

# 2SB956

## Silicon PNP epitaxial planer type

For low-frequency power amplification

Complementary to 2SD1280

### ■ Features

- Large collector power dissipation  $P_C$ .
- Low collector to emitter saturation voltage  $V_{CE(sat)}$ .
- Mini Power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

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

| Parameter                    | Symbol    | Ratings    | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage    | $V_{CBO}$ | -20        | V    |
| Collector to emitter voltage | $V_{CEO}$ | -20        | V    |
| Emitter to base voltage      | $V_{EBO}$ | -5         | V    |
| Peak collector current       | $I_{CP}$  | -2         | A    |
| Collector current            | $I_C$     | -1         | A    |
| Collector power dissipation  | $P_C^*$   | 1          | W    |
| Junction temperature         | $T_j$     | 150        | °C   |
| Storage temperature          | $T_{stg}$ | -55 ~ +150 | °C   |

\* Printed circuit board: Copper foil area of 1cm<sup>2</sup> or more, and the board thickness of 1.7mm for the collector portion

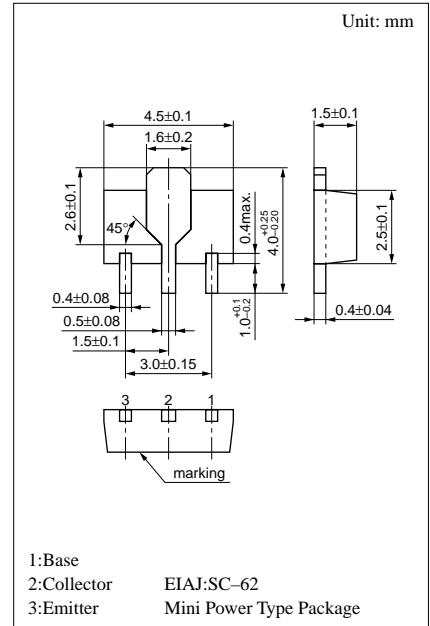
### ■ Electrical Characteristics (Ta=25°C)

| Parameter                               | Symbol         | Conditions                             | min | typ | max  | Unit |
|---|----------------|--|-----|-----|------|------|
| Collector cutoff current                | $I_{CBO}$      | $V_{CB} = -10V, I_E = 0$               |     |     | -1   | μA   |
| Collector to emitter voltage            | $V_{CEO}$      | $I_C = -1mA, I_B = 0$                  | -20 |     |      | V    |
| Emitter to base voltage                 | $V_{EBO}$      | $I_E = -10μA, I_C = 0$                 | -5  |     |      | V    |
| Forward current transfer ratio          | $h_{FE1}^{*1}$ | $V_{CE} = -2V, I_C = -500mA^{*2}$      | 130 |     | 280  |      |
|   | $h_{FE2}$      | $V_{CE} = -2V, I_C = -1.5A^{*2}$       | 50  |     |      |      |
| Collector to emitter saturation voltage | $V_{CE(sat)}$  | $I_C = -1A, I_B = -50mA^{*2}$          |     |     | -0.5 | V    |
| Base to emitter saturation voltage      | $V_{BE(sat)}$  | $I_C = -500mA, I_B = -50mA$            |     |     | -1.2 | V    |
| Transition frequency                    | $f_T$          | $V_{CB} = -6V, I_E = 50mA, f = 200MHz$ |     | 200 |      | MHz  |
| Collector output capacitance            | $C_{ob}$       | $V_{CB} = -6V, I_E = 0, f = 1MHz$      |     | 40  |      | pF   |

