

**2SD1799****Driver Applications****Applications**

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

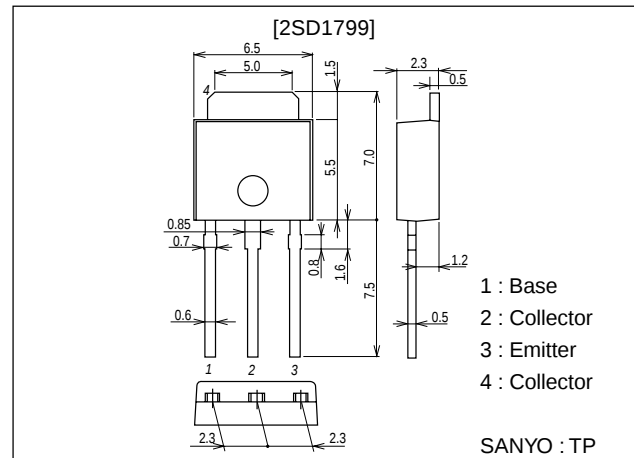
**Features**

- 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.

**Package Dimensions**

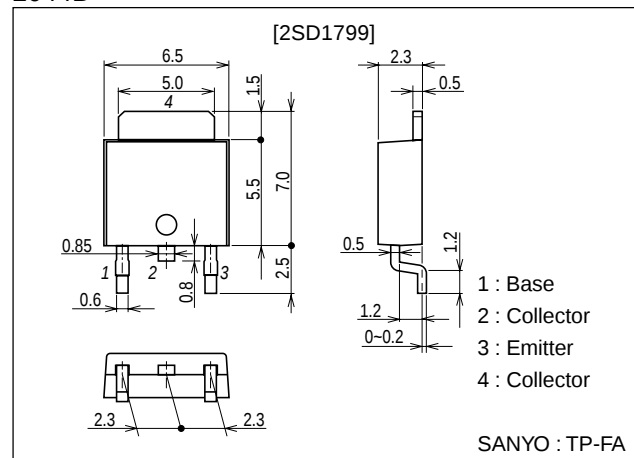
unit:mm

2045B



unit:mm

2044B



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21599TH (KT)/8309MO/D156TA, TS No.2110-1/4

Specifications

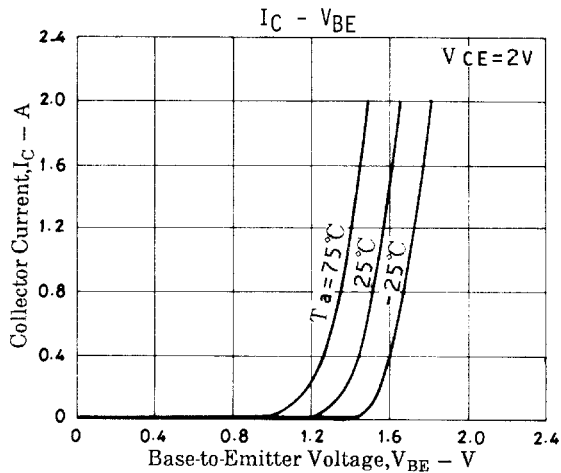
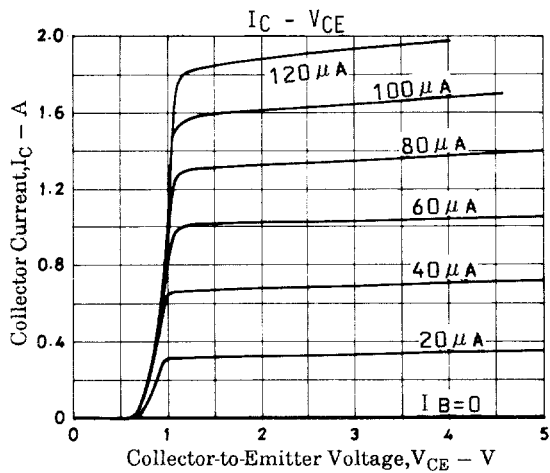
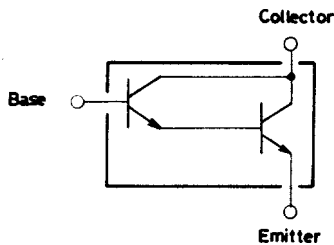
Absolute Maximum Ratings at Ta = 25°C

