

2SB0951 (2SB951), 2SB0951A (2SB951A)

Silicon PNP epitaxial planar type darlington

For midium-speed switching

Complementary to 2SD1277 and 2SD1277A

■ Features

- High forward current transfer ratio h_{FE}
- High-speed switching
- Full-pack package which can be installed to the heat sink with one screw

■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit | |
|--|-----------|-------------|------------------|---|
| Collector-base voltage (Emitter open) | 2SB0951 | V_{CBO} | -60 | V |
| | 2SB0951A | | -80 | |
| Collector-emitter voltage (Base open) | 2SB0951 | V_{CEO} | -60 | V |
| | 2SB0951A | | -80 | |
| Emitter-base voltage (Collector open) | V_{EBO} | -7 | V | |
| Collector current | I_C | -8 | A | |
| Peak collector current | I_{CP} | -12 | A | |
| Collector power dissipation | P_C | 45 | W | |
| $T_a = 25^\circ\text{C}$ | | | | 2 |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ | |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ | |

■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

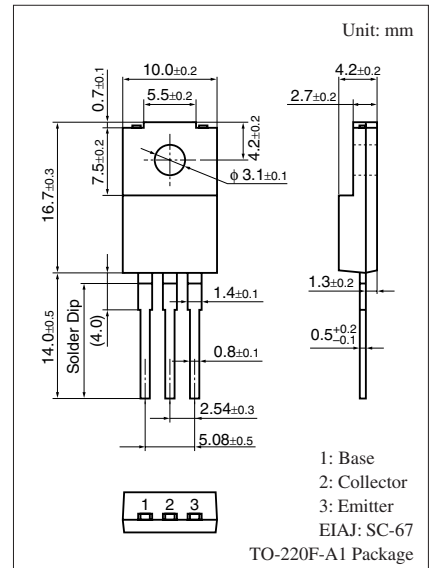
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---------------|---|-----------------------------------|-----|-------|---------------|
| Collector-emitter voltage (Base open) | 2SB0951 | $I_C = -30 \text{ mA}, I_B = 0$ | -60 | | | V |
| | 2SB0951A | | -80 | | | |
| Collector-base cutoff current (Emitter open) | 2SB0951 | $V_{CB} = -60 \text{ V}, I_E = 0$ | | | -100 | μA |
| | 2SB0951A | | $V_{CB} = -80 \text{ V}, I_E = 0$ | | -100 | |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = -7 \text{ V}, I_C = 0$ | | | -2 | mA |
| Forward current transfer ratio | h_{FE1}^* | $V_{CE} = -3 \text{ V}, I_C = -4 \text{ A}$ | 1000 | | 10000 | — |
| | h_{FE2} | $V_{CE} = -3 \text{ V}, I_C = -8 \text{ A}$ | 500 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -4 \text{ A}, I_B = -8 \text{ mA}$ | | | -1.5 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -4 \text{ A}, I_B = -8 \text{ mA}$ | | | -2.0 | V |
| Transition frequency | f_T | $V_{CE} = -10 \text{ V}, I_C = -1 \text{ A}, f = 1 \text{ MHz}$ | | 20 | | MHz |
| Turn-on time | t_{on} | $I_C = -4 \text{ A}, I_{B1} = -8 \text{ mA}, I_{B2} = 8 \text{ mA}$ | | 0.5 | | μs |
| Storage time | t_{stg} | $V_{CC} = -50 \text{ V}$ | | 2.0 | | μs |
| Fall time | t_f | | | 1.0 | | μs |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

