

# XP06401 (XP6401)

## Silicon PNP epitaxial planar type

For general amplification

### ■ Features

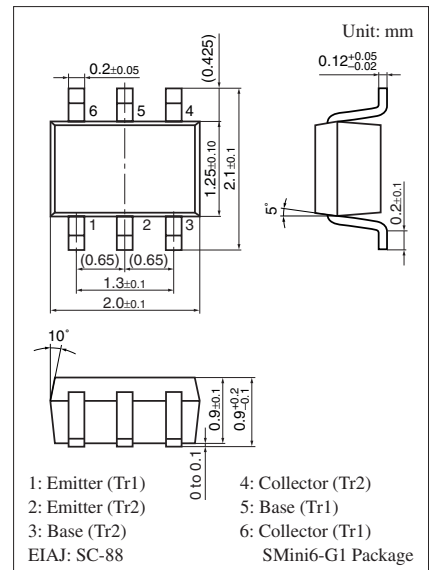
- Two elements incorporated into one package
- Reduction of the mounting area and assembly cost by one half

### ■ Basic Part Number

- 2SB0709A (2SB709A) × 2

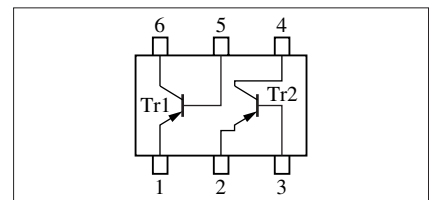
### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter                             | Symbol           | Rating      | Unit             |
|---------------------------------------|------------------|-------------|------------------|
| Collector-base voltage (Emitter open) | $V_{\text{CBO}}$ | -60         | V                |
| Collector-emitter voltage (Base open) | $V_{\text{CEO}}$ | -50         | V                |
| Emitter-base voltage (Collector open) | $V_{\text{EBO}}$ | -7          | V                |
| Collector current                     | $I_{\text{C}}$   | -100        | mA               |
| Peak collector current                | $I_{\text{CP}}$  | -200        | mA               |
| Total power dissipation               | $P_{\text{T}}$   | 150         | mW               |
| Junction temperature                  | $T_{\text{j}}$   | 150         | $^\circ\text{C}$ |
| Storage temperature                   | $T_{\text{stg}}$ | -55 to +150 | $^\circ\text{C}$ |



