



# 2SB1214

## Driver Applications

### Applications

- Motor drivers, hammer drivers, relay drivers.

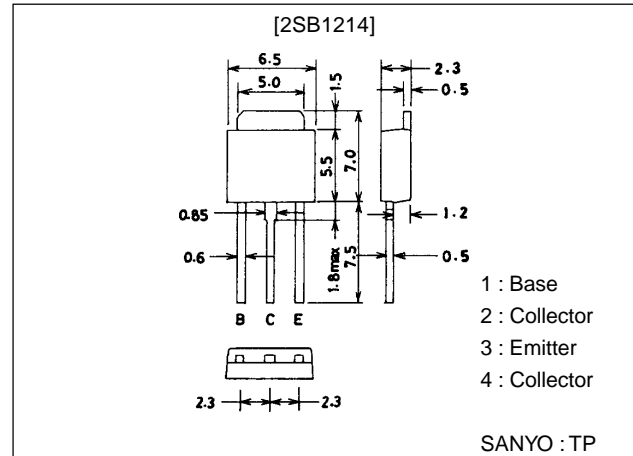
### Features

- High DC current gain.
- Darlington connection.
- Small and slim package permitting the 2SB1214-applied sets to be made more compact.

### Package Dimensions

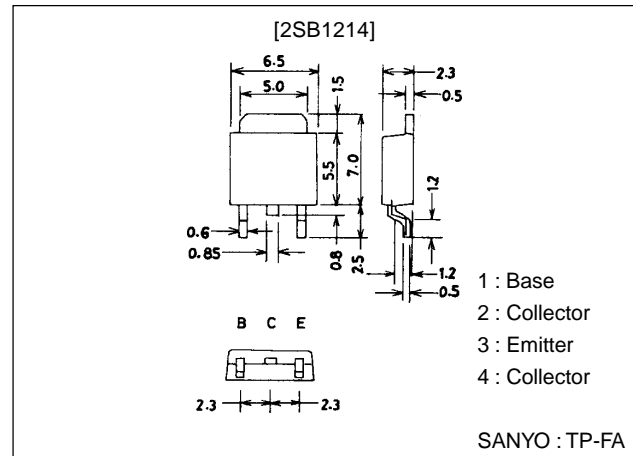
unit:mm

2045B



unit:mm

2044B



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## Specifications

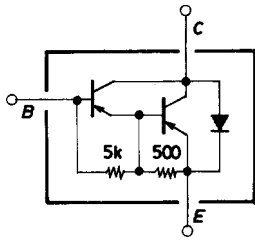
### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

| Parameter                    | Symbol    | Conditions             | Ratings     | Unit             |
|------------------------------|-----------|------------------------|-------------|------------------|
| Collector-to-Base Voltage    | $V_{CB0}$ |                        | -80         | V                |
| Collector-to-Emitter Voltage | $V_{CEO}$ |                        | -60         | V                |
| Emitter-to-Base Voltage      | $V_{EBO}$ |                        | -6          | V                |
| Collector Current            | $I_C$     |                        | -3          | A                |
| Collector Current (Pulse)    | $I_{CP}$  |                        | -6          | A                |
| Collector Dissipation        | $P_C$     |                        | 1           | W                |
|                              |           | $T_c=25^\circ\text{C}$ | 15          | W                |
| Junction Temperature         | $T_j$     |                        | 150         | $^\circ\text{C}$ |
| Storage Temperature          | $T_{stg}$ |                        | -55 to +150 | $^\circ\text{C}$ |

