



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

2SB1121 / ~~2SD1621~~ — PNP / ~~NPN~~ Epitaxial Planar Silicon Transistors High-Current Driver Applications

Applications

- Voltage regulators, relay drivers, lamp drivers, electrical equipment.

Features

- Adoption of FBET, MBIT processes.
- Low collector-to-emitter saturation voltage.
- Large current capacity and wide ASO.
- Fast switching speed.
- Ultrasmall size making it easy to provide high-density, small-sized hybrid IC's.

Specifications () : 2SB1121

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|--------|--|-------------|------|
| Collector-to-Base Voltage | VCBO | | (-)30 | V |
| Collector-to-Emitter Voltage | VCEO | | (-)25 | V |
| Emitter-to-Base Voltage | VEBO | | (-)6 | V |
| Collector Current | IC | | (-)2 | A |
| Collector Current (Pulse) | ICP | | (-)5 | A |
| Collector Dissipation | PC | | 500 | mW |
| | | Mounted on a ceramic board (250mm ² ×0.8mm) | 1.3 | W |
| Junction Temperature | Tj | | 150 | °C |
| Storage Temperature | Tstg | | -55 to +150 | °C |

Marking 2SB1121 : BD

~~2SD1621 : DD~~

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SANYO Semiconductor Co., Ltd.

<http://semicon.sanyo.com/en/network>

2SB1121 / 2SD1621

Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|----------------------------------|---------|-------------|-----------|---------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB} = (-)20V, I_E = 0A$ | | | (-)0.1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = (-)4V, I_C = 0A$ | | | (-)0.1 | μA |
| DC Current Gain | h_{FE1} | $V_{CE} = (-)2V, I_C = (-)100mA$ | 100* | | 560* | |
| | h_{FE2} | $V_{CE} = (-)2V, I_C = (-)1.5A$ | 65 | | | |
| Gain-Bandwidth Product | f_T | $V_{CE} = (-)10V, I_C = (-)50mA$ | | 150 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB} = (-)10V, f = 1MHz$ | | (32)19 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = (-)1.5A, I_B = (-)75mA$ | | (-0.35)0.18 | (-0.6)0.4 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = (-)1.5A, I_B = (-)75mA$ | | (-0.85) | (-1.2) | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = (-)10\mu A, I_E = 0A$ | (-)30 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = (-)1mA, R_{BE} = \infty$ | (-)25 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = (-)10\mu A, I_C = 0A$ | (-)6 | | | V |
| Turn-ON Time | t_{on} | See specified Test Circuit. | | (60)60 | | ns |
| Storage Time | t_{stg} | See specified Test Circuit. | | (350)550 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | (25)25 | | ns |

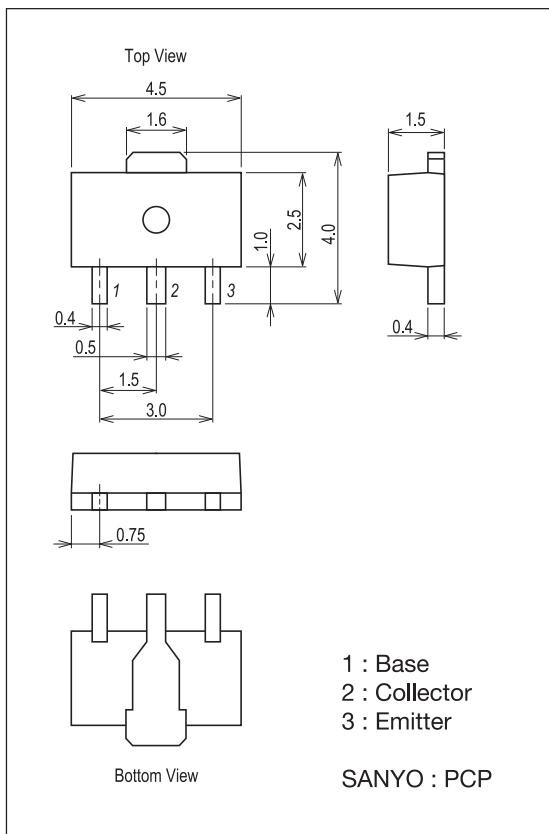
*: The 2SB1121 / 2SD1621 are classified by 100mA h_{FE} as follows:

| Rank | R | S | T | U |
|----------|------------|------------|------------|------------|
| h_{FE} | 100 to 200 | 140 to 280 | 200 to 400 | 280 to 560 |