Marking Symbol: 50

Internal Connection

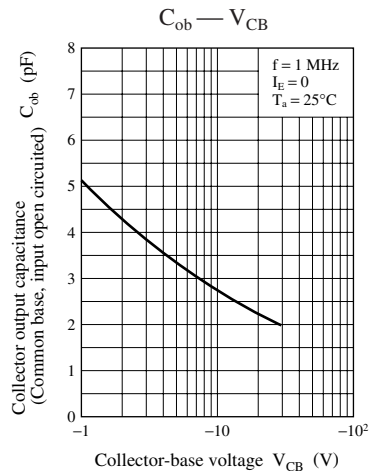
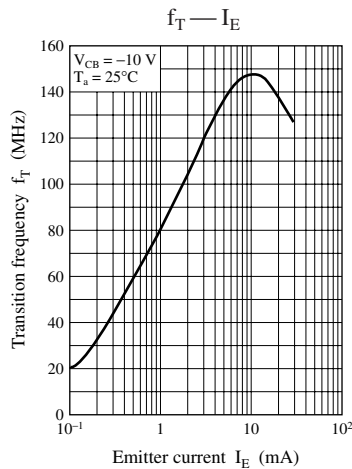
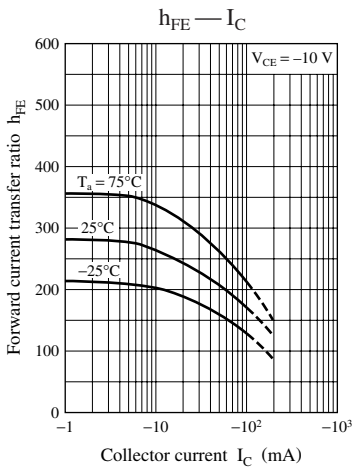
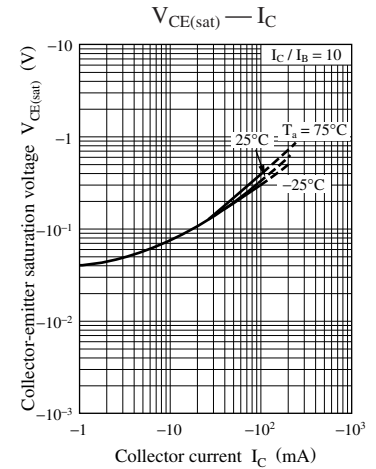
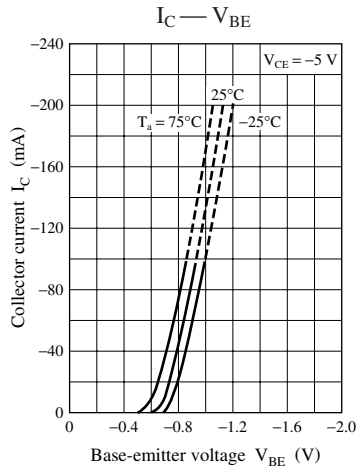
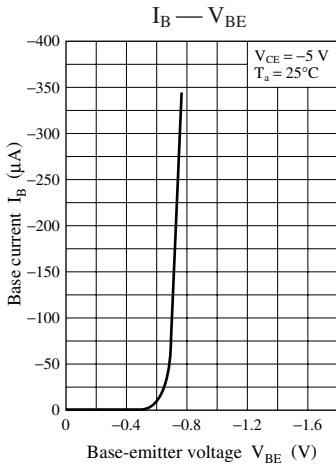
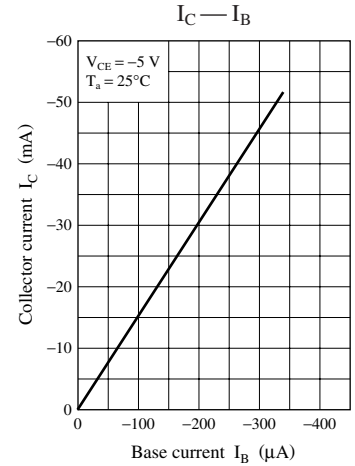
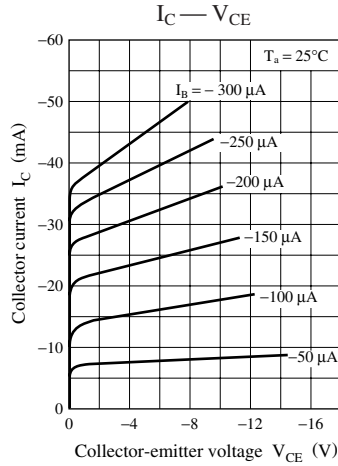
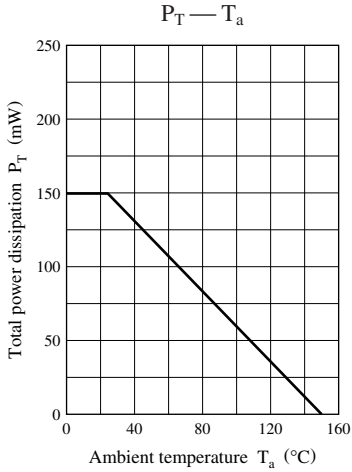


