



## 2SB1235/2SD1852

### Driver Applications

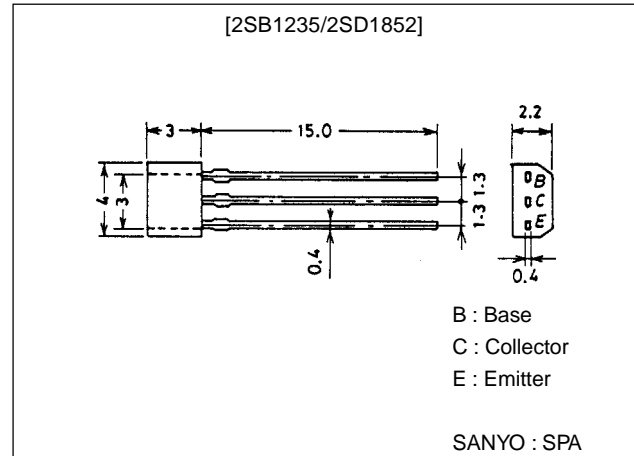
#### Features

- AF amplifier, solenoid drivers, LED drivers.
- Darlington connection.
- High DC current gain.

#### Package Dimensions

unit:mm

2033



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#### Specifications

##### Absolute Maximum Ratings at Ta = 25°C

| Parameter                    | Symbol    | Conditions | Ratings     | Unit |
|------------------------------|-----------|------------|-------------|------|
| Collector-to-Base Voltage    | $V_{CB0}$ |            | (-)80       | V    |
| Collector-to-Emitter Voltage | $V_{CEO}$ |            | (-)50       | V    |
| Emitter-to-Base Voltage      | $V_{EBO}$ |            | (-)10       | V    |
| Collector Current            | $I_C$     |            | (-)200      | mA   |
| Collector Current (Pulse)    | $I_{CP}$  |            | (-)400      | mA   |
| Collector Dissipation        | $P_C$     |            | 300         | mW   |
| Junction Temperature         | $T_J$     |            | 150         | °C   |
| Storage Temperature          | $T_{stg}$ |            | -55 to +150 | °C   |

##### Electrical Characteristics at Ta = 25°C

| Parameter                               | Symbol        | Conditions                          | Ratings |        |        | Unit |
|---|---------------|-------------------------------------|---------|--------|--------|------|
|   |               |                                     | min     | typ    | max    |      |
| Collector Cutoff Current                | $I_{CBO}$     | $V_{CB} = (-)60V, I_E = 0$          |         |        | (-)100 | nA   |
| Emitter Cutoff Current                  | $I_{EBO}$     | $V_{EB} = (-)8V, I_C = 0$           |         |        | (-)100 | nA   |
| DC Current Gain                         | $h_{FE1}$     | $V_{CE} = (-)2V, I_C = (-)10mA$     | 5000    |        |        |      |
|   |               |                                     | 4000    |        |        |      |
|   |               |                                     | (3000)  |        |        |      |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = (-)100mA, I_B = (-)100\mu A$ |         | (-)0.9 | (-)1.5 | V    |
| Base-to-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C = (-)100mA, I_B = (-)100\mu A$ |         | (-)1.5 | (-)2.0 | V    |
| Collector-to-Base Breakdown Voltage     | $V_{(BR)CBO}$ | $I_C = (-)10\mu A, I_E = 0$         | (-)80   |        |        | V    |
| Collector-to-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C = (-)1mA, R_{BE} = \infty$     | (-)50   |        |        | V    |
| Emitter-to-Base Breakdown Voltage       | $V_{(BR)EBO}$ | $I_C = (-)10\mu A, I_C = 0$         | (-)10   |        |        | V    |

