

2SB0949 (2SB949), 2SB0949A (2SB949A)

Silicon PNP epitaxial planar type darlington

For power amplification and switching

Complementary to 2SD1275 and 2SD1275A

■ 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 $T_a = 25^\circ\text{C}$

| Parameter | | Symbol | Rating | Unit |
|--|----------------------------|------------------|-------------|--------------------|
| Collector-base voltage (Emitter open) | 2SB0949 | V_{CBO} | -60 | V |
| | 2SB0949A | | -80 | |
| Collector-emitter voltage (Base open) | 2SB0949 | V_{CEO} | -60 | V |
| | 2SB0949A | | -80 | |
| Emitter-base voltage (Collector open) | | V_{EBO} | -5 | V |
| Collector current | | I_C | -2 | A |
| Peak collector current | | I_{CP} | -4 | A |
| Collector power | $T_C = 25^{\circ}\text{C}$ | P_C | 35 | W |
| dissipation | | | 2 | |
| Junction temperature | | T_j | 150 | $^{\circ}\text{C}$ |
| Storage temperature | | T_{stg} | -55 to +150 | $^{\circ}\text{C}$ |

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

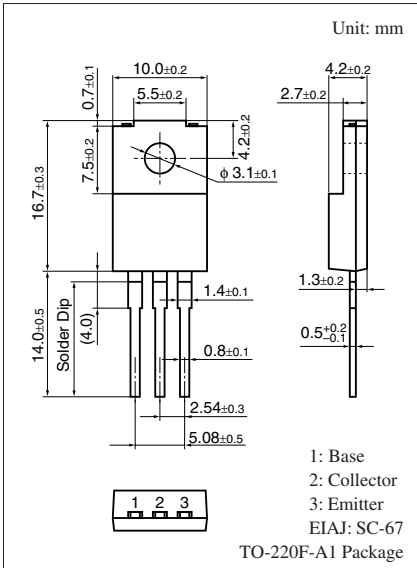
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|--------------------------|---|------|-----|-------|---------------|
| Collector-emitter voltage (Base open) | 2SB0949 2SB0949A | V_{CEO} $I_C = -30\text{ mA}, I_B = 0$ | -60 | | | V |
| | | | -80 | | | |
| Base-emitter voltage | V_{BE} | $V_{CE} = -4\text{ V}, I_C = -2\text{ A}$ | | | -2.8 | V |
| Collector-base cutoff current (Emitter open) | 2SB0949 2SB0949A | I_{CBO} $V_{CB} = -60\text{ V}, I_E = 0$ | | | -1 | mA |
| | | | | | -1 | |
| Collector-emitter cutoff current (Base open) | 2SB0949 2SB0949A | I_{CEO} $V_{CE} = -30\text{ V}, I_B = 0$ | | | -2 | mA |
| | | | | | -2 | |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = -5\text{ V}, I_C = 0$ | | | -2 | mA |
| Forward current transfer ratio | h_{FE1} h_{FE2}^* | $V_{CE} = -4\text{ V}, I_C = -1\text{ A}$ | 1000 | | | — |
| | | | | | 10000 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -2\text{ A}, I_B = -8\text{ mA}$ | | | -2.5 | V |
| Transition frequency | f_T | $V_{CE} = -10\text{ V}, I_C = -0.5\text{ A}, f = 1\text{ MHz}$ | | 20 | | MHz |
| Turn-on time | t_{on} | $I_C = -2\text{ A}, I_{B1} = -8\text{ mA}, I_{B2} = 8\text{ mA}$ $V_{CC} = -50\text{ V}$ | | 0.4 | | μs |
| Storage time | t_{stg} | | | 1.5 | | μs |
| Fall time | t_f | | | 0.5 | | μs |

