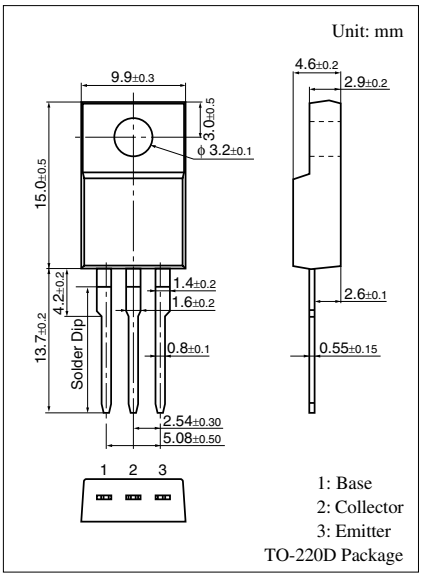
# 2SB1623

## Silicon PNP epitaxial planer type

For power amplification




### ■ Features

- High forward current transfer ratio $h_{FE}$
- Satisfactory linearity of forward current transfer ratio $h_{FE}$
- Dielectric breakdown voltage of the package: > 5 kV

### ■ Absolute Maximum Ratings $T_C = 25°C$

| Parameter | | Symbol | Rating | Unit |
|---|---|---|---|---|
| Collector to base voltage | | $V_{CBO}$ | −60 | V |
| Collector to emitter voltage | | $V_{CEO}$ | −60 | V |
| Emitter to base voltage | | $V_{EBO}$ | −5 | V |
| Peak collector current | | $I_{CP}$ | −8 | A |
| Collector current | | $I_C$ | −4 | A |
| Collector power dissipation | $T_C = 25°C$ | $P_C$ | 40 | W |
| | $T_a = 25°C$ | | 2.0 | |
| Junction temperature | | $T_j$ | 150 | °C |
| Storage temperature | | $T_{stg}$ | −55 to +150 | °C |

### ■ Electrical Characteristics $T_C = 25°C$

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector cutoff current | $I_{CBO}$ | $V_{CB} = -60$ V, $V_{BE} = 0$ | | | −200 | μA |
| | $I_{CEO}$ | $V_{CB} = -30$ V, $I_B = 0$ | | | −500 | μA |
| Emitter cutoff current | $I_{EBO}$ | $V_{EB} = -5$ V, $I_C = 0$ | | | −2 | mA |
| Collector to emitter voltage | $V_{CEO}$ | $I_C = -30$ mA, $I_B = 0$ | −60 | | | V |
| Forward current transfer ratio | $h_{FE1}$ | $V_{CE} = -3$ V, $I_C = -0.5$ A | 1 000 | | | |
| | $h_{FE2}$ * | $V_{CE} = -3$ V, $I_C = -3$ A | 1 000 | | 10 000 | |
| Base to emitter voltage (DC value) | $V_{BE}$ | $V_{CE} = -3$ V, $I_C = -3$ A | | | −2.5 | V |
| Collector to emitter saturation voltage | $V_{CE(sat)1}$ | $I_C = -3$ A, $I_B = -12$ mA | | | −2 | V |
| | $V_{CE(sat)2}$ | $I_C = -5$ A, $I_B = -20$ mA | | | −4 | V |
| Transition frequency | $f_T$ | $V_{CB} = -10$ V, $I_C = -0.5$ A, f = 1 MHz | | 20 | | MHz |
| Turn-on time | $t_{on}$ | $I_C = -3$ A, $I_{B1} = -12$ mA, $I_{B2} = 12$ mA | | 0.3 | | μs |
| Storage time | $t_{stg}$ | $V_{CC} = -50$ V | | 2 | | μs |
| Fall time | $t_f$ | | | 0.5 | | μs |

Note) *: Rank classification

| Rank | P | Q | R |
|---|---|---|---|
| $h_{FE2}$ | 4 000 to 10 000 | 2 000 to 5 000 | 1 000 to 2 500 |