

# XN04509 (XN4509)

Silicon NPN epitaxial planer transistor

For high-frequency amplification

## ■ Features

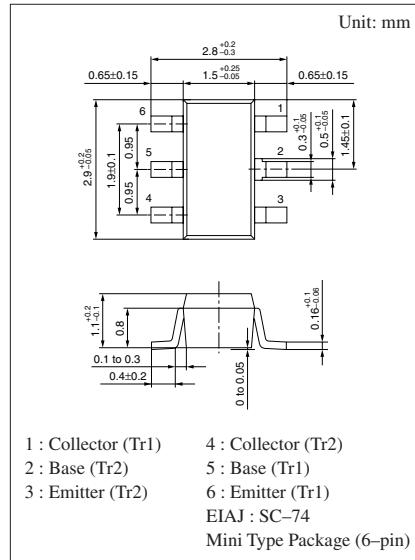
- Two elements incorporated into one package.
- Reduction of the mounting area and assembly cost by one half.

## ■ Basic Part Number of Element

- 2SC4561 × 2 elements

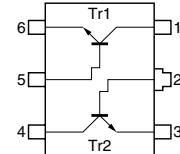
## ■ Absolute Maximum Ratings (Ta=25°C)

|                   | Parameter                    | Symbol           | Ratings     | Unit |
|-------------------|------------------------------|------------------|-------------|------|
| Rating of element | Collector to base voltage    | V <sub>CBO</sub> | 50          | V    |
|                   | Collector to emitter voltage | V <sub>CEO</sub> | 50          | V    |
|                   | Emitter to base voltage      | V <sub>EBO</sub> | 5           | V    |
|                   | Collector current            | I <sub>C</sub>   | 50          | mA   |
| Overall           | Total power dissipation      | P <sub>T</sub>   | 200         | mW   |
|                   | Junction temperature         | T <sub>j</sub>   | 150         | °C   |
|                   | Storage temperature          | T <sub>stg</sub> | -55 to +150 | °C   |