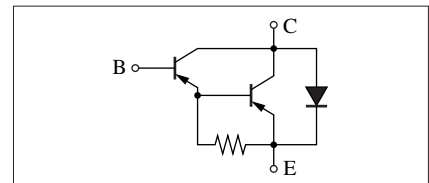
2. *: Rank classification

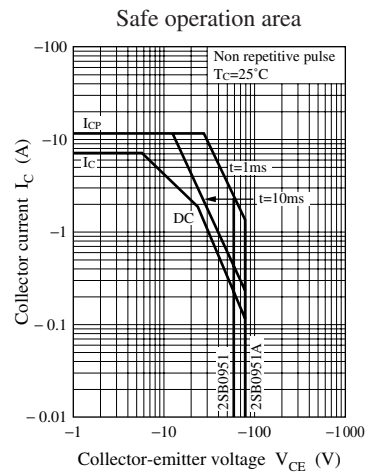
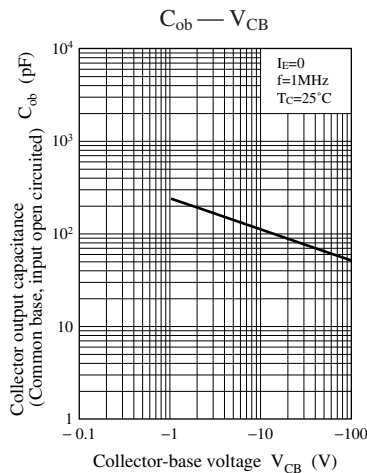
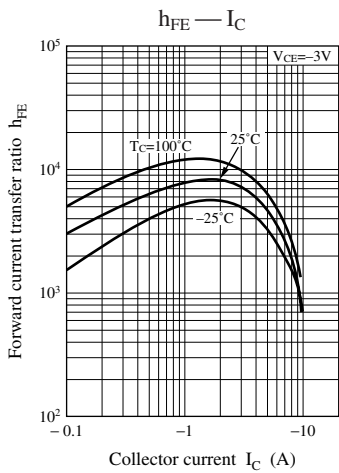
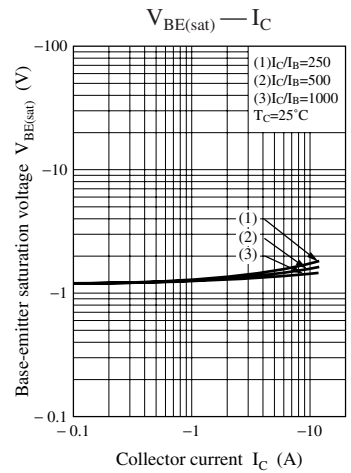
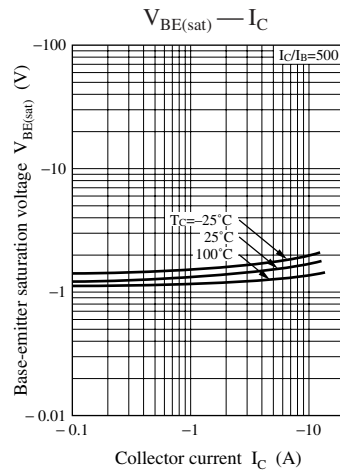
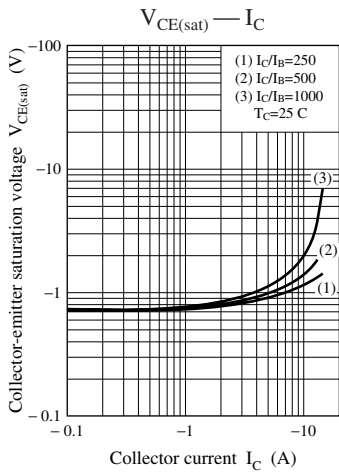
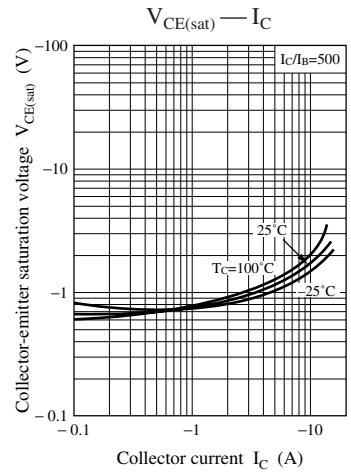
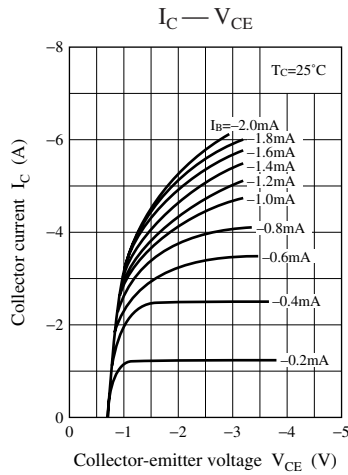
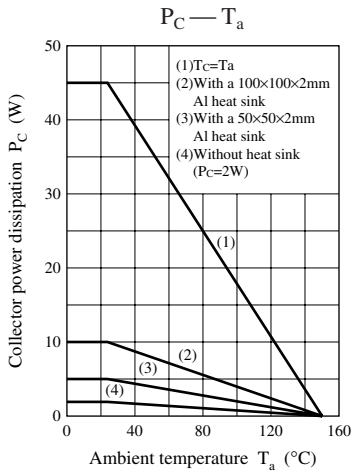
| Rank | R | Q | P |
|-----------|--------------|--------------|---------------|
| h_{FE1} | 1000 to 2500 | 2000 to 5000 | 4000 to 10000 |

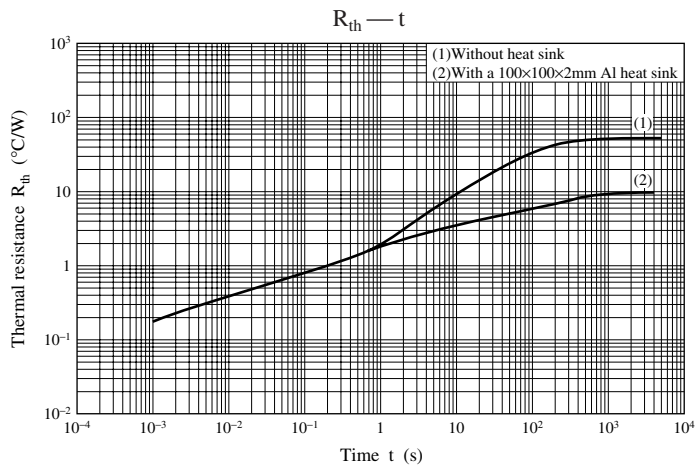
Note) The part numbers in the parenthesis show conventional part number.



Internal Connection







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