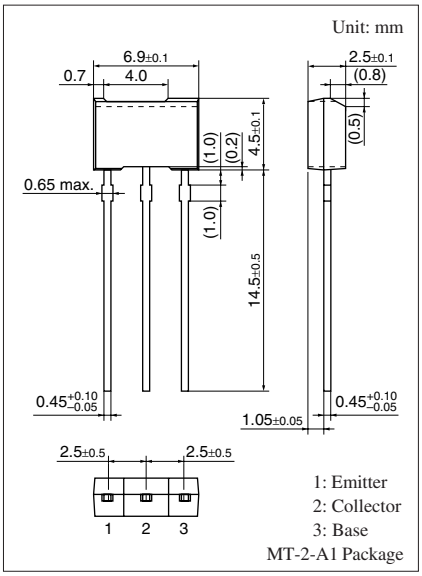
# 2SB1434

## Silicon PNP epitaxial planer type

For low-frequency output amplification
Complementary to 2SD2177




### ■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Allowing supply with the radial taping

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

| 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 | $I_C$ | −2 | A |
| Peak collector current | $I_{CP}$ | −3 | A |
| Collector power dissipation * | $P_C$ | 1 | W |
| Junction temperature | $T_j$ | 150 | °C |
| Storage temperature | $T_{stg}$ | −55 to +150 | °C |

Note) ∗: Print circuit board: Copper foil area of 1 $cm^2$ or more, and the board thickness of 1.7 mm for the collector portion

### ■ Electrical Characteristics $T_a = 25°C \pm 3°C$

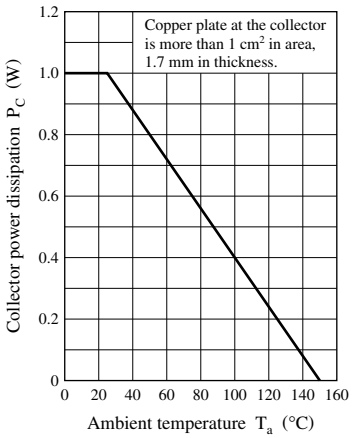
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector-base voltage (Emitter open) | $V_{CBO}$ | $I_C = -10$ µA, $I_E = 0$ | −50 | | | V |
| Collector-emitter voltage (Base open) | $V_{CEO}$ | $I_C = -1$ mA, $I_B = 0$ | −50 | | | V |
| Emitter-base voltage (Collector open) | $V_{EBO}$ | $I_E = -10$ µA, $I_C = 0$ | −5 | | | V |
| Collector-base cutoff current (Emitter open) | $I_{CBO}$ | $V_{CB} = -20$ V, $I_E = 0$ | | | − 0.1 | µA |
| Forward current transfer ratio | $h_{FE1}$ *2 | $V_{CE} = -2$ V, $I_C = -200$ mA | 120 | | 340 | — |
| | $h_{FE2}$ *1 | $V_{CE} = -2$ V, $I_C = -1$ A | 60 | | | |
| Collector-emitter saturation voltage *1 | $V_{CE(sat)}$ | $I_C = -1$ A, $I_B = -50$ mA | | − 0.2 | − 0.3 | V |
| Base-emitter saturation voltage *1 | $V_{BE(sat)}$ | $I_C = -1$ A, $I_B = -50$ mA | | − 0.85 | −1.20 | V |
| Transition frequency | $f_T$ | $V_{CB} = -10$ V, $I_E = 50$ mA, f = 200 MHz | | 110 | | MHz |
| Collector output capacitance (Common base, input open circuited) | $C_{ob}$ | $V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz | | 40 | 60 | pF |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. ∗1: Pulse measurement
∗2: Rank classification

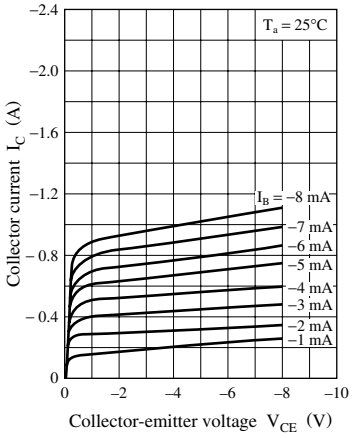
| Rank | R | S | No-rank |
|---|---|---|---|
| $h_{FE1}$ | 120 to 240 | 170 to 340 | 120 to 340 |

Product of no-rank is not classification is not marked.

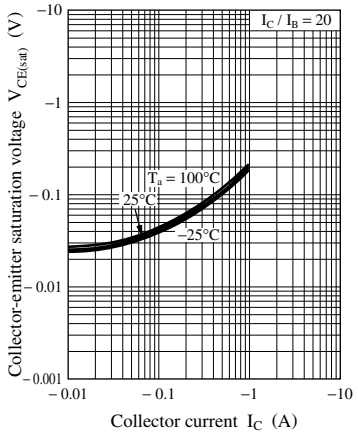
$P_C$ — $T_a$



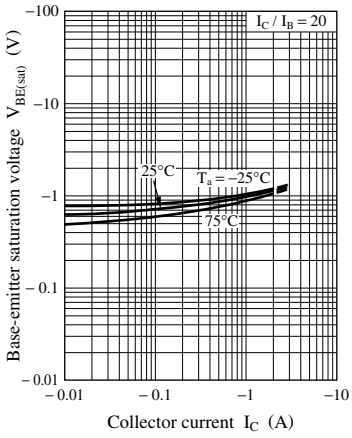

$I_C$ — $V_{CE}$



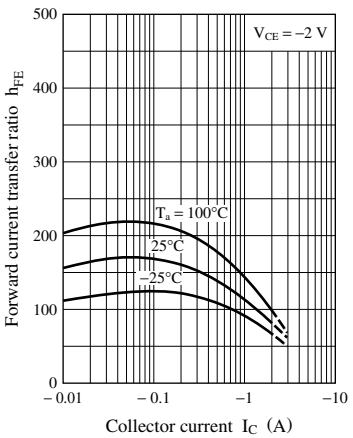

$V_{CE(sat)}$ — $I_C$



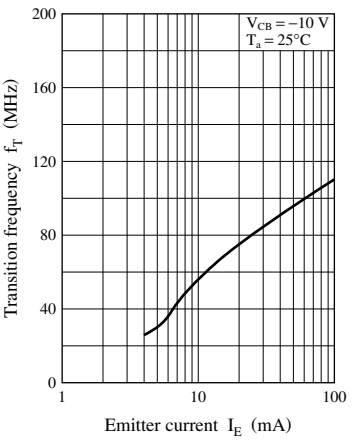

$V_{BE(sat)}$ — $I_C$



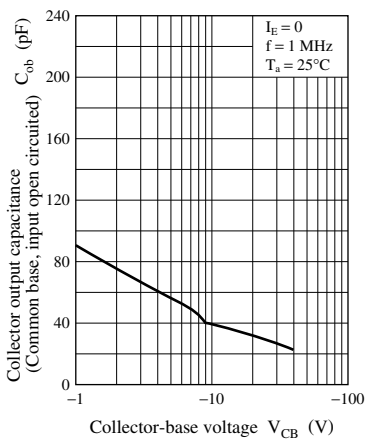

$h_{FE}$ — $I_C$




$f_T$ — $I_E$




$C_{ob}$ — $V_{CB}$



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