

|              |          |   |
|--------------|----------|---|
| <b>SANYO</b> | No.2110B | <b>2SD1799</b>                          |
|              |          | NPN Epitaxial Planar Silicon Transistor |

**Driver Applications**

**Applications**

- Motor drivers, printer hammer drivers, relay drivers, voltage regulator control

**Features**

- High DC current gain ( $h_{FE} \geq 4000$ )
- Wide ASO
- Large current capacity
- Small and slim package making it easy to make 2SD1799-applied sets smaller

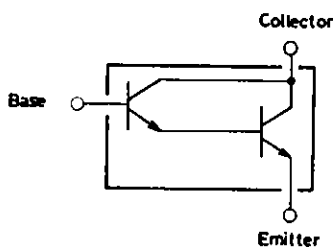
**Absolute Maximum Ratings at  $T_a = 25^\circ\text{C}$**

|                              |           |             | unit             |
|------------------------------|-----------|-------------|------------------|
| Collector to Base Voltage    | $V_{CB0}$ | 30          | V                |
| Collector to Emitter Voltage | $V_{CE0}$ | 25          | V                |
| Emitter to Base Voltage      | $V_{EB0}$ | 10          | V                |
| Collector Current            | $I_C$     | 3           | A                |
| Collector Current(Pulse)     | $I_{CP}$  | 5           | A                |
| Collector Dissipation        | $P_C$     | 1           | W                |
|                              |           | 15          | W                |
| Junction Temperature         | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage Temperature          | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

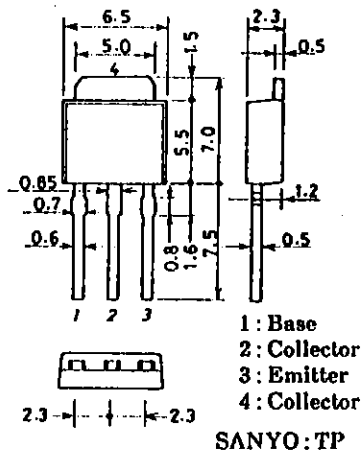
**Electrical Characteristics at  $T_a = 25^\circ\text{C}$**

|                          |               |  | min  | typ | max | unit          |
|--------------------------|---------------|--|------|-----|-----|---------------|
| Collector Cutoff Current | $I_{CBO}$     | $V_{CB} = 20\text{V}, I_E = 0$           |      |     | 1   | $\mu\text{A}$ |
| Emitter Cutoff Current   | $I_{EBO}$     | $V_{EB} = 8\text{V}, I_C = 0$            |      |     | 1   | $\mu\text{A}$ |
| DC Current Gain          | $h_{FE}(1)$   | $V_{CE} = 2\text{V}, I_C = 500\text{mA}$ | 4000 |     |     |               |
|                          | $h_{FE}(2)$   | $V_{CE} = 2\text{V}, I_C = 10\text{mA}$  | 3000 |     |     |               |
| Gain-Bandwidth Product   | $f_T$         | $V_{CE} = 10\text{V}, I_C = 50\text{mA}$ |      | 120 |     | MHz           |
| C-E Saturation Voltage   | $V_{CE(sat)}$ | $I_C = 1\text{A}, I_B = 0.5\text{mA}$    |      |     | 1.5 | V             |
| B-E Saturation Voltage   | $V_{BE(sat)}$ | $I_C = 1\text{A}, I_B = 0.5\text{mA}$    |      |     | 2.0 | V             |
| C-B Breakdown Voltage    | $V_{(BR)CBO}$ | $I_C = 10\mu\text{A}, I_E = 0$           | 30   |     |     | V             |
| C-E Breakdown Voltage    | $V_{(BR)CEO}$ | $I_C = 1\text{mA}, R_{BE} = \infty$      | 25   |     |     | V             |
| E-B Breakdown Voltage    | $V_{(BR)EBO}$ | $I_E = 10\mu\text{A}, I_C = 0$           | 10   |     |     | V             |

