

2SD2374A

Silicon NPN triple diffusion planar type

For power amplification

Complementary to 2SB1548A

■ Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- 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) | V_{CBO} | 80 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 80 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | 6 | V |
| Collector current | I_C | 3 | A |
| Peak collector current | I_{CP} | 5 | A |
| Collector power dissipation | $T_C = 25^\circ\text{C}$ | P_C | 25 |
| | | | 2.0 |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

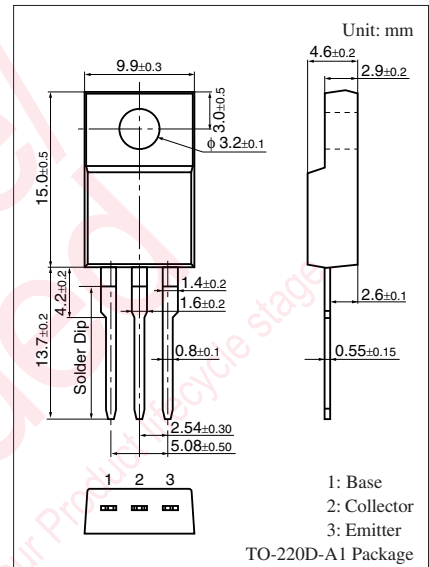
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

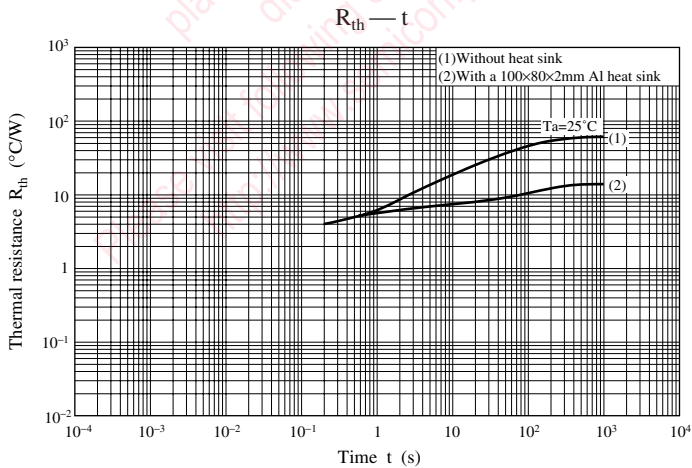
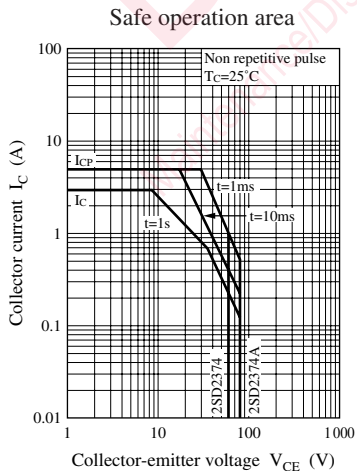
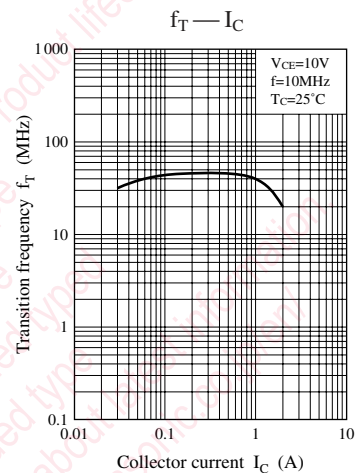
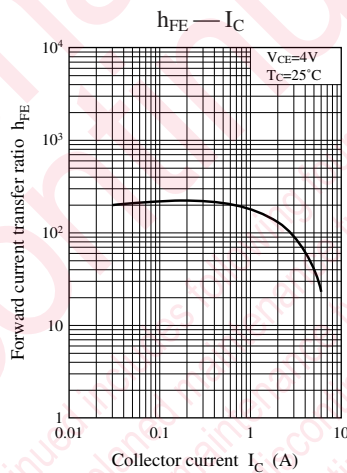
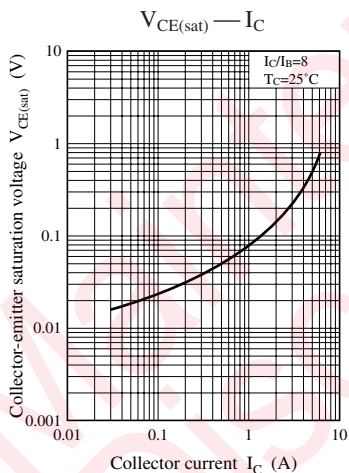
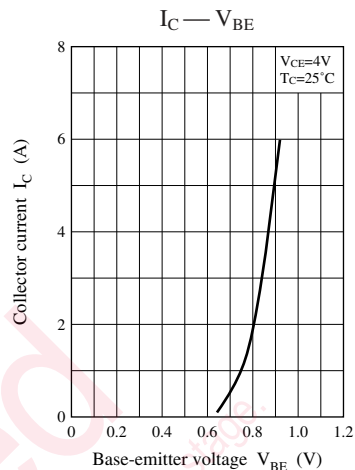
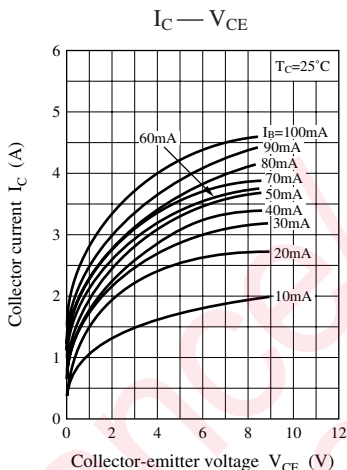
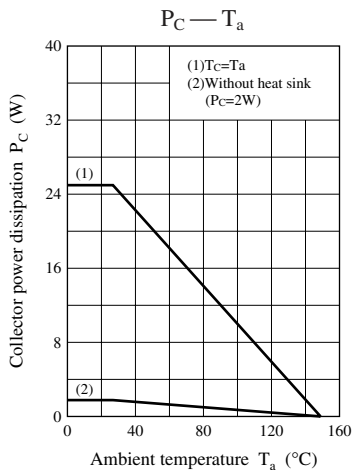
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|--|---------------|---|-----|-----|-----|---------------|
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 30\text{ mA}, I_B = 0$ | 80 | | | V |