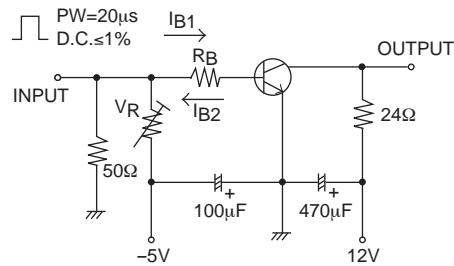
Package Dimensions

unit : mm (typ)

7007B-004

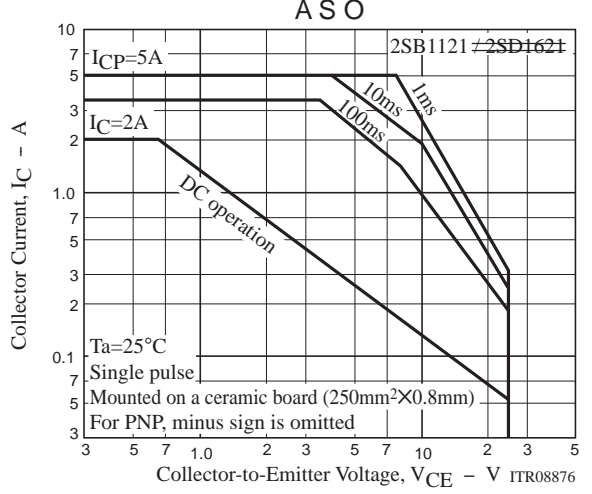
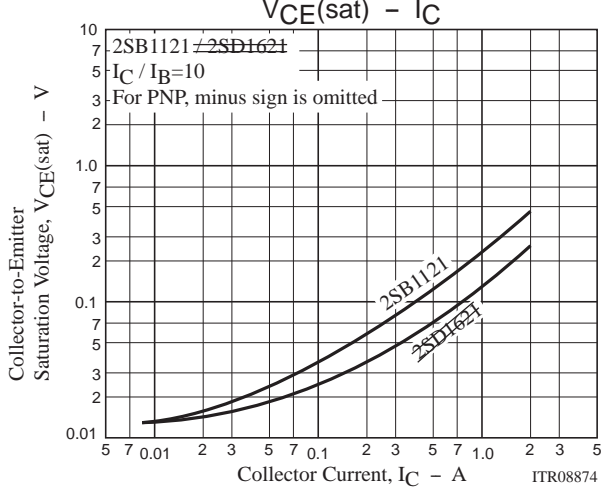
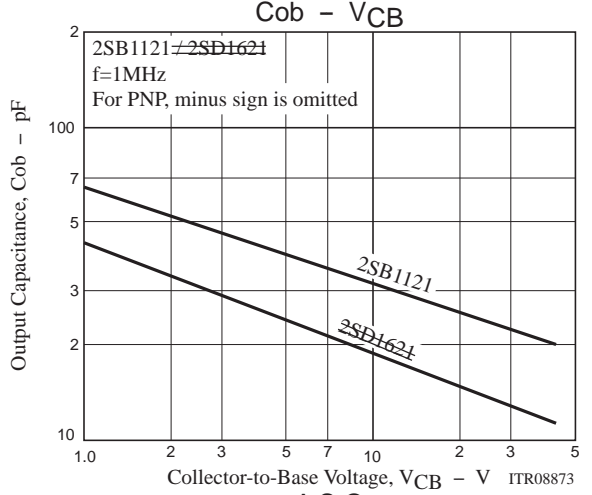
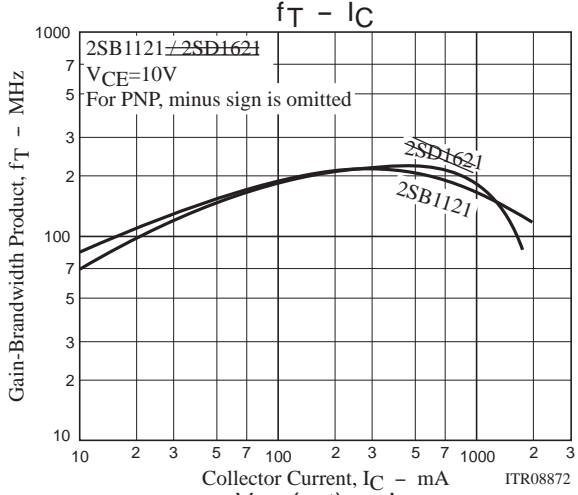
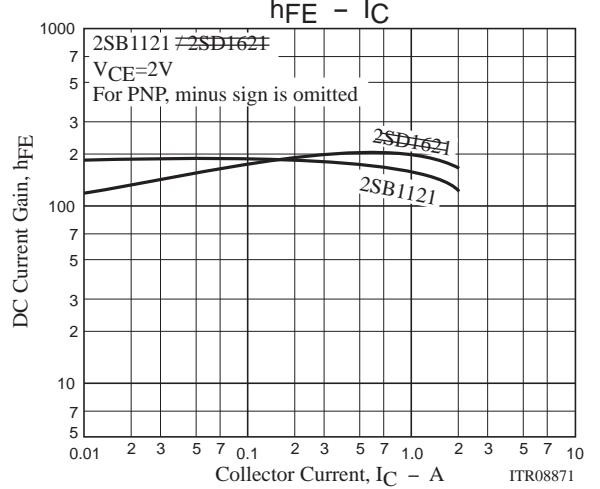
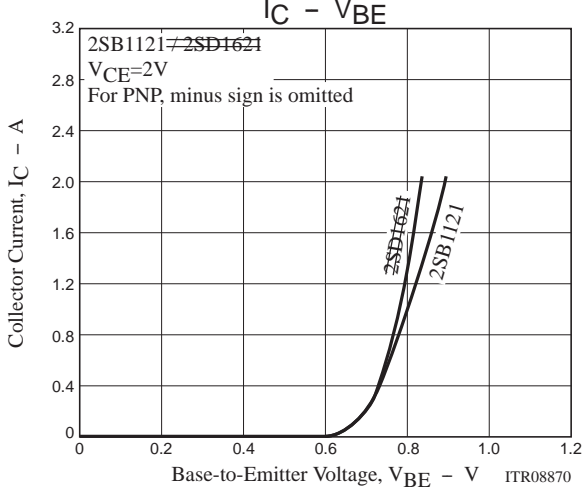
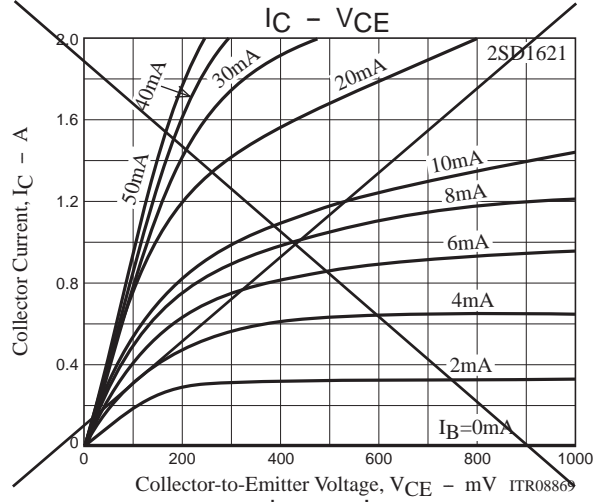
