



2SB1270/2SD1906

High-Current Switching Applications

Applications

- Suitable for relay drivers, high-speed inverters, converters, and other general high-current switching applications.

Features

- Suitable for sets whose height is restricted.
- Low collector to emitter saturation voltage.
- Large current capacity.

() : 2SB1270

Specifications

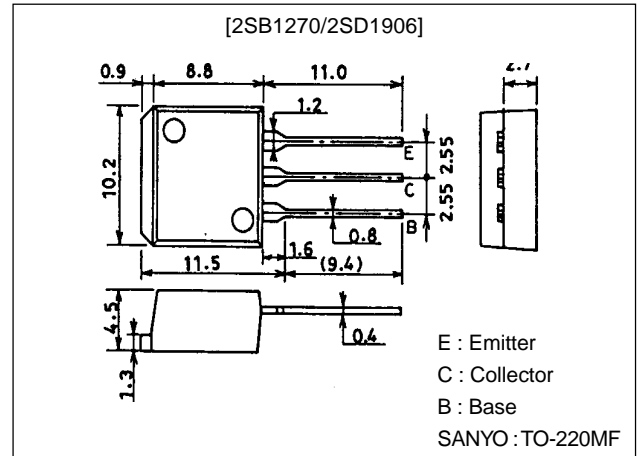
Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------------------|-------------|------------------|
| Collector-to-Base Voltage | V_{CB0} | | (-)90 | V |
| Collector-to-Emitter Voltage | V_{CEO} | | (-)80 | V |
| Emitter-to-Base Voltage | V_{EBO} | | (-)6 | V |
| Collector Current | I_C | | (-)5 | A |
| Collector Current (Pulse) | I_{CP} | | (-)9 | A |
| Collector Dissipation | P_C | | 1.65 | W |
| | | $T_c=25^\circ\text{C}$ | 30 | W |
| Junction Temperature | T_J | | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ\text{C}$ |

Package Dimensions

unit:mm

2049B



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

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-----------------------------------------|---------------|-----------------------------------------|---------|-----|--------|------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=(-)80\text{V}, I_E=0$ | | | (-)0.1 | mA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=(-)4\text{V}, I_C=0$ | | | (-)0.1 | mA |
| DC Current Gain | h_{FE1} | $V_{CE}=(-)2\text{V}, I_C=(-)1\text{A}$ | 70* | | 280* | |
| | h_{FE2} | $V_{CE}=(-)2\text{V}, I_C=(-)3\text{A}$ | 30 | | | |
| Gain-Bandwidth Product | f_T | $V_{CE}=(-)5\text{V}, I_C=(-)1\text{A}$ | | 20 | | MHz |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=(-)3\text{A}, I_B=(-)0.3\text{A}$ | | | 0.4 | V |
| | | | | | (-)0.5 | V |

* : The 2SB1270/2SD1906 are classified by 1A h_{FE} as follows :

