

# 2SD2134

## Silicon NPN epitaxial planar type

For low-frequency driver , high power amplification  
Complementary to 2SB1414

### ■ Features

- Excellent collector current  $I_C$  characteristics of forward current transfer ratio  $h_{FE}$
- High transition frequency  $f_T$
- A complementary pair with 2SB1414, is optimum for the driver-stage of a 60 W to 100 W output amplifier.

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

| Parameter                             | Symbol    | Rating      | Unit             |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | $V_{CBO}$ | 150         | V                |
| Collector-emitter voltage (Base open) | $V_{CEO}$ | 150         | V                |
| Emitter-base voltage (Collector open) | $V_{EBO}$ | 5           | V                |
| Collector current                     | $I_C$     | 1           | A                |
| Peak collector current                | $I_{CP}$  | 1.5         | A                |
| Collector power dissipation           | $P_C$     | 1.5         | W                |
| Junction temperature                  | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature                   | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

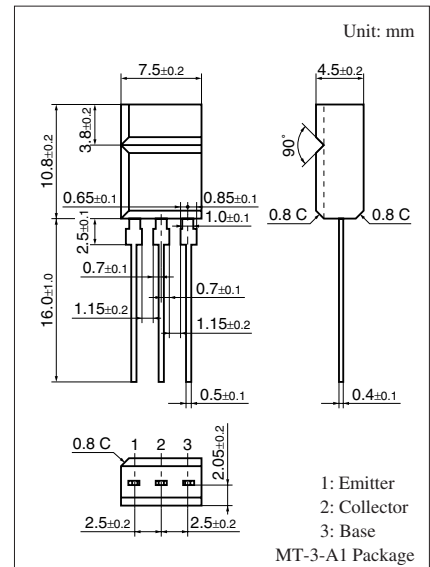
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

