

# 2SB0774 (2SB774)

Silicon PNP epitaxial planar type

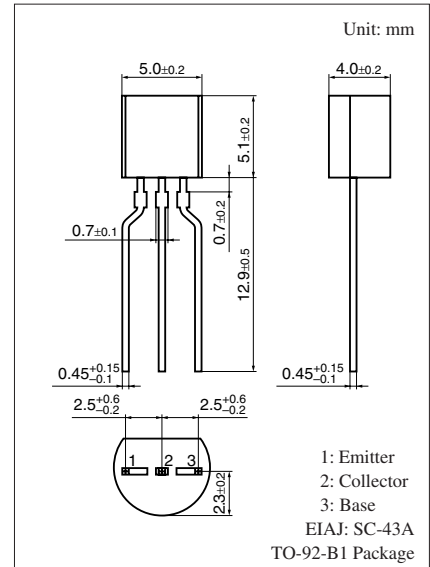
For low-frequency amplification

### ■ Features

- High emitter-base voltage (Collector open)  $V_{EBO}$
- Protective diodes and resistances between emitter and base can be omitted.

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

| Parameter                             | Symbol    | Rating      | Unit             |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | $V_{CBO}$ | -30         | V                |
| Collector-emitter voltage (Base open) | $V_{CEO}$ | -25         | V                |
| Emitter-base voltage (Collector open) | $V_{EBO}$ | -15         | V                |
| Collector current                     | $I_C$     | -100        | mA               |
| Peak collector current                | $I_{CP}$  | -200        | mA               |
| Collector power dissipation           | $P_C$     | 400         | mW               |
| Junction temperature                  | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature                   | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |