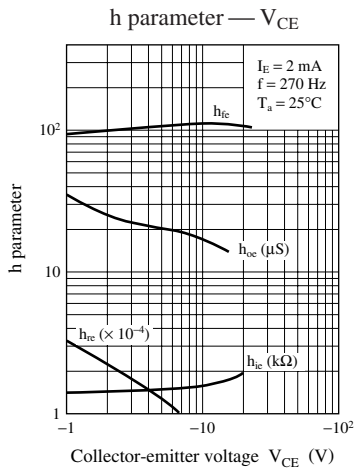
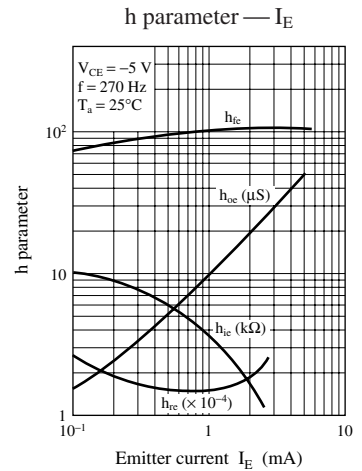
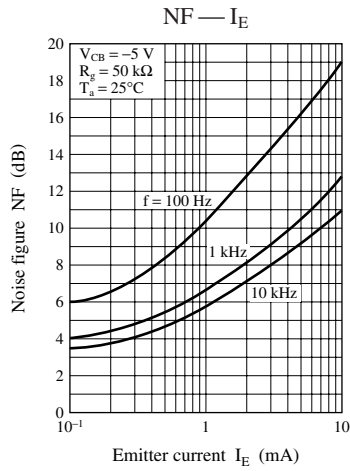
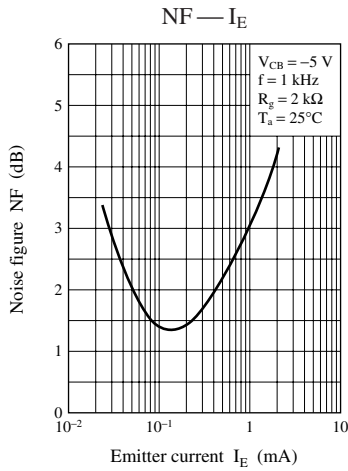
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter  | Symbol                              | Conditions  | Min  | Typ  | Max  | Unit          |
|--|-------------------------------------|---|------|------|------|---------------|
| Collector-base voltage (Emitter open)                            | $V_{\text{CBO}}$                    | $I_{\text{C}} = -10 \mu\text{A}, I_{\text{E}} = 0$                                | -60  |      |      | V             |
| Collector-emitter voltage (Base open)                            | $V_{\text{CEO}}$                    | $I_{\text{C}} = -2 \text{ mA}, I_{\text{B}} = 0$                                  | -50  |      |      | V             |
| Emitter-base voltage (Collector open)                            | $V_{\text{EBO}}$                    | $I_{\text{E}} = -10 \mu\text{A}, I_{\text{C}} = 0$                                | -7   |      |      | V             |
| Collector-base cutoff current (Emitter open)                     | $I_{\text{CBO}}$                    | $V_{\text{CB}} = -20 \text{ V}, I_{\text{E}} = 0$                                 |      |      | -0.1 | $\mu\text{A}$ |
| Collector-emitter cutoff current (Base open)                     | $I_{\text{CEO}}$                    | $V_{\text{CE}} = -10 \text{ V}, I_{\text{B}} = 0$                                 |      |      | -100 | $\mu\text{A}$ |
| Forward current transfer ratio                                   | $h_{\text{FE}}$                     | $V_{\text{CE}} = -10 \text{ V}, I_{\text{C}} = -2 \text{ mA}$                     | 160  |      | 460  | —             |
| $h_{\text{FE}}$ ratio *  | $h_{\text{FE}}(\text{Small/Large})$ | $V_{\text{CE}} = -10 \text{ V}, I_{\text{C}} = -2 \text{ mA}$                     | 0.50 | 0.99 |      | —             |
| Collector-emitter saturation voltage                             | $V_{\text{CE(sat)}}$                | $I_{\text{C}} = -100 \text{ mA}, I_{\text{B}} = -10 \text{ mA}$                   |      |      | -0.5 | V             |
| Transition frequency   | $f_{\text{T}}$                      | $V_{\text{CB}} = -10 \text{ V}, I_{\text{E}} = 1 \text{ mA}, f = 200 \text{ MHz}$ |      | 80   |      | MHz           |
| Collector output capacitance (Common base, input open circuited) | $C_{\text{ob}}$                     | $V_{\text{CB}} = -10 \text{ V}, I_{\text{E}} = 0, f = 1 \text{ MHz}$              |      | 2.7  |      | pF            |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.  
2. \*: Ratio between 2 elements

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





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