

2SD1719

Silicon NPN triple diffusion planar type

For power amplification with high forward current transfer ratio

■ Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity
- High emitter-base voltage (Collector open) V_{EBO}
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

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

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|--------------------------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 100 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 60 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | 15 | V |
| Collector current | I_C | 6 | A |
| Peak collector current | I_{CP} | 12 | A |
| Base current | I_B | 3 | A |
| Collector power dissipation | P_C | 40 | W |
| | $T_a = 25^\circ\text{C}$ | 1.3 | |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

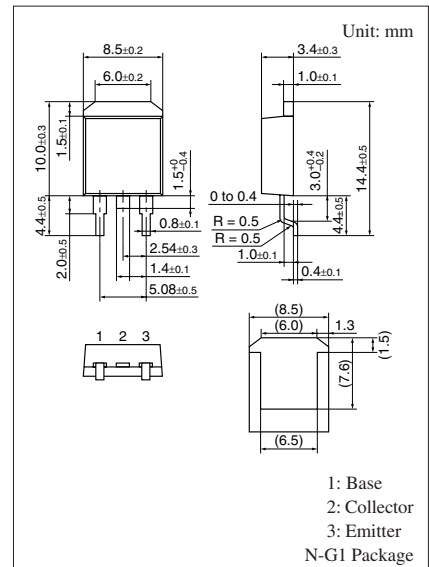
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|--|---------------|--|-----|-----|------|---------------|
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 25 \text{ mA}, I_B = 0$ | 60 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = 100 \text{ V}, I_E = 0$ | | | 100 | μA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = 15 \text{ V}, I_C = 0$ | | | 100 | μA |
| Forward current transfer ratio * | h_{FE} | $V_{CE} = 4 \text{ V}, I_C = 1 \text{ A}$ | 300 | | 2000 | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 5 \text{ A}, I_B = 0.1 \text{ A}$ | | | 0.5 | V |
| Transition frequency | f_T | $V_{CE} = 12 \text{ V}, I_C = 0.5 \text{ A}, f = 10 \text{ MHz}$ | | 30 | | MHz |
| Turn-on time | t_{on} | $I_C = 5 \text{ A}$ | | 0.3 | | μs |
| Storage time | t_{stg} | $I_{B1} = 0.1 \text{ A}, I_{B2} = -0.1 \text{ A}$ | | 1.5 | | μs |
| Fall time | t_f | $V_{CC} = 50 \text{ V}$ | | 0.6 | | μs |