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

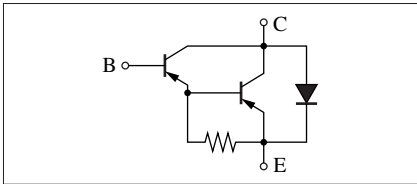
2. *: Rank classification

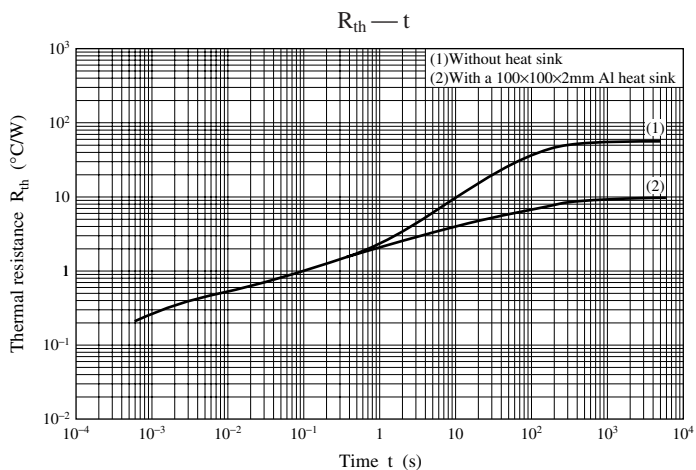
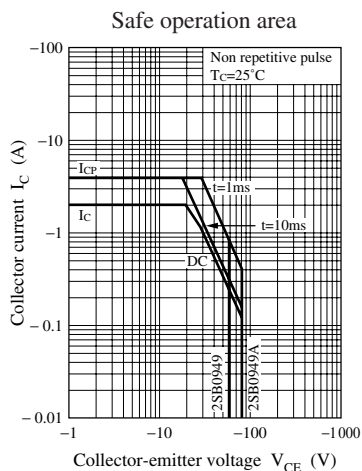
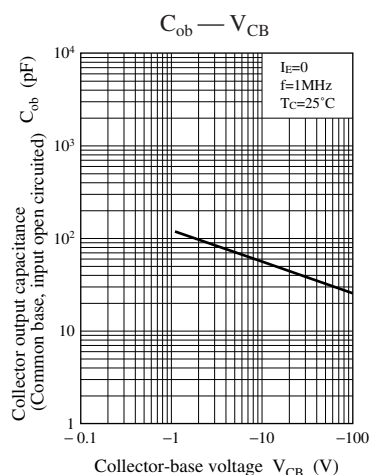
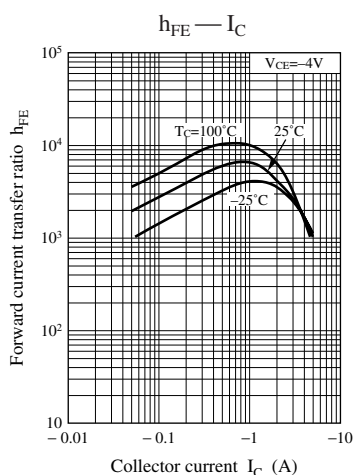
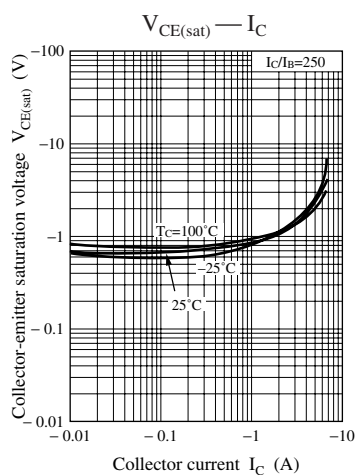
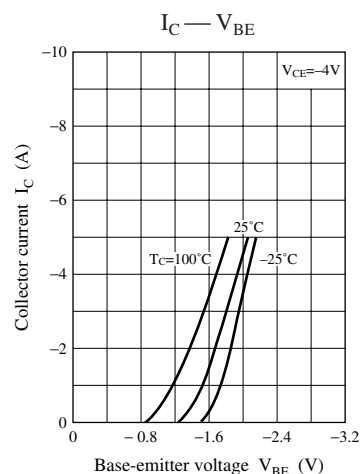
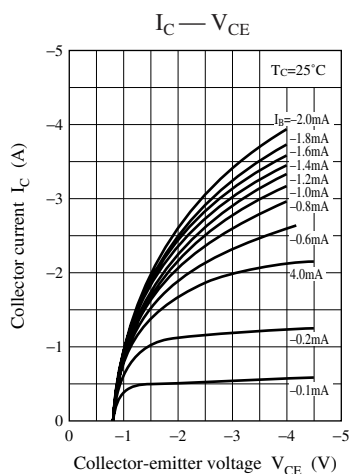
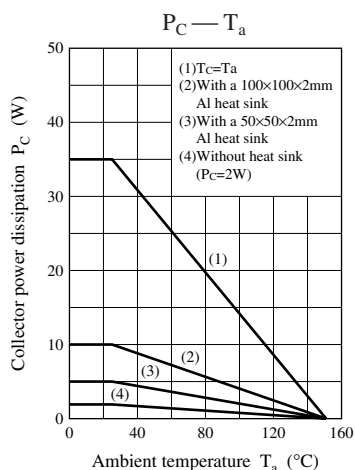
| Rank | R | Q | P |
|-----------|----------------|----------------|-----------------|
| h_{FE2} | 1 000 to 2 500 | 2 000 to 5 000 | 4 000 to 10 000 |

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



Internal Connection





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