70 Q 140 100 R 200 140 S 280

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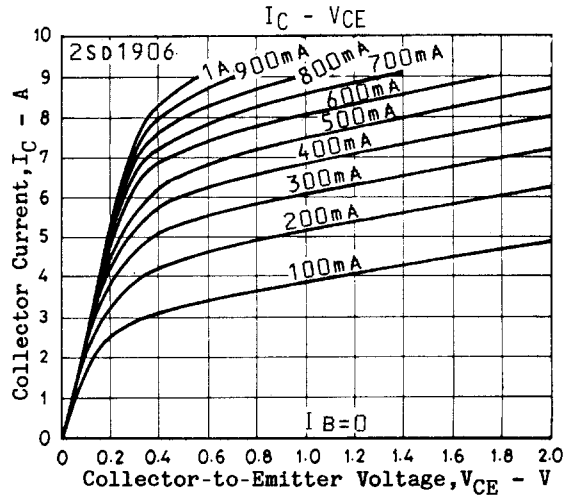
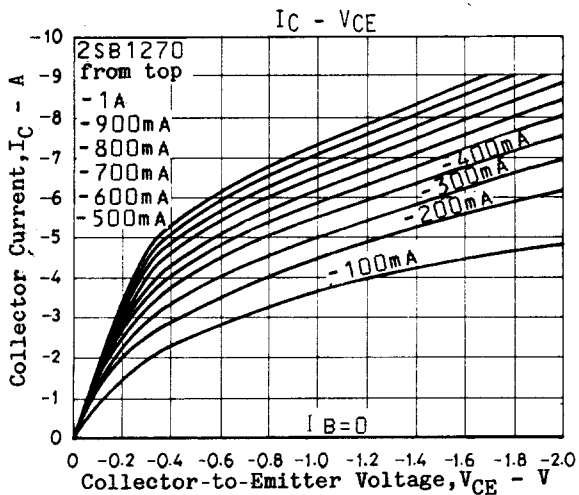
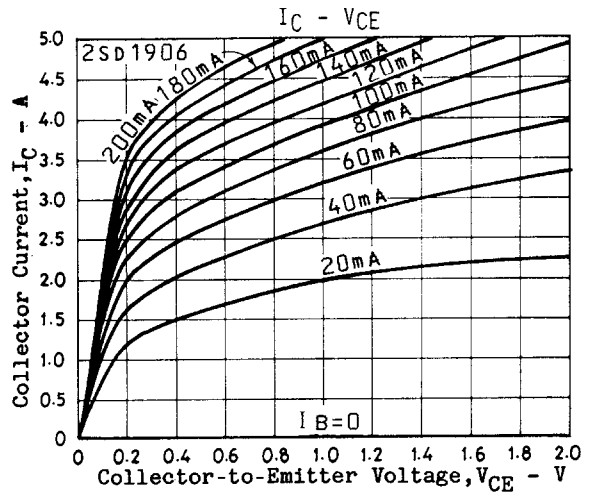
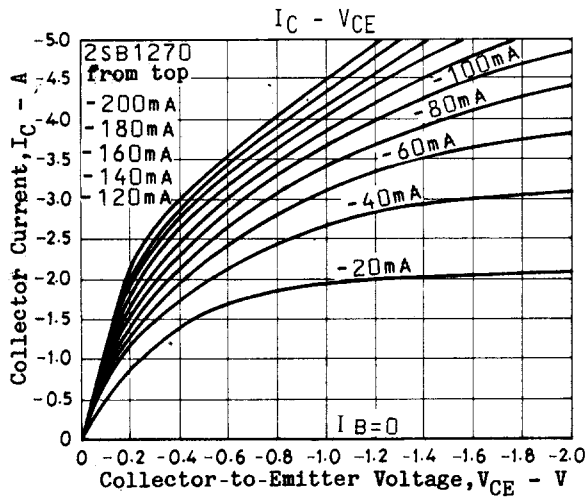
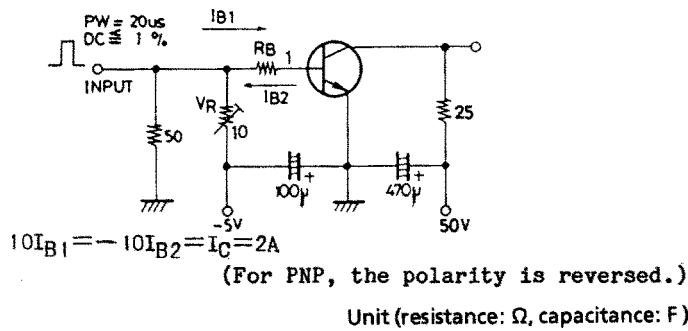
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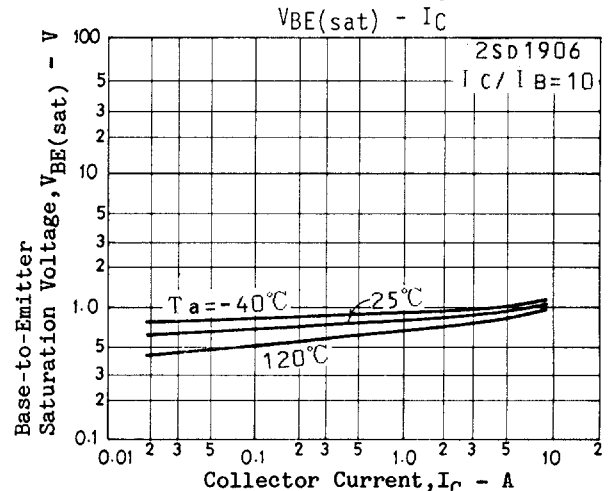