\*2 Pulse measurement

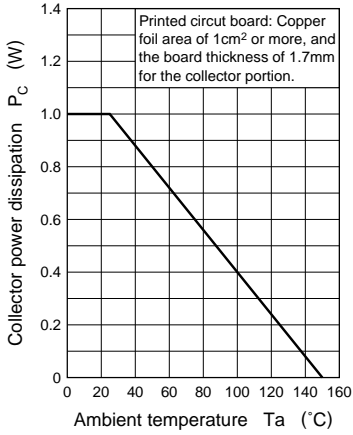
\*1  $h_{FE1}$  Rank classification

| Rank           | R         | S         |
|----------------|-----------|-----------|
| $h_{FE1}$      | 130 ~ 210 | 180 ~ 280 |
| Marking Symbol | HR        | HS        |

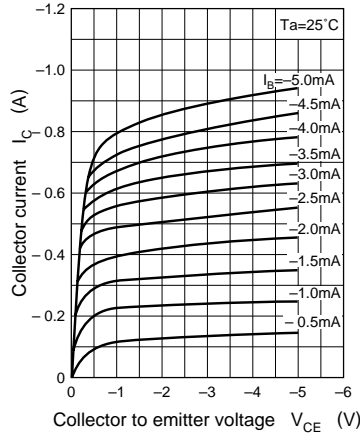


Marking symbol : H

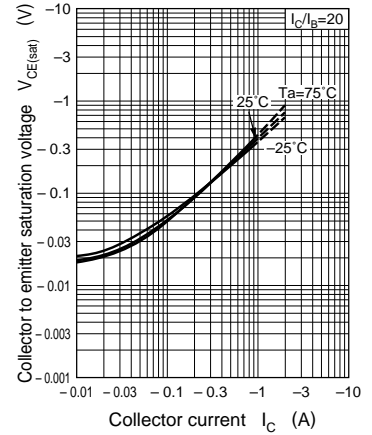
$P_C - T_a$



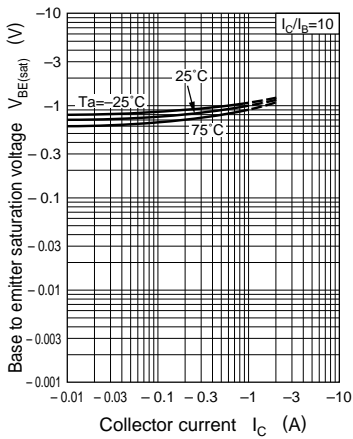
$I_C - V_{CE}$



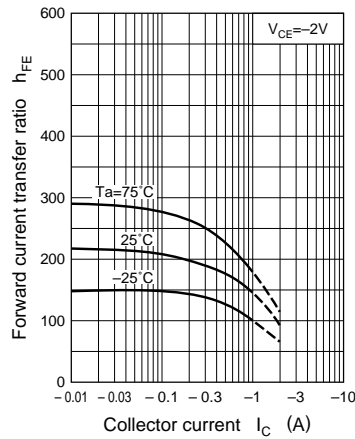
$V_{CE(sat)} - I_C$



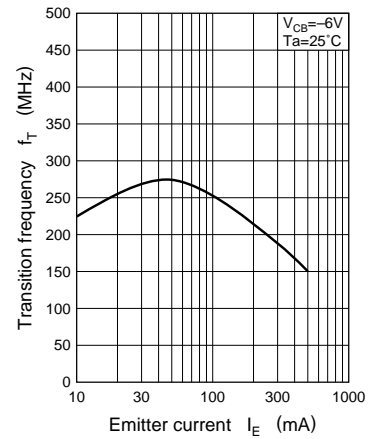
$V_{BE(sat)} - I_C$



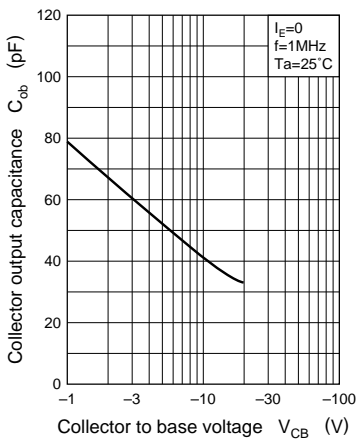
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



Area of safe operation (ASO)