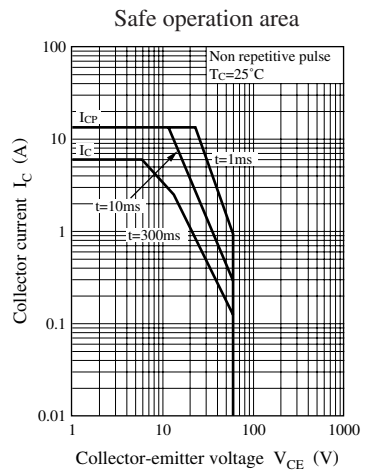
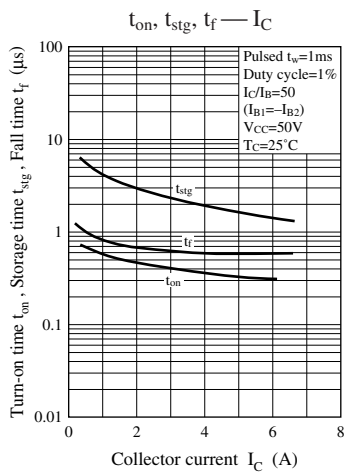
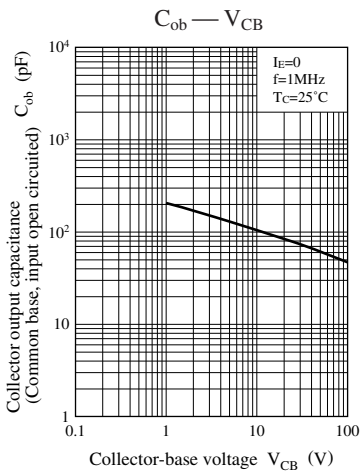
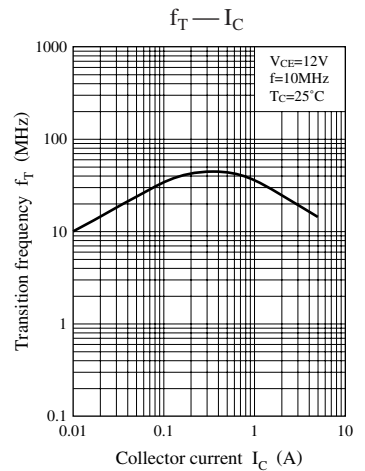
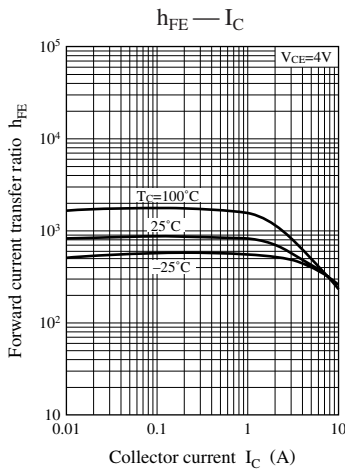
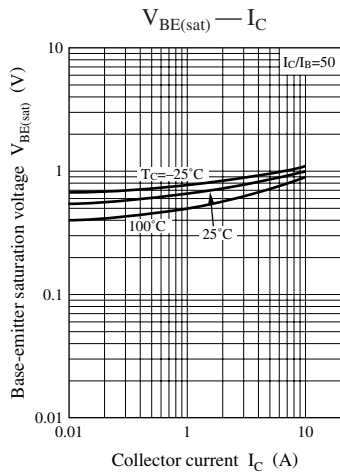
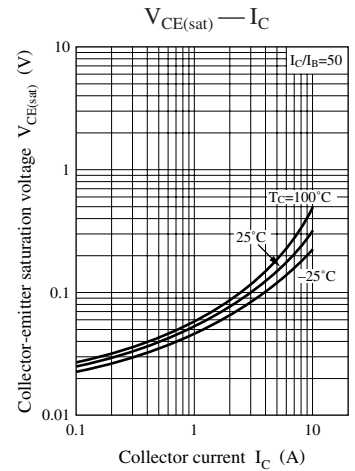
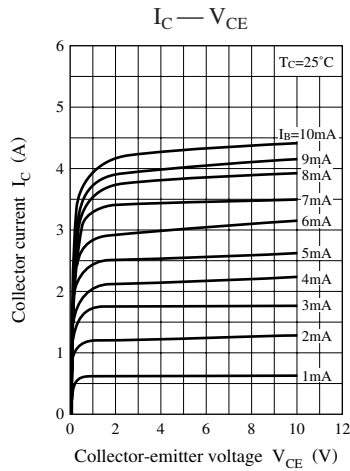
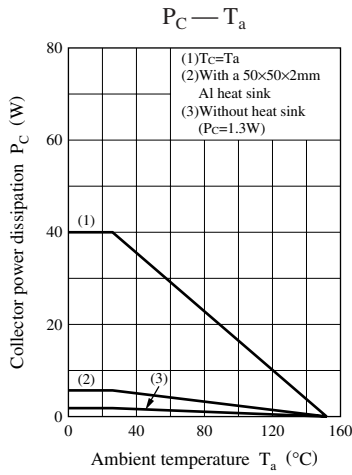
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

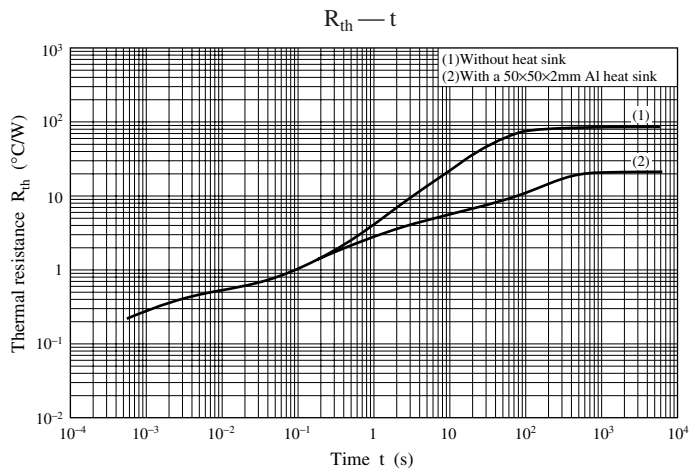
2. *: Rank classification

| Rank | Q | P |
|----------|-------------|-------------|
| h_{FE} | 300 to 1200 | 800 to 2000 |



Note) Self-supported type package is also prepared.





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