

# 2SC4656J

## Silicon NPN epitaxial planar type

For high-frequency amplification

Complementary to 2SA1791J

### ■ Features

- High transition frequency  $f_T$
- Small collector output capacitance (Common base, input open circuited)  $C_{ob}$
- SS-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing

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

| Parameter                             | Symbol    | Rating      | Unit             |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | $V_{CBO}$ | 50          | V                |
| Collector-emitter voltage (Base open) | $V_{CEO}$ | 50          | V                |
| Emitter-base voltage (Collector open) | $V_{EBO}$ | 5           | V                |
| Collector current                     | $I_C$     | 50          | mA               |
| Collector power dissipation           | $P_C$     | 125         | mW               |
| Junction temperature                  | $T_j$     | 125         | $^\circ\text{C}$ |
| Storage temperature                   | $T_{stg}$ | -55 to +125 | $^\circ\text{C}$ |

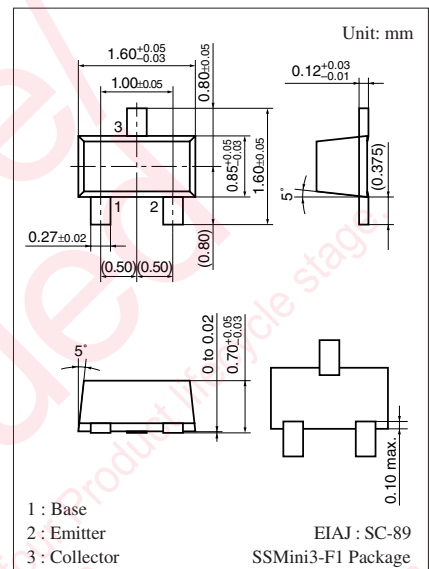
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter  | Symbol        | Conditions  | Min | Typ  | Max | Unit          |
|--|---------------|---|-----|------|-----|---------------|
| Collector-base voltage (Emitter open)                            | $V_{CBO}$     | $I_C = 10 \mu\text{A}, I_E = 0$                                   | 50  |      |     | V             |
| Collector-emitter voltage (Base open)                            | $V_{CEO}$     | $I_C = 1 \text{ mA}, I_B = 0$                                     | 50  |      |     | V             |
| Emitter-base voltage (Collector open)                            | $V_{EBO}$     | $I_E = 10 \mu\text{A}, I_C = 0$                                   | 5   |      |     | V             |
| Collector-base cutoff current (Emitter open)                     | $I_{CBO}$     | $V_{CB} = 10 \text{ V}, I_E = 0$                                  |     |      | 0.1 | $\mu\text{A}$ |
| Collector-emitter cutoff current (Base open)                     | $I_{CEO}$     | $V_{CE} = 10 \text{ V}, I_B = 0$                                  |     |      | 100 | $\mu\text{A}$ |
| Forward current transfer ratio *                                 | $h_{FE}$      | $V_{CE} = 10 \text{ V}, I_C = 2 \text{ mA}$                       | 200 |      | 500 | —             |
| Collector-emitter saturation voltage                             | $V_{CE(sat)}$ | $I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$                         |     | 0.06 | 0.3 | V             |
| Transition frequency   | $f_T$         | $V_{CB} = 10 \text{ V}, I_E = -2 \text{ mA}, f = 200 \text{ MHz}$ |     | 250  |     | MHz           |
| Collector output capacitance (Common base, input open circuited) | $C_{ob}$      | $V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$               |     | 1.5  |     | pF            |

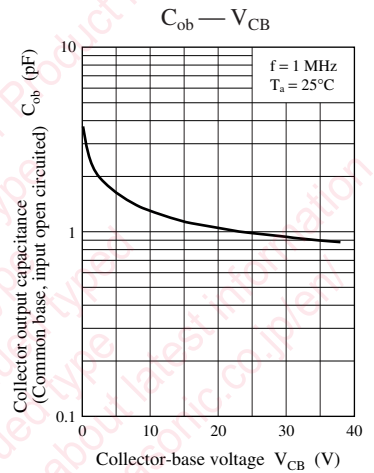
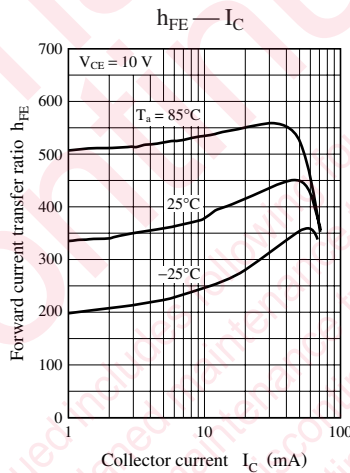
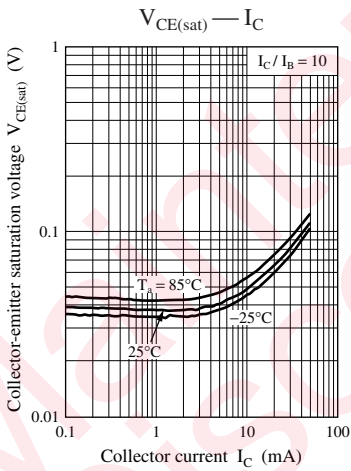
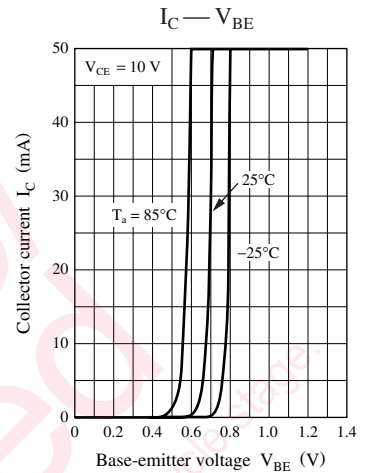
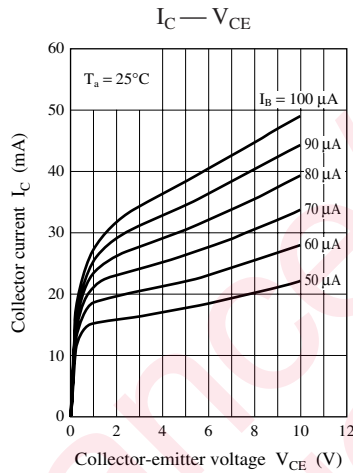
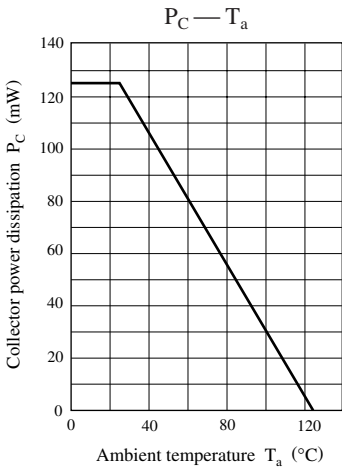
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Rank classification

| Rank     | Q          | R          |
|----------|------------|------------|
| $h_{FE}$ | 200 to 400 | 250 to 500 |



Marking Symbol: AM



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