I_E = 0$ | -30 | | | V |
| | 2SB1030A | | -60 | | | |
| Collector-emitter voltage (Base open) | 2SB1030 | $I_C = -2 \text{ mA}, I_B = 0$ | -25 | | | V |
| | 2SB1030A | | -50 | | | |
| Emitter-base voltage (Collector open) | V_{EBO} | $I_E = -10 \mu\text{A}, I_C = 0$ | -7 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = -20 \text{ V}, I_E = 0$ | | | -0.1 | μA |
| Collector-Emitter cutoff current (Base open) | I_{CEO} | $V_{CE} = -20 \text{ V}, I_B = 0$ | | | -1 | μA |
| Forward current transfer ratio | h_{FE1}^* | $V_{CE} = -10 \text{ V}, I_C = -150 \text{ mA}$ | 85 | | 340 | — |
| | h_{FE2} | $V_{CE} = -10 \text{ V}, I_C = -500 \text{ mA}$ | 40 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -300 \text{ mA}, I_B = -30 \text{ mA}$ | | -0.35 | -0.60 | V |
| Transition frequency | f_T | $V_{CB} = -10 \text{ V}, I_E = 50 \text{ mA}, f = 200 \text{ MHz}$ | | 120 | | MHz |
| Collector output capacitance (Common base, input open circuited) | C_{ob} | $V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ | | 3.5 | 15.0 | pF |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

| Rank | Q | R | S |
|-----------|-----------|------------|------------|
| h_{FE1} | 85 to 170 | 120 to 240 | 170 to 340 |



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