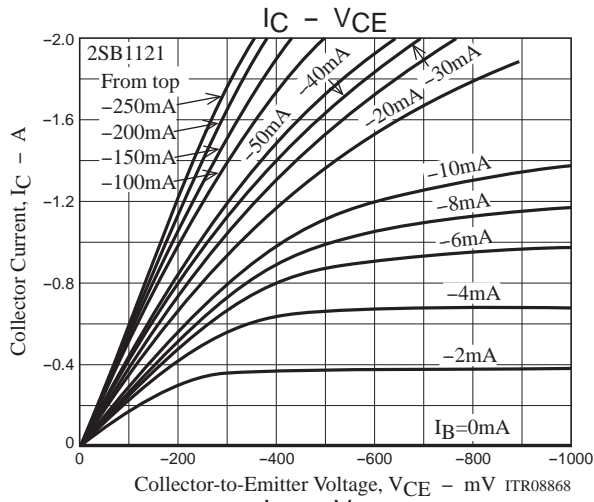


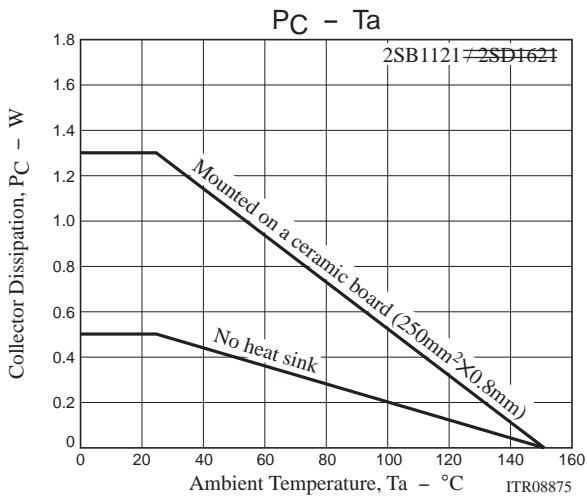
Switching Time Test Circuit



$I_C = 20I_{B1} = -20I_{B2} = 500mA$
(For PNP, the polarity is reversed)

2SB1121 / 2SD1621





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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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