

# 2SB0968 (2SB968)

## Silicon PNP epitaxial planar type

For low-frequency output amplification

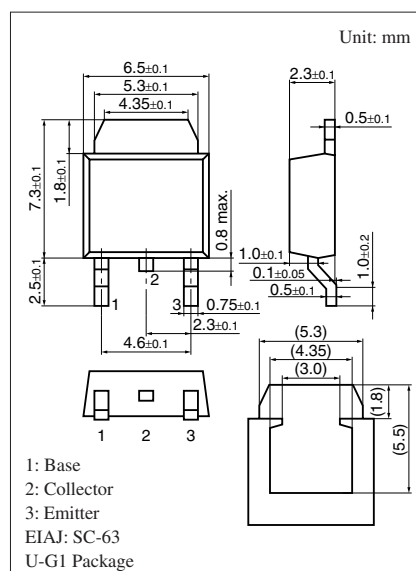
Complementary to 2SD1295

### ■ Features

- Possible to solder radiation fin directly to printed circuit board
- High collector-emitter voltage (Base open)  $V_{CEO}$
- Large collector power dissipation  $P_C$

### ■ 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)                    | $V_{CEO}$ | -40         | V                |
| Emitter-base voltage (Collector open)                    | $V_{EBO}$ | -5          | V                |
| Collector current                                        | $I_C$     | -1.5        | A                |
| Peak collector current                                   | $I_{CP}$  | -3          | A                |
| Collector power dissipation ( $T_C = 25^\circ\text{C}$ ) | $P_C$     | 10          | W                |
| Junction temperature                                     | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature                                      | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |



Note) Self-supported type package is also prepared.