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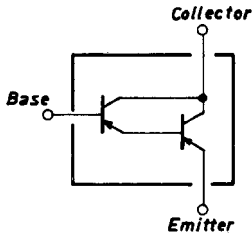
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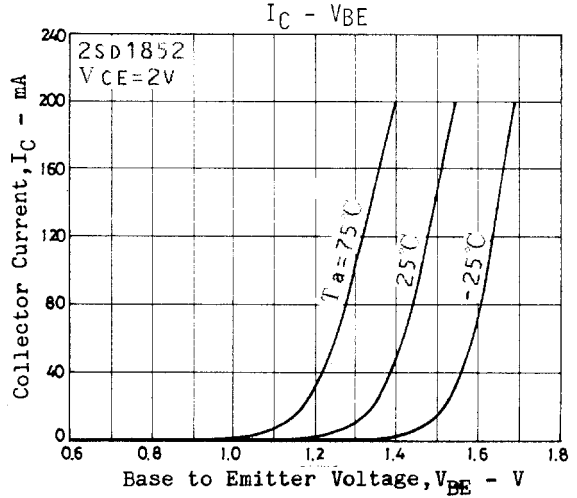
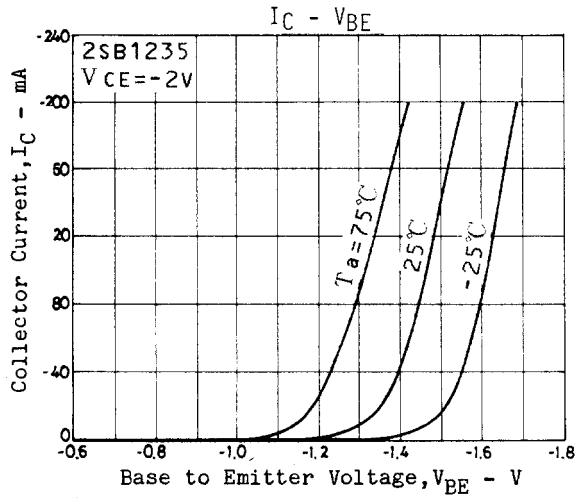
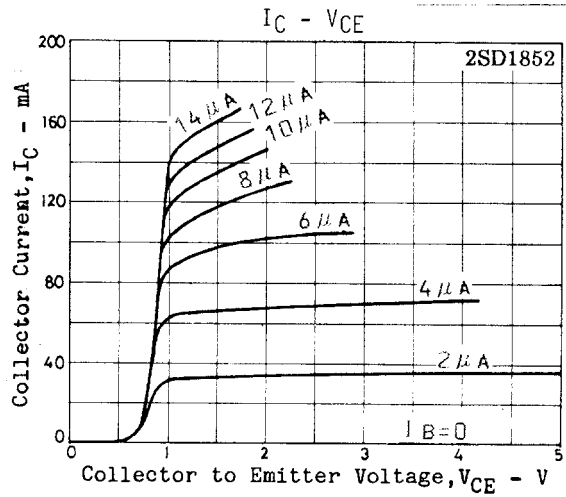
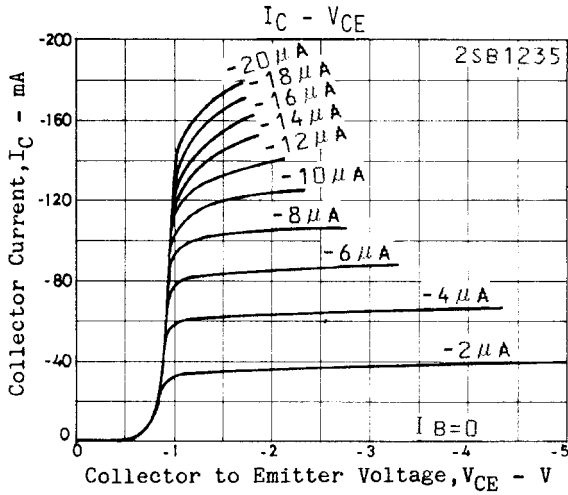
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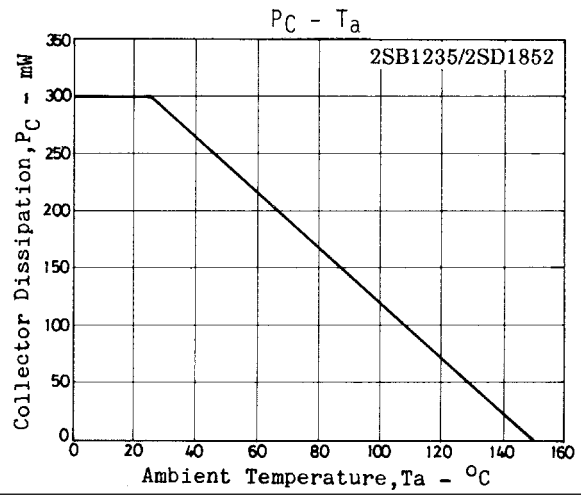
