



2SB1271/2SD1907

High-Current Switching Applications

Applications

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

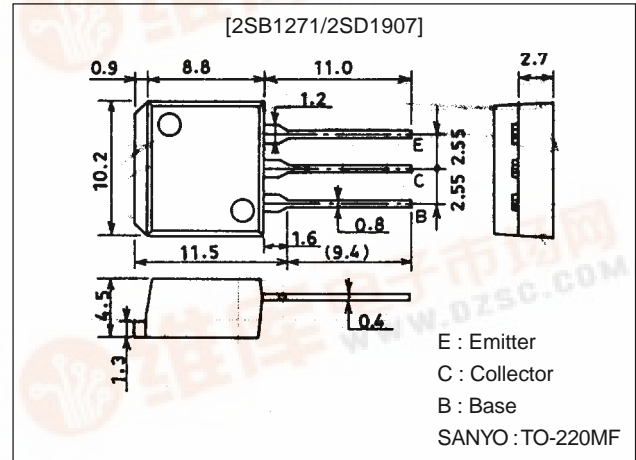
Features

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

Package Dimensions

unit:mm

2049B



() : 2SB1271

Specifications

Absolute Maximum Ratings at Ta = 25°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 | | (-7) | A |
| Collector Current (Pulse) | I_{CP} | | (-12) | A |
| Collector Dissipation | P_C | | 1.65 | W |
| | | $T_c=25^\circ\text{C}$ | 40 | W |
| 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} | $V_{CB} = (-80V, I_E = 0$ | | | (-0.1) | mA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = (-4V, I_C = 0$ | | | (-0.1) | mA |
| DC Current Gain | h_{FE1} | $V_{CE} = (-2V, I_C = (-1A$ | 70* | | 280* | |
| | h_{FE2} | $V_{CE} = (-2V, I_C = (-4A$ | 30 | | | |
| Gain-Bandwidth Product | f_T | $V_{CE} = (-5V, I_C = (-1A$ | | 20 | | MHz |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = (-4A, I_B = (-0.4A$ | | | 0.4 | V |
| | | | | | (-0.5) | V |

* : The 2SB1271/2SD1907 are classified by 1A h_{FE} as follows :