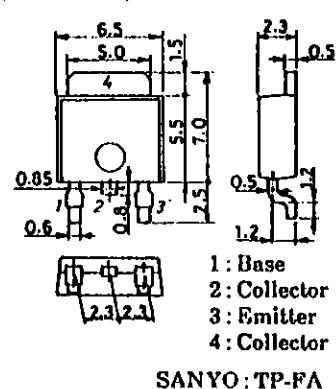
**Electrical Connection**

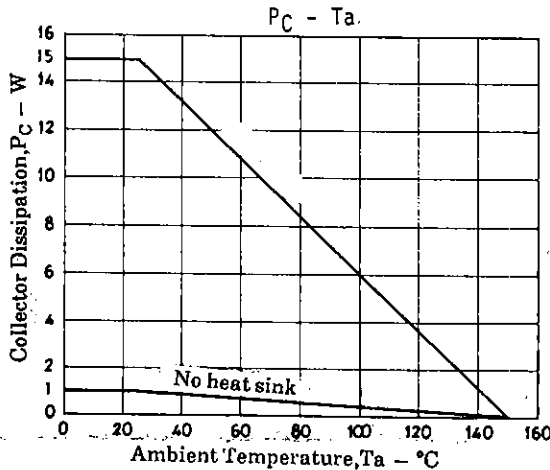
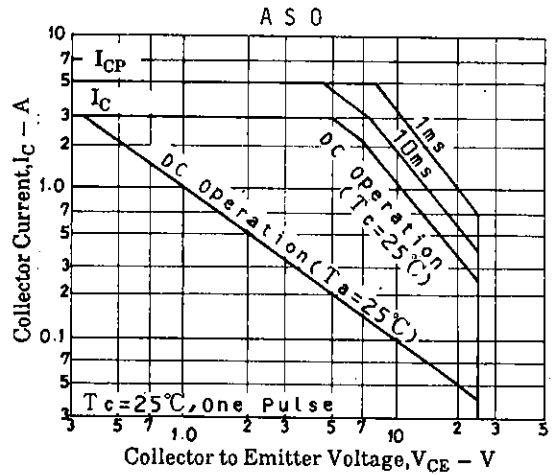
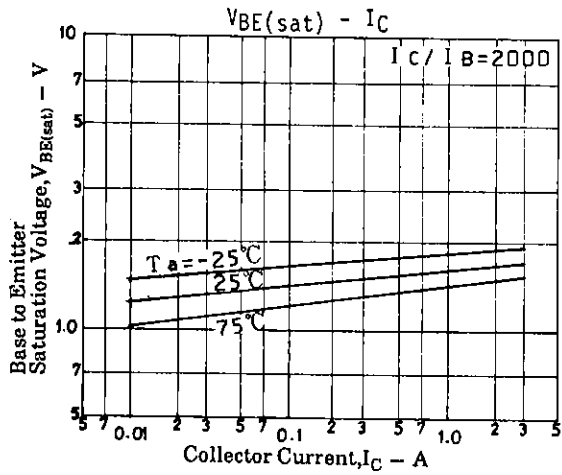
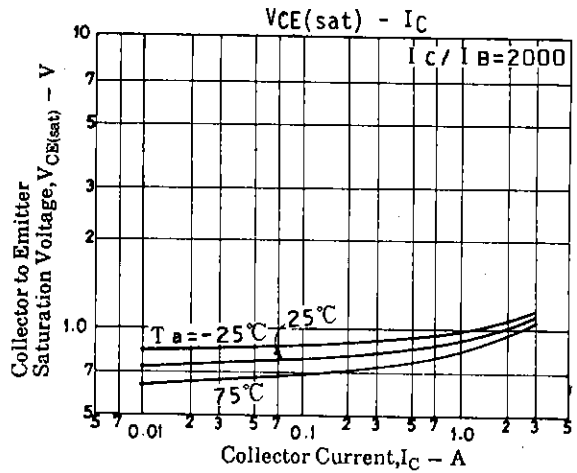
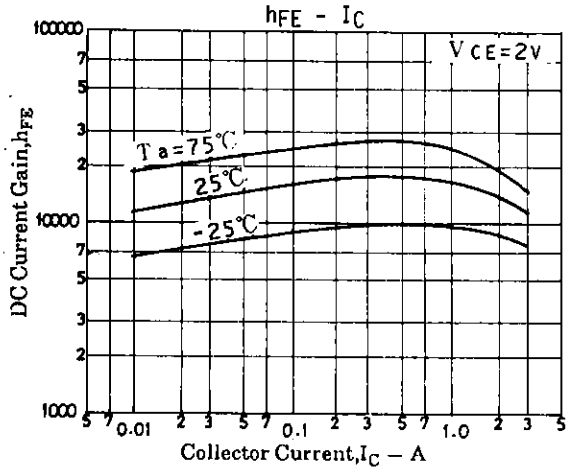
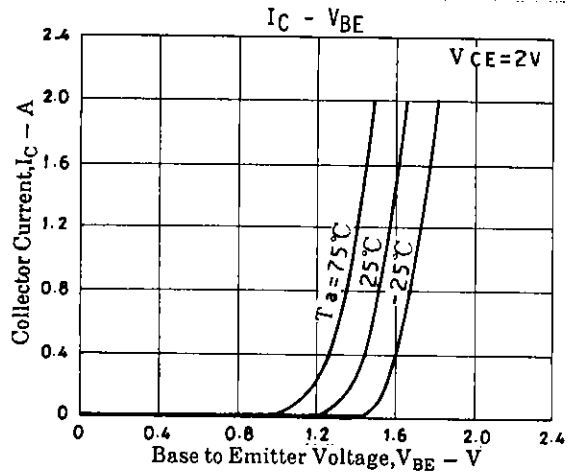
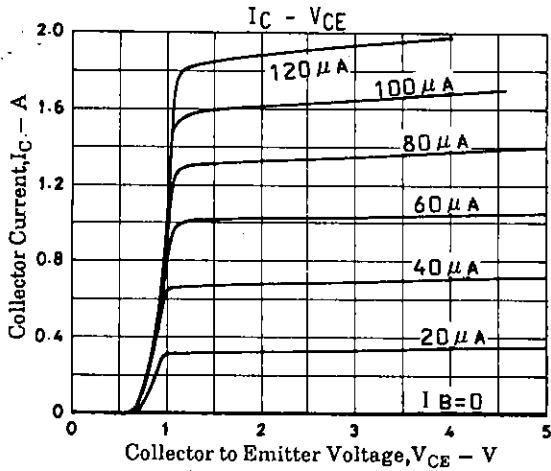


**Package Dimensions 2045B**  
(unit : mm)



**Package Dimensions 2044B**  
(unit : mm)





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