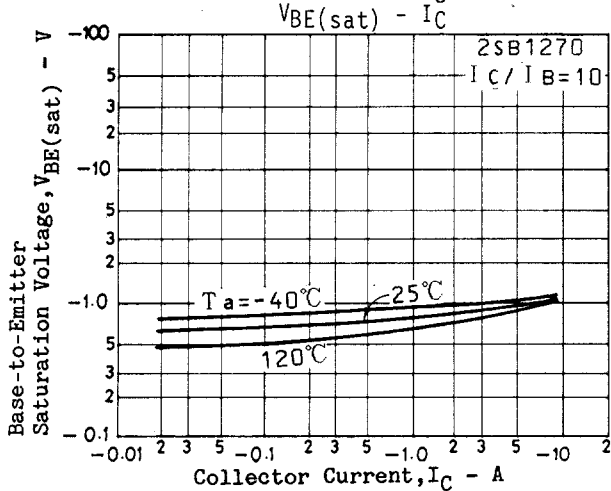
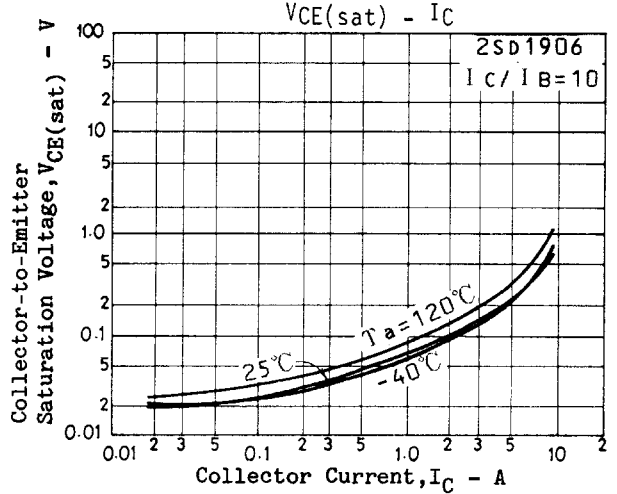
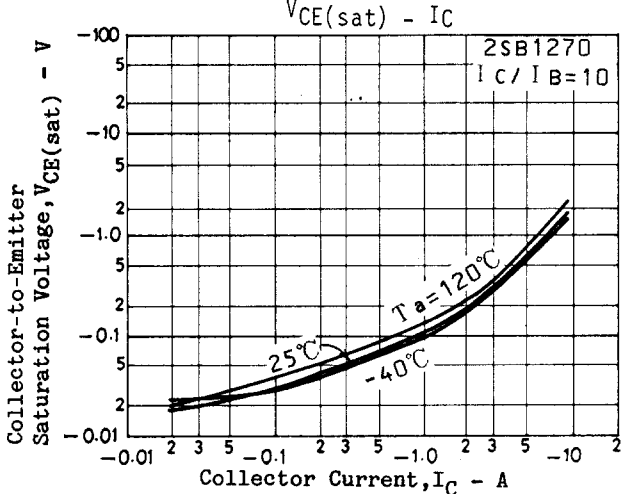
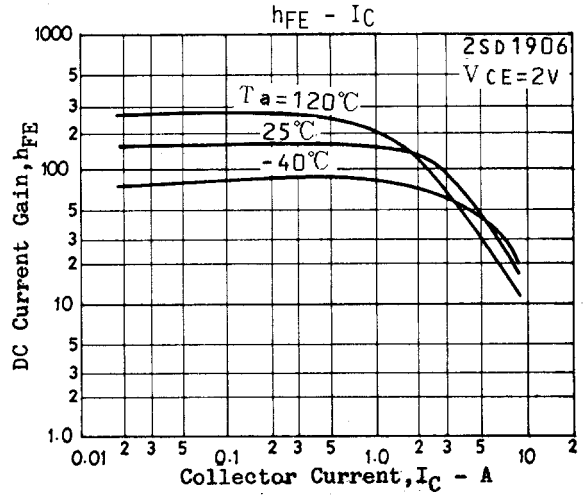
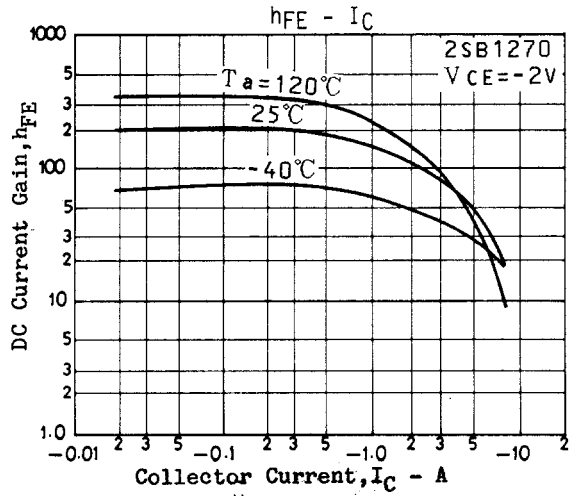
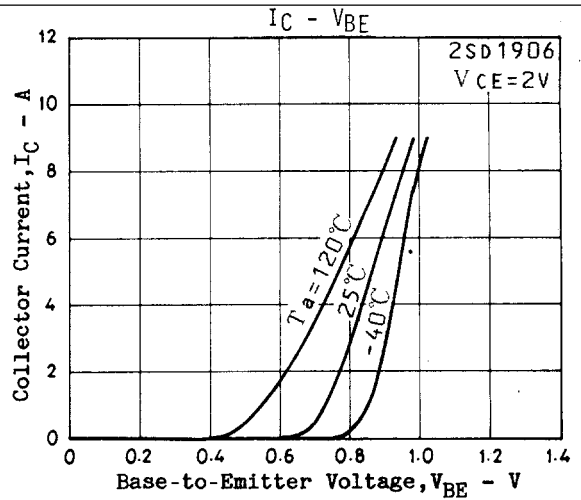
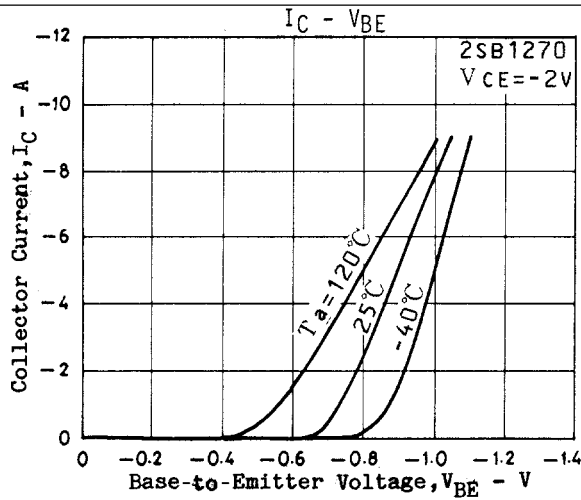
2SB1270/2SD1906