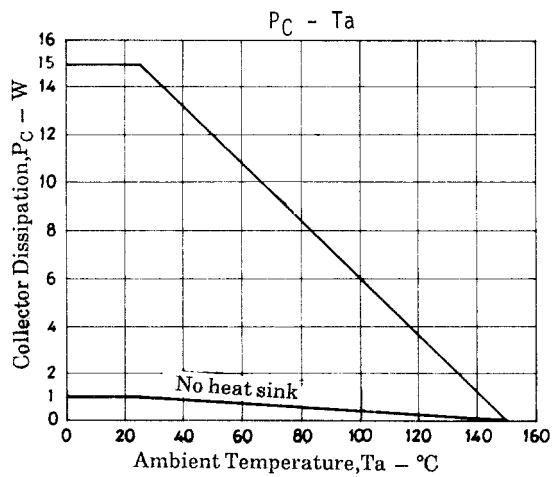
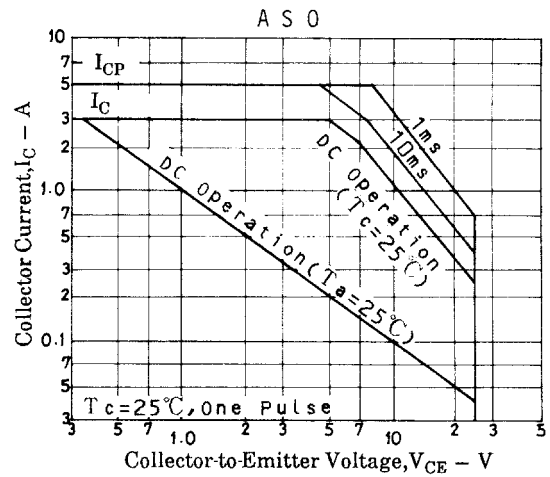
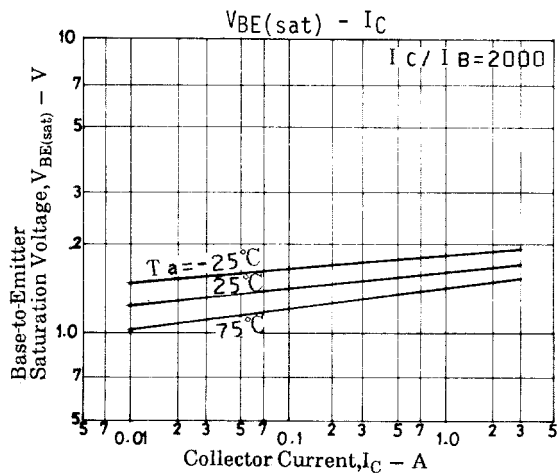
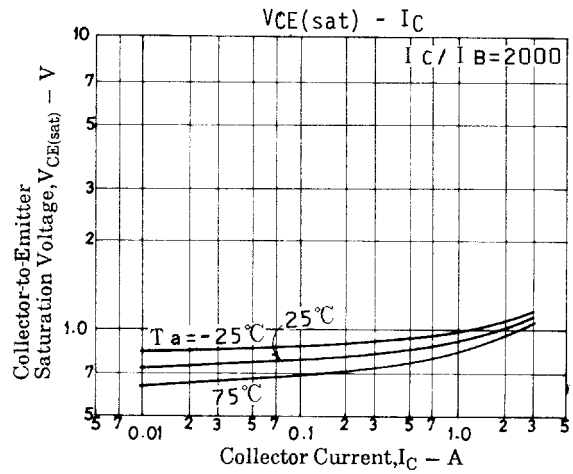
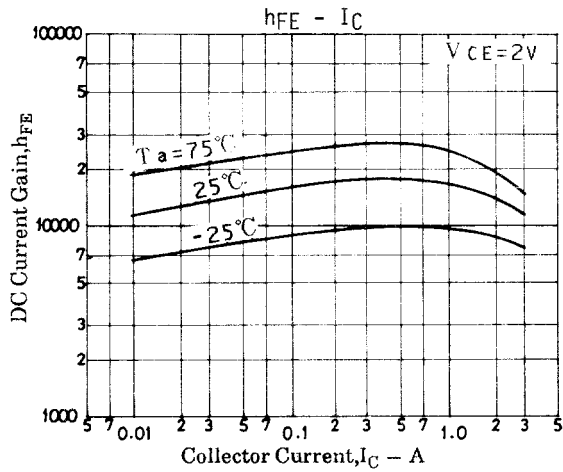
| Parameter                    | Symbol    | Conditions               | Ratings     | Unit               |
|------------------------------|-----------|--------------------------|-------------|--------------------|
| Collector-to-Base Voltage    | $V_{CB0}$ |                          | 30          | V                  |
| 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                  |
|                              |           | $T_c=25^{\circ}\text{C}$ | 15          | W                  |
| Junction Temperature         | $T_J$     |                          | 150         | $^{\circ}\text{C}$ |
| Storage Temperature          | $T_{stg}$ |                          | -55 to +150 | $^{\circ}\text{C}$ |

Electrical Characteristics at Ta = 25°C

| Parameter                               | Symbol        | Conditions                           | Ratings |     |     | Unit          |
|-----------------------------------------|---------------|--------------------------------------|---------|-----|-----|---------------|
|                                         |               |                                      | min     | typ | max |               |
| 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                         | $h_{FE1}$     | $V_{CE}=2\text{V}, I_C=500\text{mA}$ | 4000    |     |     |               |
|                                         | $h_{FE2}$     | $V_{CE}=2\text{V}, I_C=10\text{mA}$  | 3000    |     |     |               |
| Gain-Bandwidth Product                  | $f_T$         | $V_{CE}=10\text{V}, I_C=50\text{mA}$ |         | 120 |     | MHz           |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=1\text{A}, I_B=0.5\text{mA}$    |         |     | 1.5 | V             |
| Base-to-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=1\text{A}, I_B=0.5\text{mA}$    |         |     | 2.0 | V             |
| Collector-to-Base Breakdown Voltage     | $V_{(BR)CBO}$ | $I_C=10\mu\text{A}, I_E=0$           | 30      |     |     | V             |
| Collector-to-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C=1\text{mA}, R_{BE}=\infty$      | 25      |     |     | V             |
| Emitter-to-Base Breakdown Voltage       | $V_{(BR)EBO}$ | $I_E=10\mu\text{A}, I_C=0$           | 10      |     |     | V             |

Electrical Connection





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