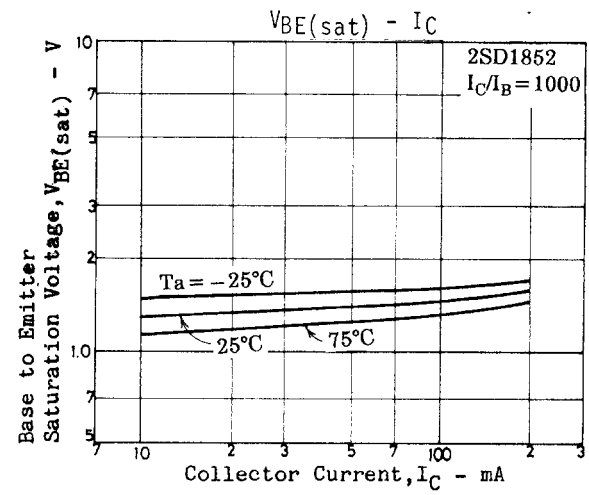
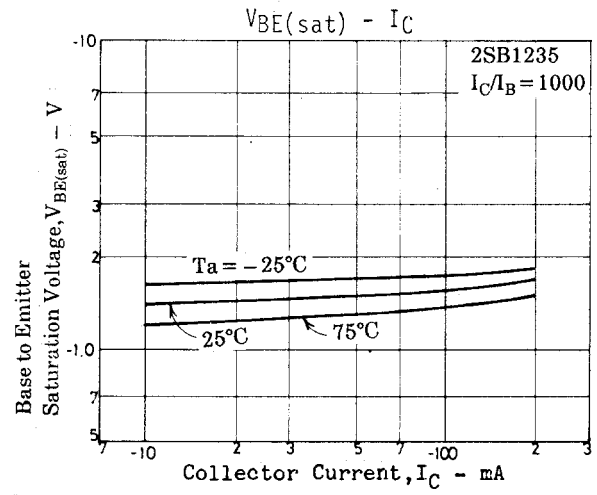
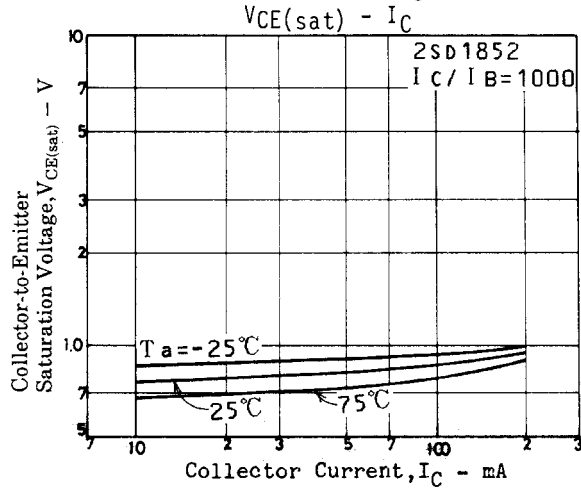
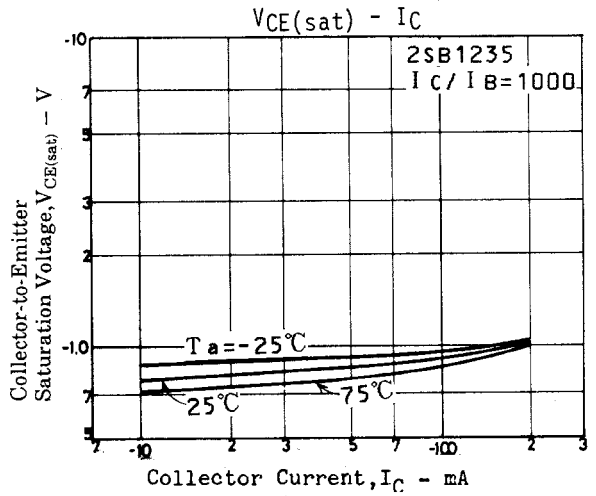
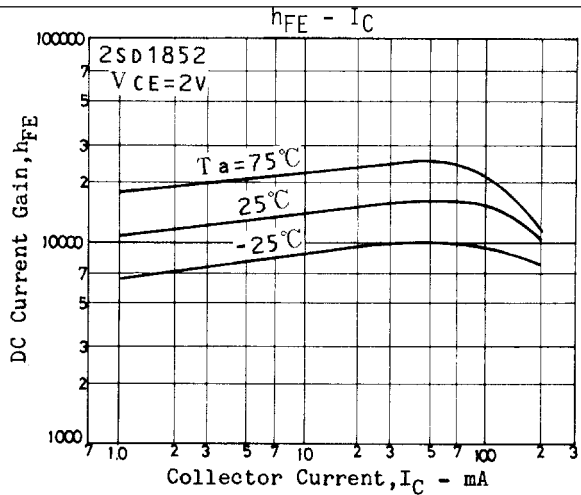
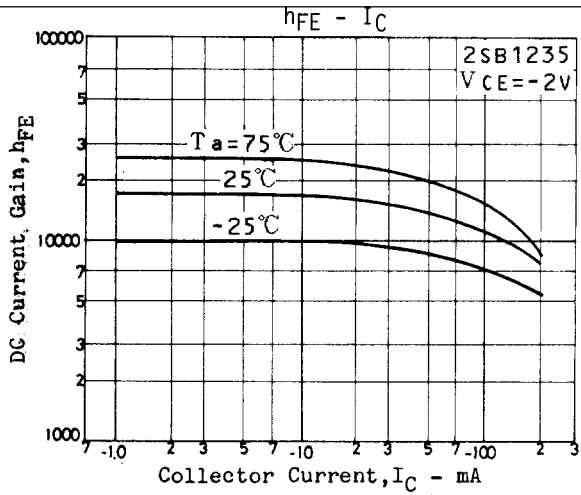
## Electrical Connection



(For NPN, the polarity is reversed.)



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