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|----------------------------------------|---------------|-----------------------------|---------|-------|-----|---------|
| | | | min | typ | max | |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=(-)1mA, I_E=0$ | (-)90 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=(-)1mA, R_{BE}=\infty$ | (-)80 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=(-)1mA, I_C=0$ | (-)6 | | | V |
| Turn-ON Time | t_{on} | See specified test circuit. | | (0.2) | | μs |
| Storage Time | t_{stg} | See specified test circuit. | | 0.1 | | μs |
| | | | | (0.7) | | μs |
| Fall Time | t_f | See specified test circuit. | | 1.2 | | μs |
| | | | | (0.2) | | μs |
| | | | | 0.4 | | μs |

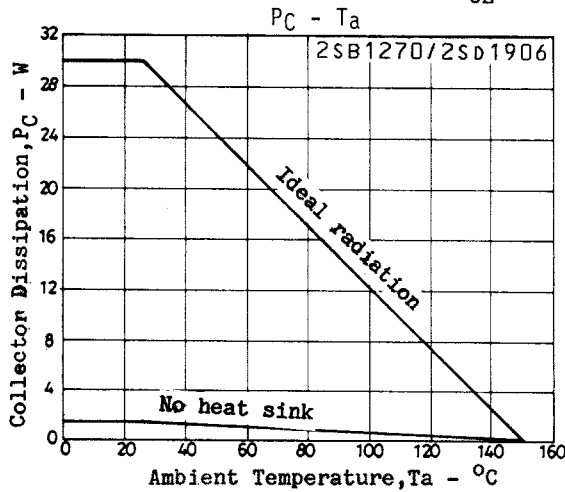
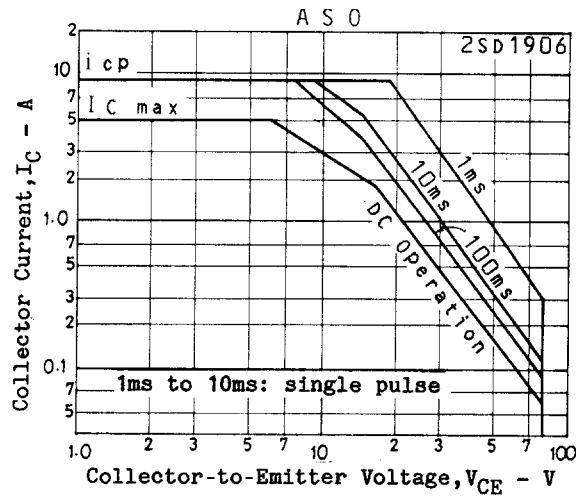
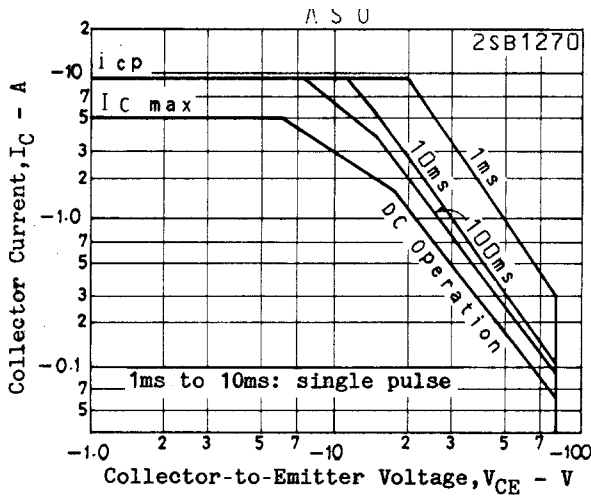
Switching Time Test Circuit



2SB1270/2SD1906



2SB1270/2SD1906



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