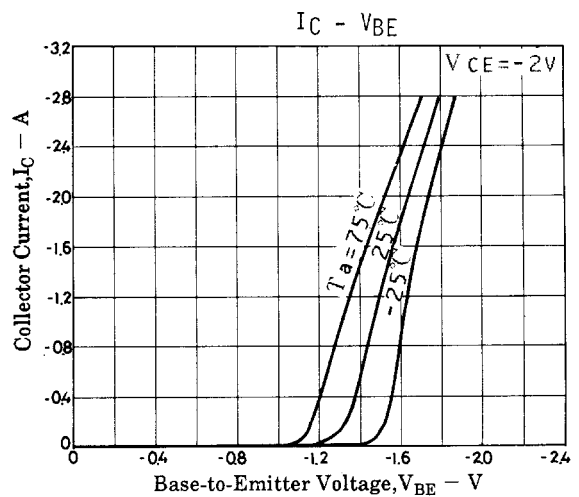
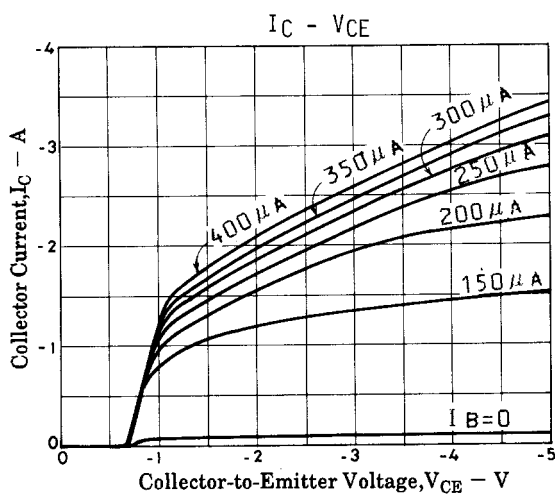
### Electrical Characteristics at $T_a = 25^\circ\text{C}$

| Parameter                               | Symbol        | Conditions                          | Ratings |     |      | Unit          |
|---|---------------|-------------------------------------|---------|-----|------|---------------|
|   |               |                                     | min     | typ | max  |               |
| Collector Cutoff Current                | $I_{CBO}$     | $V_{CB}=-60\text{V}, I_E=0$         |         |     | -10  | $\mu\text{A}$ |
| Emitter Cutoff Current                  | $I_{EBO}$     | $V_{EB}=-5\text{V}, I_C=0$          |         |     | -2.5 | mA            |
| DC Current Gain                         | $h_{FE1}$     | $V_{CE}=-2\text{V}, I_C=-1\text{A}$ | 2000    |     |      |               |
|   | $h_{FE2}$     | $V_{CE}=-2\text{V}, I_C=-2\text{A}$ | 1000    |     |      |               |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=-2\text{A}, I_B=-4\text{mA}$   |         |     | -1.5 | V             |
| Base-to-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=-2\text{A}, I_B=-4\text{mA}$   |         |     | -2.0 | V             |
| Collector-to-Base Breakdown Voltage     | $V_{(BR)CBO}$ | $I_C=-1\text{mA}, I_E=0$            | -80     |     |      | V             |
| Collector-to-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C=-25\text{mA}, R_{BE}=\infty$   | -60     |     |      | V             |