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

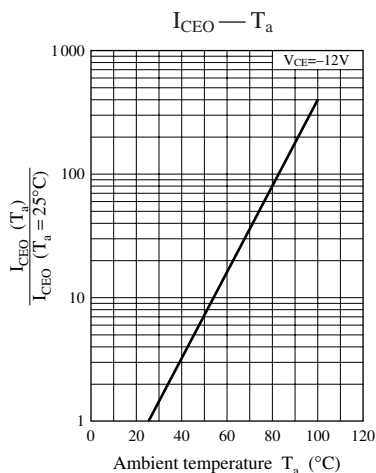
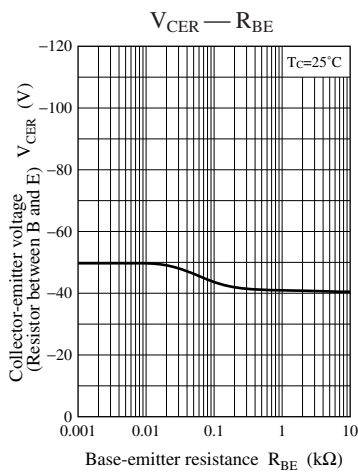
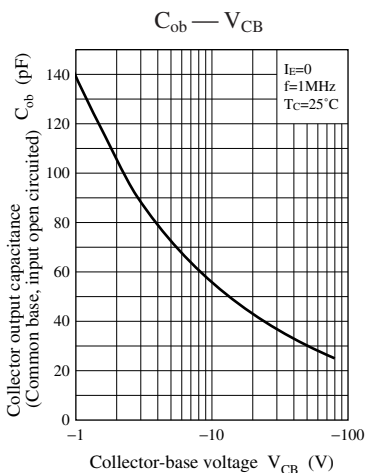
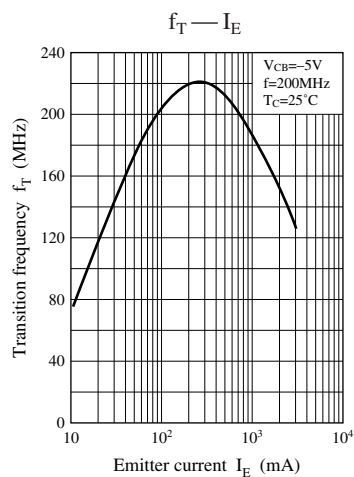
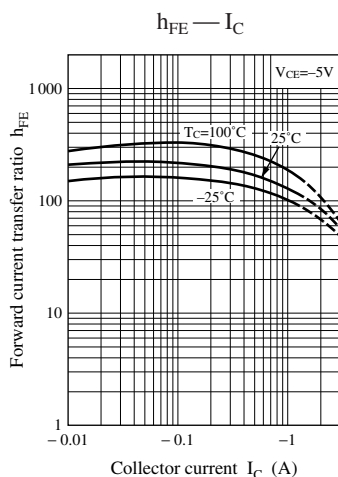
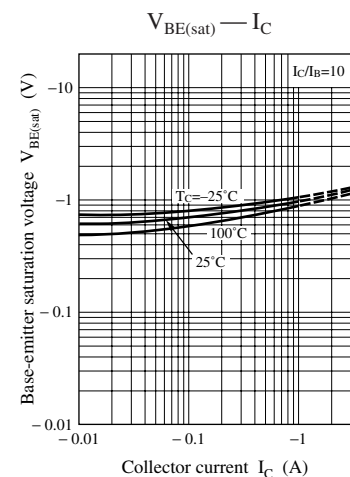
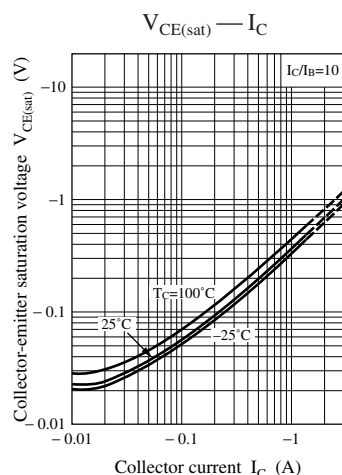
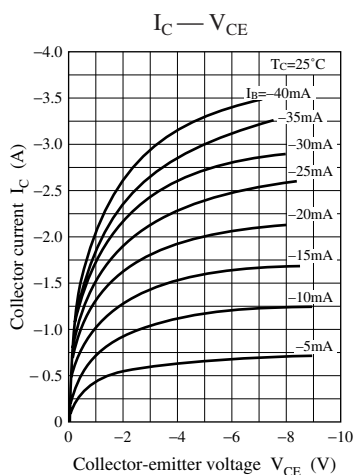
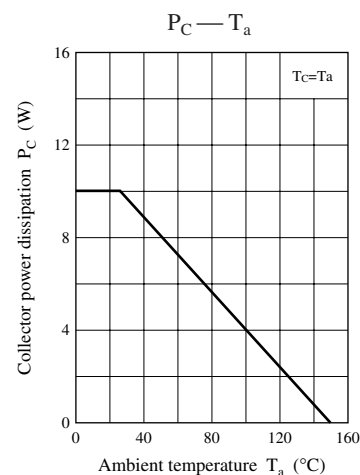
| Parameter                                                           | Symbol        | Conditions                                                         | Min | Typ | Max  | Unit          |
|---------------------------------------------------------------------|---------------|--------------------------------------------------------------------|-----|-----|------|---------------|
| Collector-base voltage (Emitter open)                               | $V_{CBO}$     | $I_C = -1 \text{ mA}, I_E = 0$                                     | -50 |     |      | V             |
| Collector-emitter voltage (Base open)                               | $V_{CEO}$     | $I_C = -2 \text{ mA}, I_B = 0$                                     | -40 |     |      | V             |
| Collector-base cutoff current (Emitter open)                        | $I_{CBO}$     | $V_{CB} = -20 \text{ V}, I_E = 0$                                  |     |     | -1   | $\mu\text{A}$ |
| Collector-emitter cutoff current (Base open)                        | $I_{CEO}$     | $V_{CE} = -10 \text{ V}, I_B = 0$                                  |     |     | -100 | $\mu\text{A}$ |
| Emitter-base cutoff current (Collector open)                        | $I_{EBO}$     | $V_{EB} = -5 \text{ V}, I_C = 0$                                   |     |     | -10  | $\mu\text{A}$ |
| Forward current transfer ratio                                      | $h_{FE1}^*$   | $V_{CE} = -5 \text{ V}, I_C = -1 \text{ A}$                        | 80  |     | 220  | —             |
|                                                                     | $h_{FE2}$     | $V_{CE} = -5 \text{ V}, I_C = -1 \text{ mA}$                       | 10  |     |      |               |
| Collector-emitter saturation voltage                                | $V_{CE(sat)}$ | $I_C = -1.5 \text{ A}, I_B = -0.15 \text{ A}$                      |     |     | -1   | V             |
| Base-emitter saturation voltage                                     | $V_{BE(sat)}$ | $I_C = -2 \text{ A}, I_B = -0.2 \text{ A}$                         |     |     | -1.5 | V             |
| Transition frequency                                                | $f_T$         | $V_{CE} = -5 \text{ V}, I_C = -0.5 \text{ A}, f = 200 \text{ MHz}$ |     | 150 |      | MHz           |
| Collector output capacitance<br>(Common base, input open circuited) | $C_{ob}$      | $V_{CB} = -20 \text{ V}, I_E = 0, f = 1 \text{ MHz}$               |     | 45  |      | pF            |

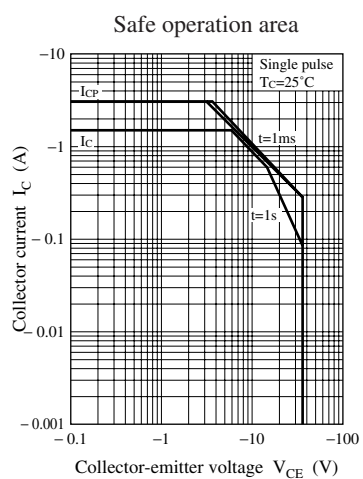
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Rank classification

| Rank      | Q         | R          |
|-----------|-----------|------------|
| $h_{FE1}$ | 80 to 160 | 120 to 220 |

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





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