| Base-emitter voltage | V_{BE} | $V_{CE} = 4\text{ V}, I_C = 3\text{ A}$ | | | 1.8 | V |
| Collector-emitter cutoff current (E-B short) | I_{CES} | $V_{CE} = 80\text{ V}, V_{BE} = 0$ | | | 200 | μA |
| Collector-emitter cutoff current (Base open) | I_{CEO} | $V_{CE} = 60\text{ V}, I_B = 0$ | | | 300 | μA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = 6\text{ V}, I_C = 0$ | | | 1 | mA |
| Forward current transfer ratio | h_{FE1}^* | $V_{CE} = 4\text{ V}, I_C = 1\text{ A}$ | 70 | | 250 | — |
| | h_{FE2} | $V_{CE} = 4\text{ V}, I_C = 3\text{ A}$ | 10 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 3\text{ A}, I_B = 0.375\text{ A}$ | | | 1.2 | 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} | $I_C = 1\text{ A}, I_{B1} = 0.1\text{ A}, I_{B2} = -0.1\text{ A}$ | | 0.5 | | μs |
| Storage time | t_{stg} | $V_{CC} = 50\text{ V}$ | | 2.5 | | μs |
| Fall time | t_f | | | 0.4 | | μs |

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

2. *: Rank classification

| Rank | Q | P |
|-----------|-----------|------------|
| h_{FE1} | 70 to 150 | 120 to 250 |





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