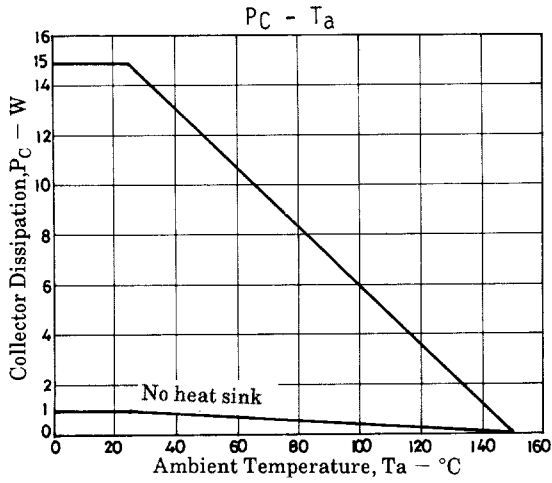
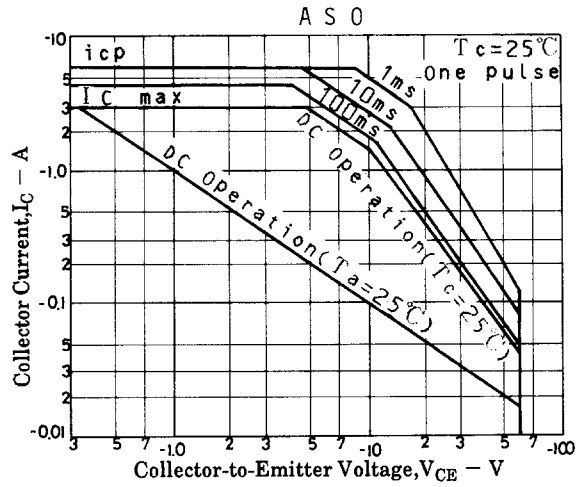
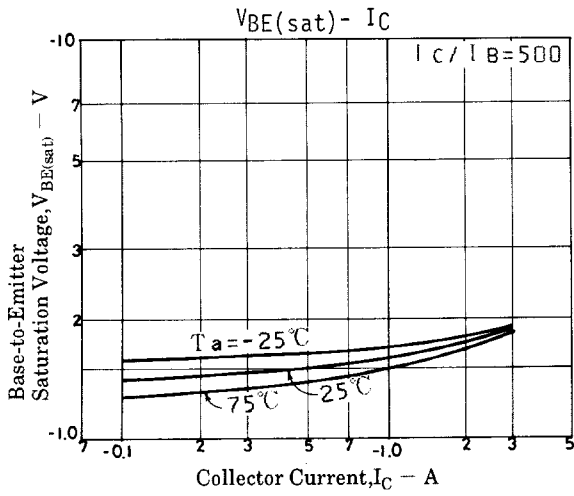
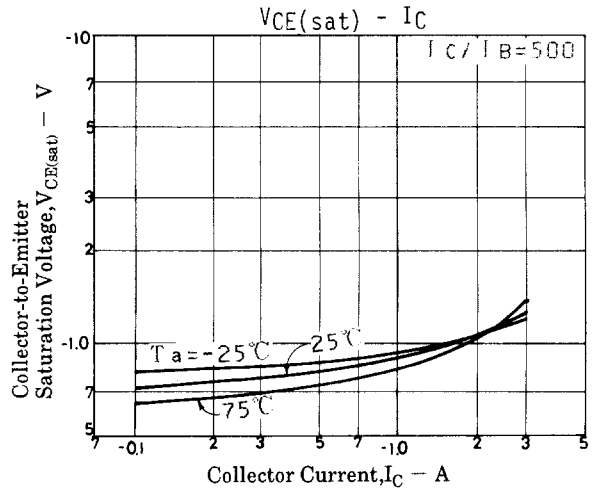
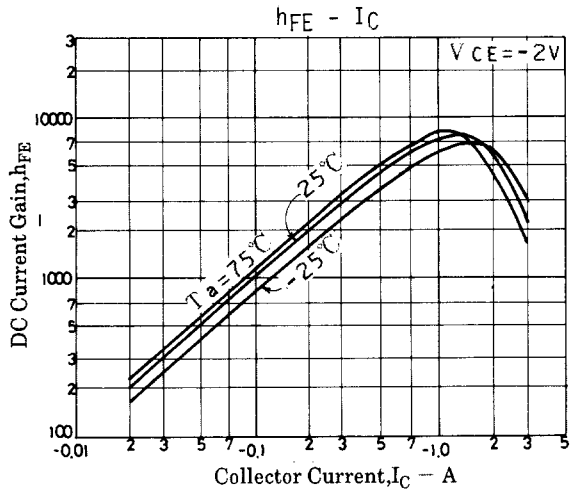
### Electrical Connection



Unit (resistance :  $\Omega$ )



# 2SB1214



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