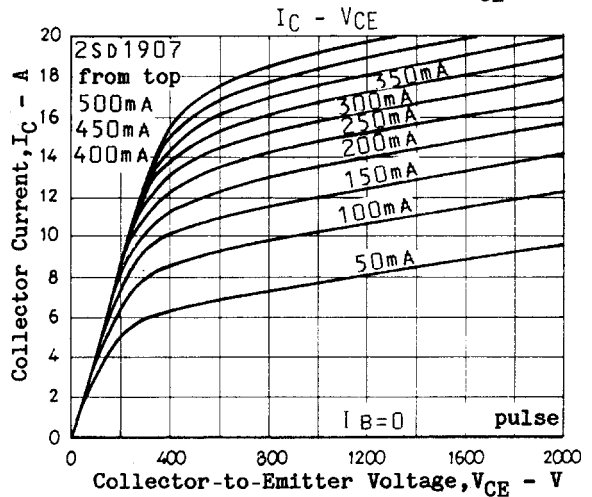
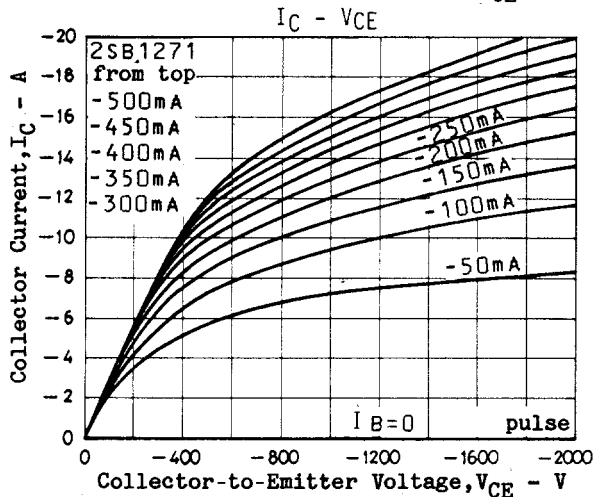
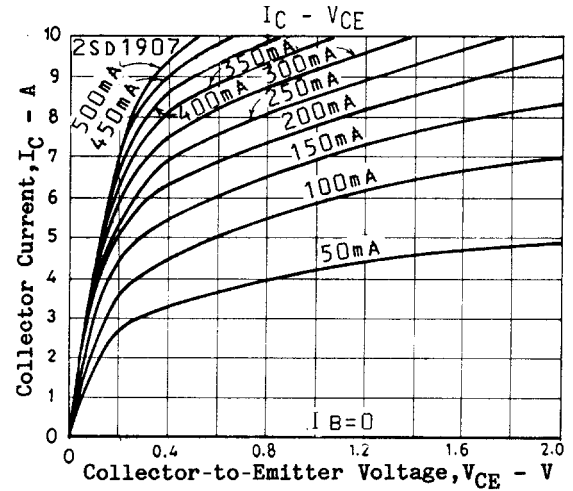
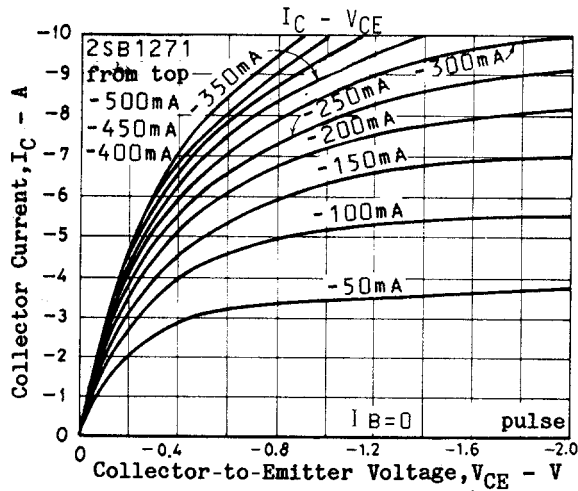
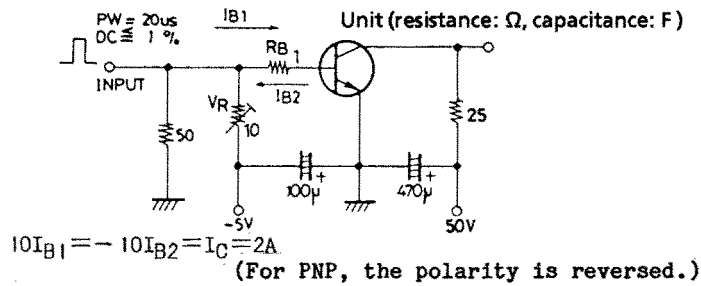
| | | | | | | | | |
|----|---|-----|-----|---|-----|-----|---|-----|
| 70 | Q | 140 | 100 | R | 200 | 140 | S | 280 |
|----|---|-----|-----|---|-----|-----|---|-----|