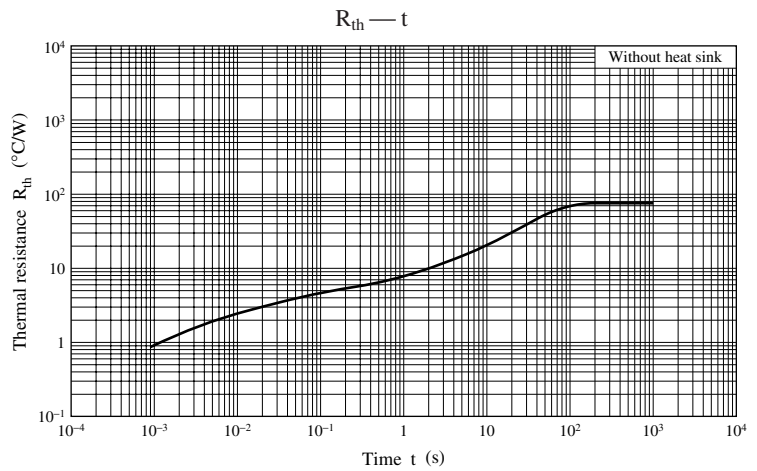
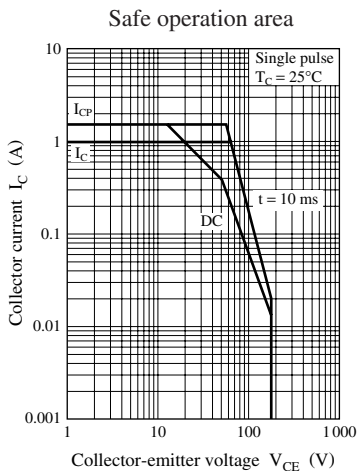
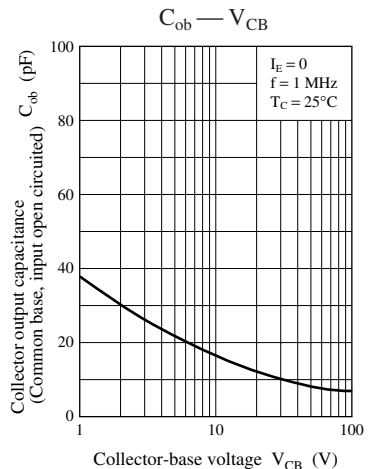
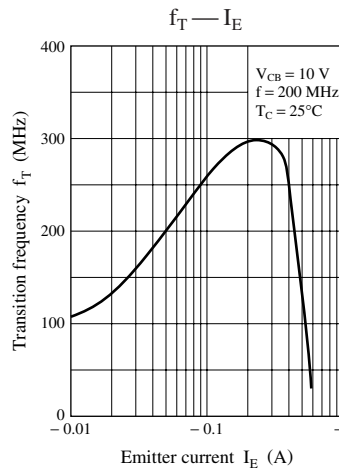
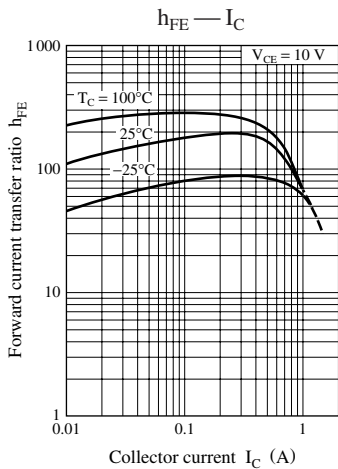
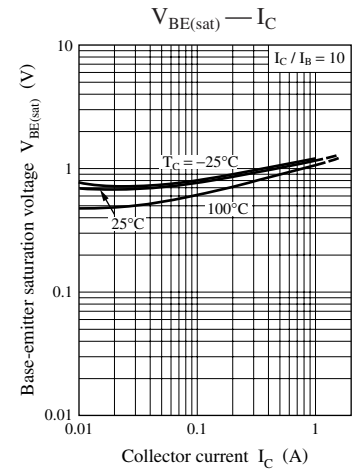
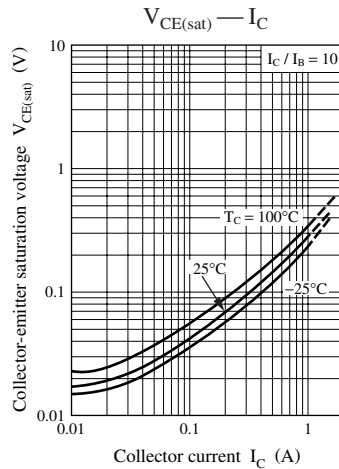
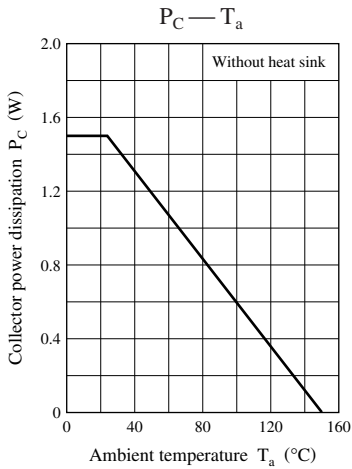
| Parameter   | Symbol        | Conditions   | Min | Typ | Max | Unit |
|---|---------------|--|-----|-----|-----|------|
| Collector-emitter voltage (Base open)                               | $V_{CEO}$     | $I_C = 100 \mu\text{A}, I_B = 0$                                   | 150 |     |     | V    |
| Emitter-base voltage (Collector open)                               | $V_{EBO}$     | $I_E = 10 \mu\text{A}, I_C = 0$                                    | 5   |     |     | V    |
| Forward current transfer ratio                                      | $h_{FE1}^*$   | $V_{CE} = 10 \text{ V}, I_C = 150 \text{ mA}$                      | 90  |     | 220 | —    |
|   | $h_{FE2}$     | $V_{CE} = 5 \text{ V}, I_C = 500 \text{ mA}$                       | 50  |     |     |      |
| Collector-emitter saturation voltage                                | $V_{CE(sat)}$ | $I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$                        |     | 0.5 | 2.0 | V    |
| Base-emitter saturation voltage                                     | $V_{BE(sat)}$ | $I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$                        |     | 1.0 | 2.0 | V    |
| Transition frequency  | $f_T$         | $V_{CB} = 10 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$ |     | 200 |     | MHz  |
| Collector output capacitance<br>(Common base, input open circuited) | $C_{ob}$      | $V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$                |     | 20  |     | pF   |

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

2. \*: Rank classification

| Rank      | Q         | R          |
|-----------|-----------|------------|
| $h_{FE1}$ | 90 to 155 | 130 to 220 |





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