Marking Symbol: AO

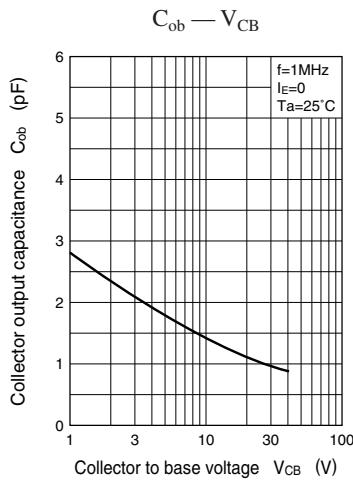
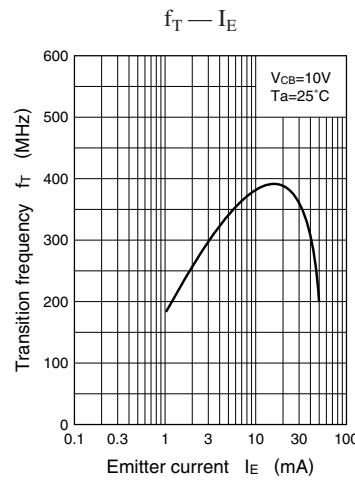
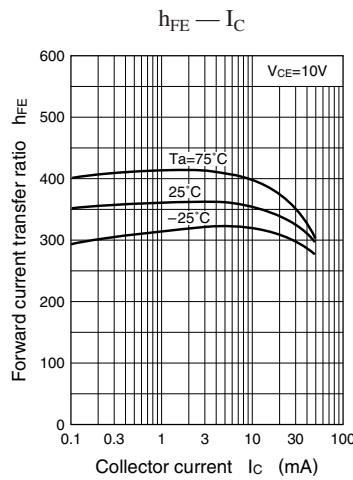
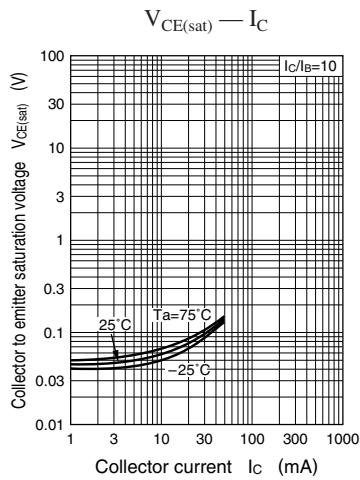
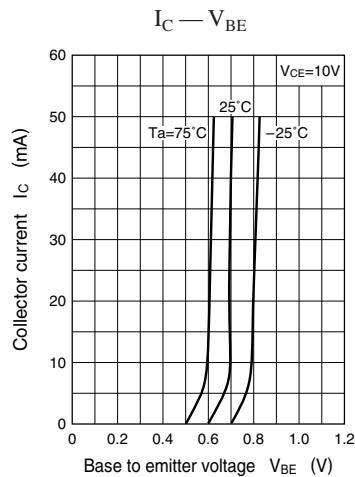
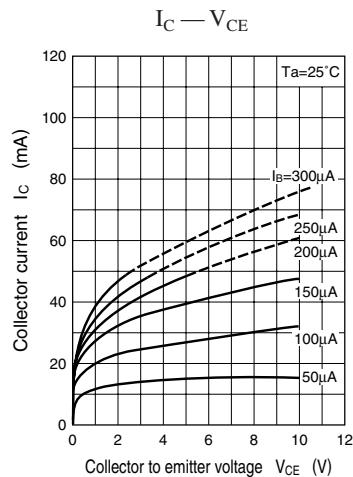
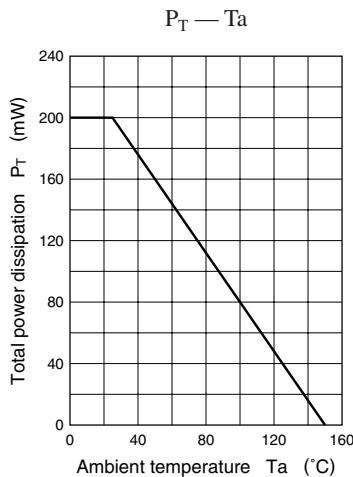
## Internal Connection



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

| Parameter                               | Symbol               | Conditions   | min | typ  | max | Unit |
|---|----------------------|--|-----|------|-----|------|
| Collector to base voltage               | V <sub>CBO</sub>     | I <sub>C</sub> = 10µA, I <sub>E</sub> = 0                | 50  |      |     | V    |
| Collector to emitter voltage            | V <sub>CEO</sub>     | I <sub>C</sub> = 1mA, I <sub>B</sub> = 0                 | 50  |      |     | V    |
| Emitter to base voltage                 | V <sub>EBO</sub>     | I <sub>E</sub> = 10µA, I <sub>C</sub> = 0                | 5   |      |     | V    |
| Collector cutoff current                | I <sub>CBO</sub>     | V <sub>CB</sub> = 10V, I <sub>E</sub> = 0                |     |      | 0.1 | µA   |
|   | I <sub>CEO</sub>     | V <sub>CE</sub> = 10V, I <sub>B</sub> = 0                |     |      | 100 | µA   |
| Forward current transfer ratio          | h <sub>FE</sub>      | V <sub>CE</sub> = 10V, I <sub>C</sub> = 2mA              | 200 |      | 500 |      |
| Collector to emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> = 10mA, I <sub>B</sub> = 1mA              |     | 0.06 | 0.3 | V    |
| Transition frequency                    | f <sub>T</sub>       | V <sub>CB</sub> = 10V, I <sub>E</sub> = -2mA, f = 200MHz |     | 250  |     | MHz  |
| Collector output capacitance            | C <sub>ob</sub>      | V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1MHz      |     | 1.5  |     | pF   |

Note.) The Part number in the Parenthesis shows conventional part number.



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