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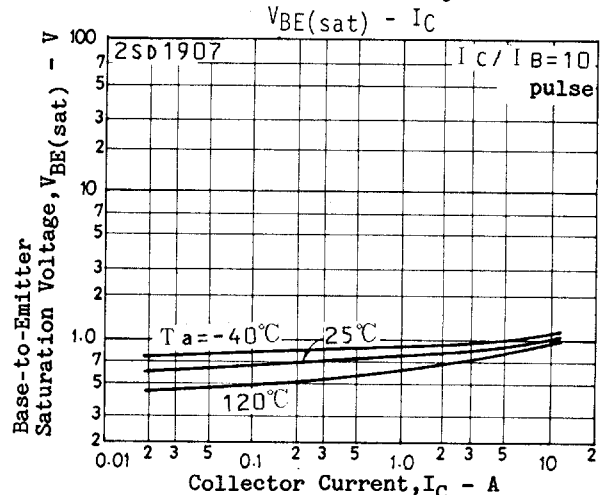
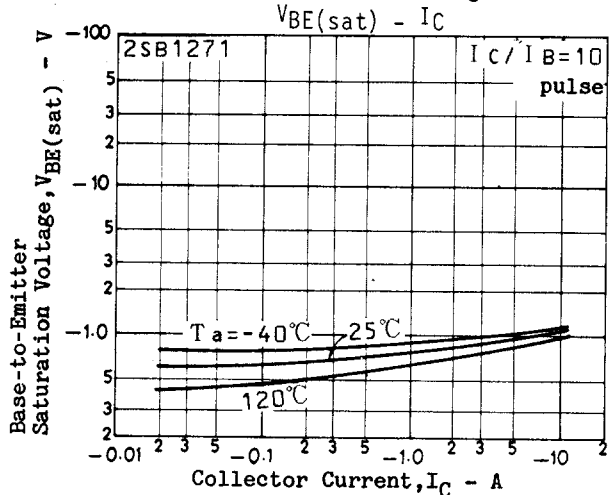
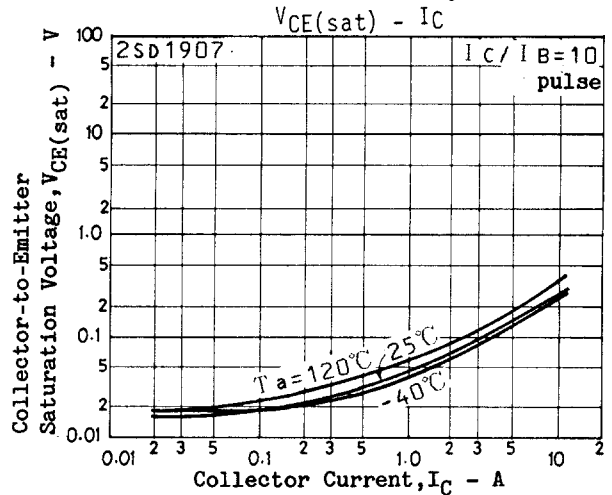
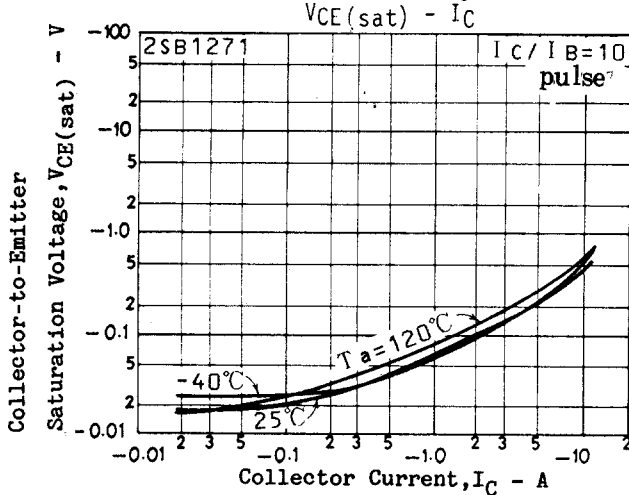
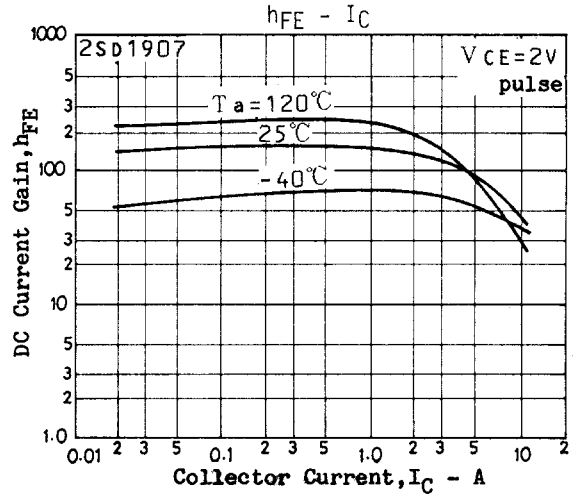
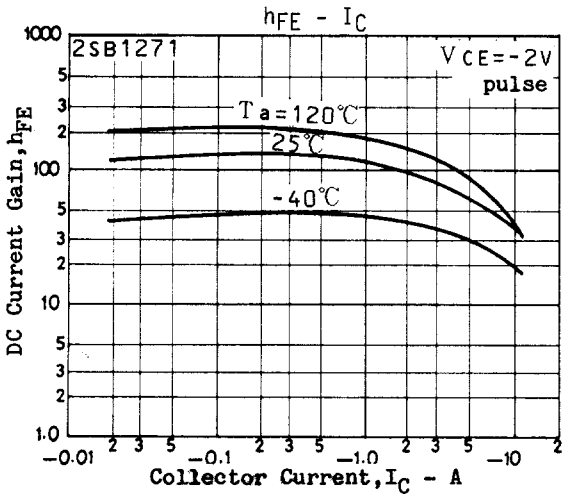
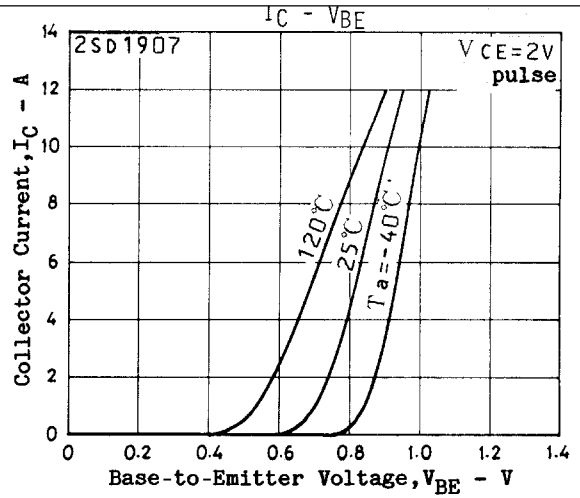
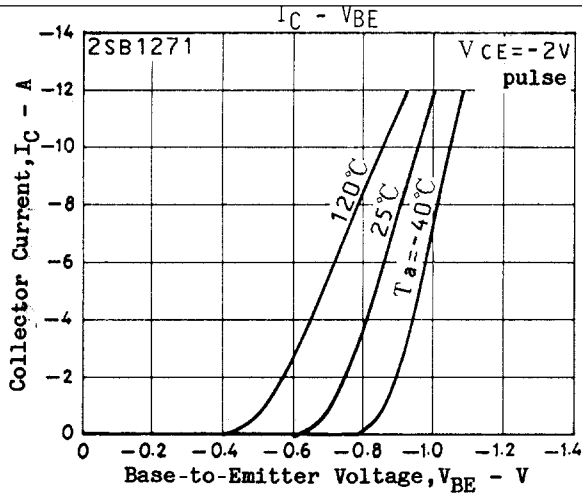
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|-----------------------------|---------|-------|-----|---------|
| | | | min | typ | max | |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=(-)1mA, I_E=0$ | (-)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 |
| | | | | | 0.1 | μs |
| Storage Time | t_{stg} | See specified test circuit. | | (0.7) | | μs |
| | | | | | 1.6 | μs |
| Fall Time | t_f | See specified test circuit. | | (0.2) | | μs |
| | | | | | 0.4 | μs |