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

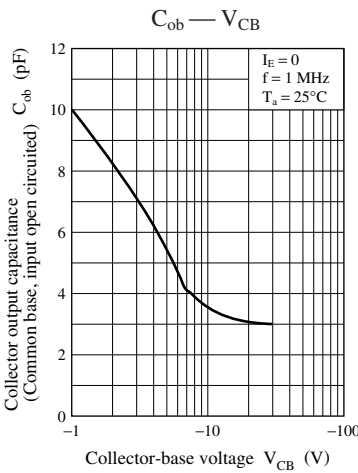
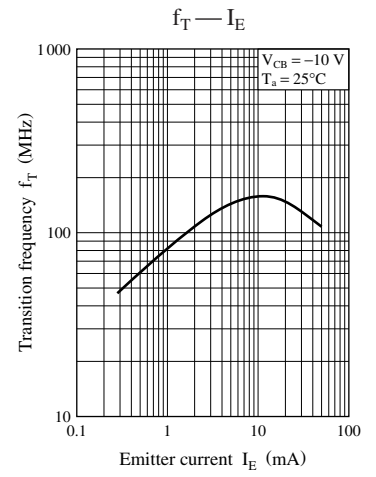
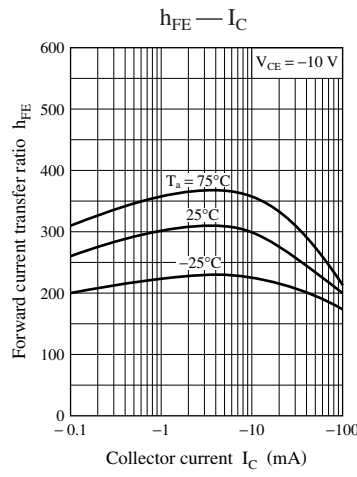
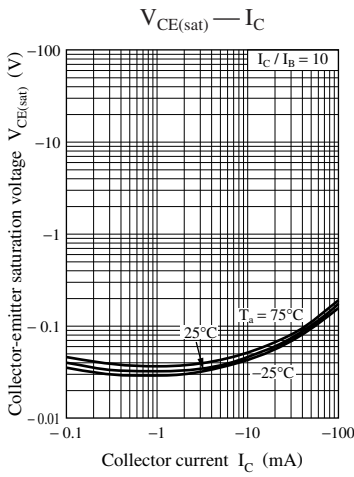
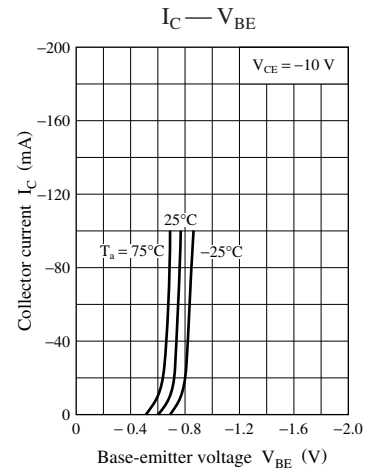
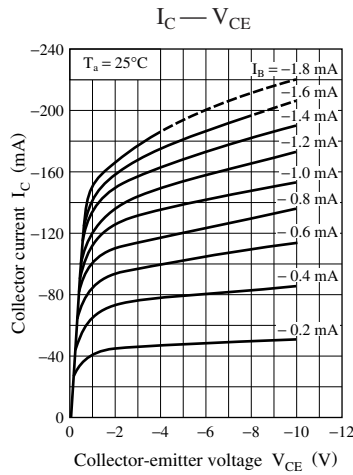
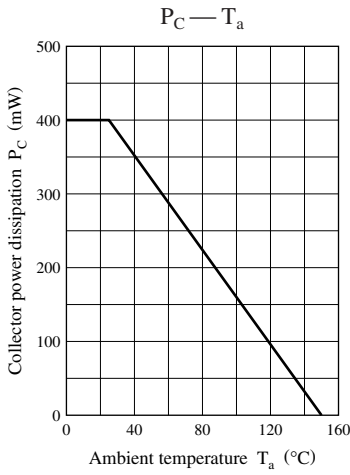
| Parameter  | Symbol        | Conditions  | Min | Typ | Max  | Unit          |
|--|---------------|---|-----|-----|------|---------------|
| Collector-base voltage (Emitter open)                          | $V_{CBO}$     | $I_C = -10 \mu\text{A}, I_E = 0$                                  | -30 |     |      | V             |
| Collector-emitter voltage (Base open)                          | $V_{CEO}$     | $I_C = -2 \text{ mA}, I_B = 0$                                    | -25 |     |      | V             |
| Emitter-base voltage (Collector open)                          | $V_{EBO}$     | $I_E = -10 \mu\text{A}, I_C = 0$                                  | -15 |     |      | V             |
| Collector-base cutoff current (Emitter open)                   | $I_{CBO}$     | $V_{CB} = -10 \text{ V}, I_E = 0$                                 |     |     | -1   | $\mu\text{A}$ |
| Collector-emitter cutoff current (Base open)                   | $I_{CEO}$     | $V_{CE} = -20 \text{ V}, I_B = 0$                                 |     |     | -100 | $\mu\text{A}$ |
| Forward current transfer ratio                                 | $h_{FE1}^*$   | $V_{CE} = -10 \text{ V}, I_C = -2 \text{ mA}$                     | 210 |     | 460  | —             |
|  | $h_{FE2}$     | $V_{CE} = -2 \text{ V}, I_C = -100 \text{ mA}$                    | 90  |     |      | —             |
| Collector-emitter saturation voltage                           | $V_{CE(sat)}$ | $I_C = -100 \text{ mA}, I_B = -10 \text{ mA}$                     |     |     | -0.5 | V             |
| Transition frequency   | $f_T$         | $V_{CB} = -10 \text{ V}, I_E = 2 \text{ mA}, f = 200 \text{ MHz}$ |     | 150 |      | MHz           |
| Collector output capacitance (Common-emitter reverse transfer) | $C_{ob}$      | $V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$              |     | 4   |      | pF            |

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

2. \*: Rank classification

| Rank      | R          | S          |
|-----------|------------|------------|
| $h_{FE1}$ | 210 to 340 | 290 to 460 |

Note) The part number in the parenthesis shows conventional part number.



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