2SB1174

Silicon PNP epitaxial planar type

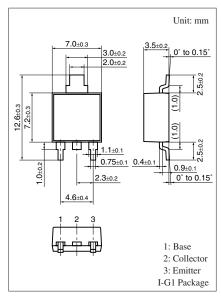
For voltage switching

■ Features

- Low collector-emitter saturation voltage V_{CE(sat)}
- Satisfactory linearity of forward current transfer ratio h_{FE}
- Large collector current I_C
- I type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment

■ Absolute Maximum Ratings $T_C = 25$ °C

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|------------------|-------------|------|
| Collector-base voltage (Emitter open) | V _{CBO} | -130 | V |
| Collector-emitter voltage (Base open) | V _{CEO} | -80 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | -7 | V |
| Collector current | I_{C} | -3 | A |
| Peak collector current | I_{CP} | -6 | A |
| Collector power dissipation | P _C | 15 | W |
| $T_a = 25^{\circ}C$ | | 1.3 | |
| Junction temperature | T_{j} | 150 | °C |
| Storage temperature | T _{stg} | -55 to +150 | °C |



Note) Self-supported type package is also prepared.

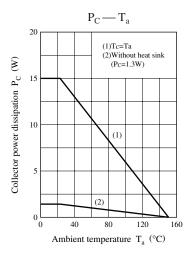
■ Electrical Characteristics $T_C = 25^{\circ}C \pm 3^{\circ}C$

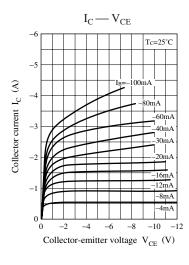
| Parameter | Symbol | Conditions | Min | Тур | Max | Unit |
|--|----------------------|---|-----|-----|-------|------|
| Collector-emitter voltage (Base open) | V _{CEO} | $I_C = -10 \text{ mA}, I_B = 0$ | -80 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = -100 \text{ V}, I_E = 0$ | | | -10 | μΑ |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = -5 \text{ V}, I_C = 0$ | | | -50 | μΑ |
| Forward current transfer ratio | h _{FE1} | $V_{CE} = -2 \text{ V}, I_C = -0.1 \text{ A}$ | 45 | | | _ |
| | h _{FE2} * | $V_{CE} = -2 \text{ V}, I_{C} = -0.5 \text{ A}$ | 90 | | 260 | |
| Collector-emitter saturation voltage | V _{CE(sat)} | $I_C = -2 A, I_B = -0.1 A$ | | | - 0.5 | V |
| Base-emitter saturation voltage | V _{BE(sat)} | $I_C = -2 A, I_B = -0.1 A$ | | | -1.5 | V |
| Transition frequency | f_T | $V_{CE} = -10 \text{ V}, I_{C} = -0.5 \text{ A}, f = 10 \text{ MHz}$ | | 30 | | MHz |
| Turn-on time | t _{on} | $I_C = -0.5 \text{ A}, I_{B1} = -50 \text{ mA}, I_{B2} = 50 \text{ mA}$ | | 0.3 | | μs |
| Storage time | t _{stg} | $V_{CC} = -50 \text{ V}$ | | 1.1 | | μs |
| Fall time | t _f | | | 0.3 | | μs |

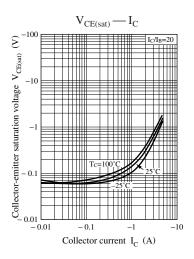
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

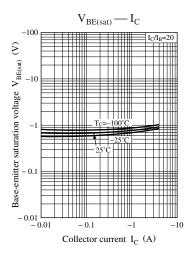
2. *: Rank classification

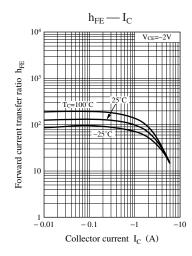
| Rank | Q | Р |
|------------------|-----------|------------|
| h _{FE2} | 90 to 180 | 130 to 260 |

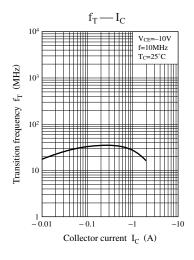


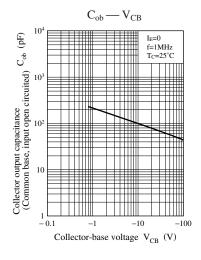


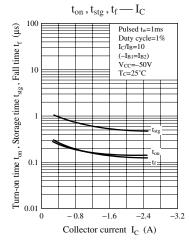


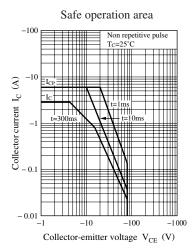


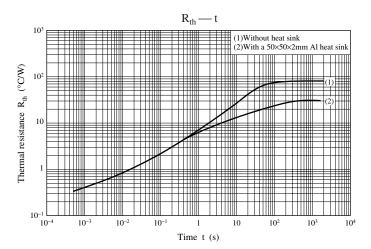












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