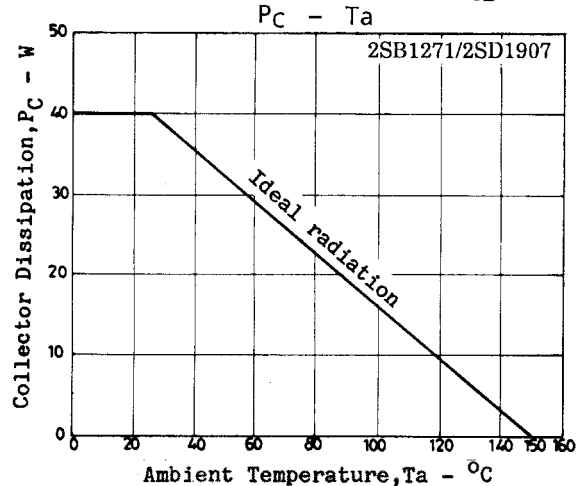
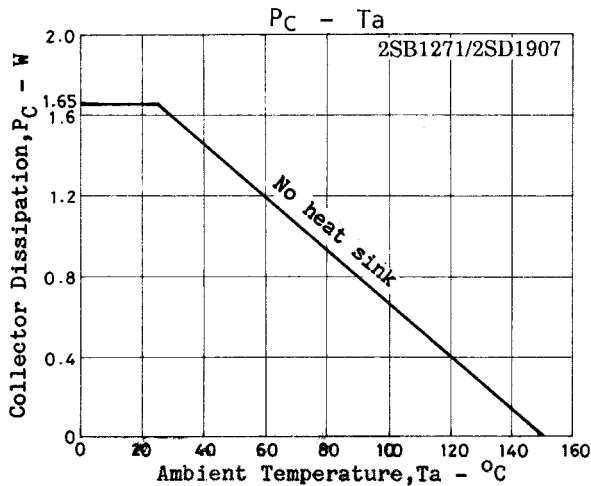
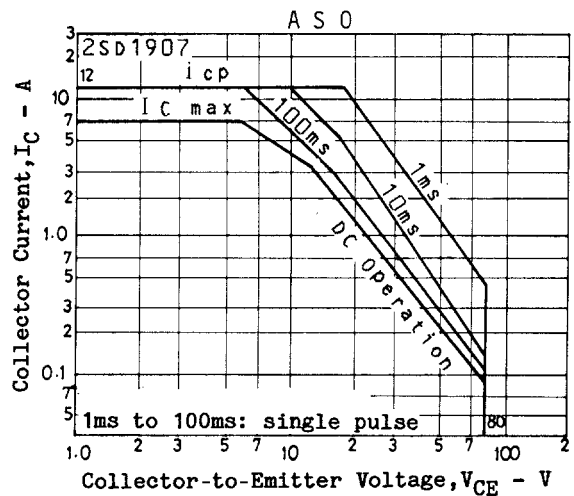
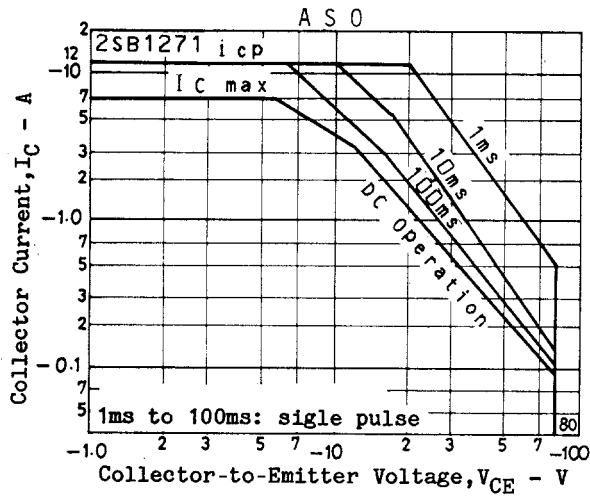
Switching Time Test Circuit



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