

2SC2209

Silicon NPN epitaxial planar type

For low-frequency power amplification
Complementary to 2SA0963

■ Features

- Large collector power dissipation P_C
- Output of 5 W can be obtained by a complementary pair with 2SA0963

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

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 50 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 40 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | 5 | V |
| Collector current | I_C | 1.5 | A |
| Peak collector current | I_{CP} | 3 | A |
| Collector power dissipation * | P_C | 10 | W |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

Note) *: $T_C = 25^\circ\text{C}$

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

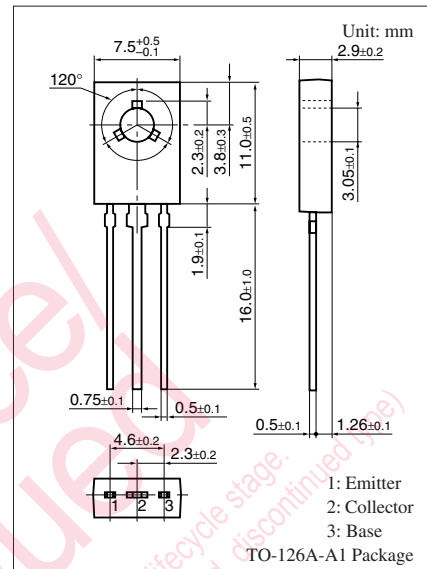
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---------------|---|-----|-----|-----|---------------|
| Collector-base voltage (Emitter open) | V_{CBO} | $I_C = 1 \text{ mA}, I_E = 0$ | 50 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 2 \text{ mA}, I_B = 0$ | 40 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = 20 \text{ V}, I_E = 0$ | | | 1 | μA |
| Collector-emitter cutoff current (Base open) | I_{CEO} | $V_{CE} = 10 \text{ V}, I_B = 0$ | | | 100 | μA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = 5 \text{ V}, I_C = 0$ | | | 10 | μA |
| Forward current transfer ratio *1, 2 | h_{FE} | $V_{CE} = 5 \text{ V}, I_C = 1 \text{ A}$ | 80 | | 220 | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 1.5 \text{ A}, I_B = 0.15 \text{ A}$ | | | 1 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 2 \text{ A}, I_B = 0.2 \text{ A}$ | | | 1.5 | V |
| Transition frequency | f_T | $V_{CB} = 5 \text{ V}, I_E = -0.5 \text{ A}, f = 200 \text{ MHz}$ | | 150 | | MHz |
| Collector output capacitance (Common base, input open circuited) | C_{ob} | $V_{CB} = 5 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ | | 50 | | pF |

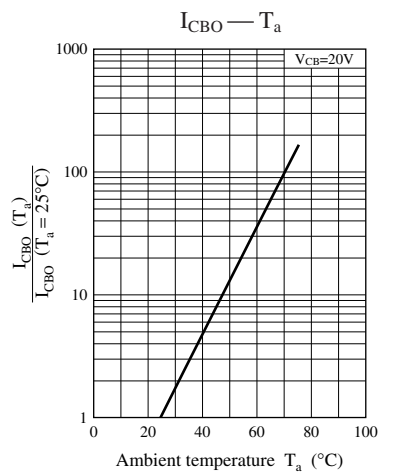
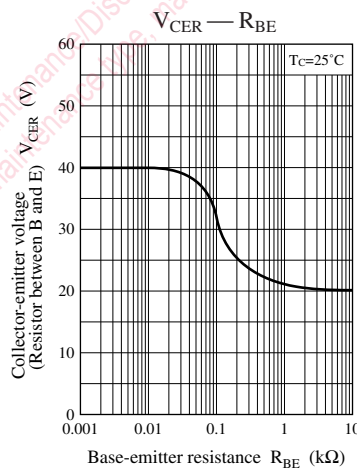
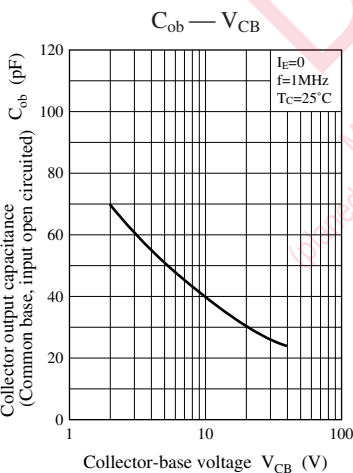
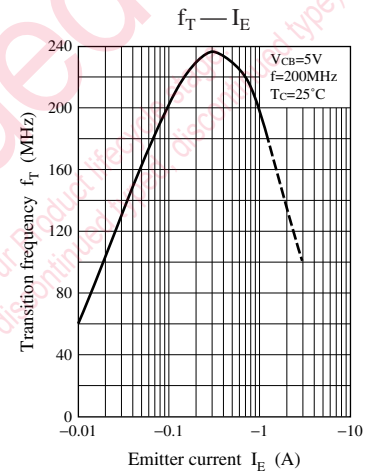
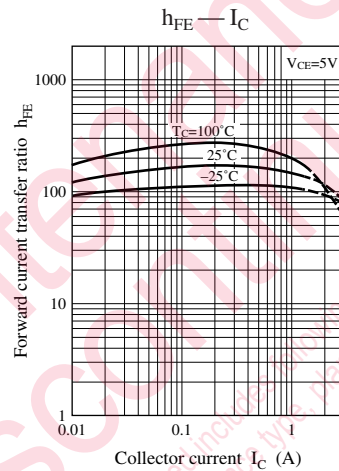
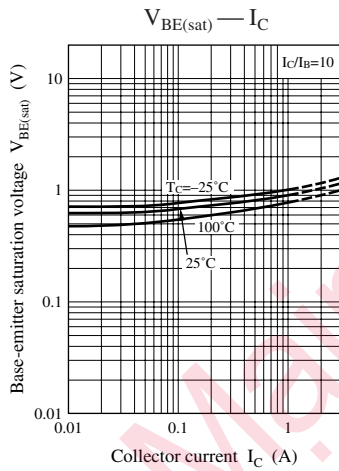
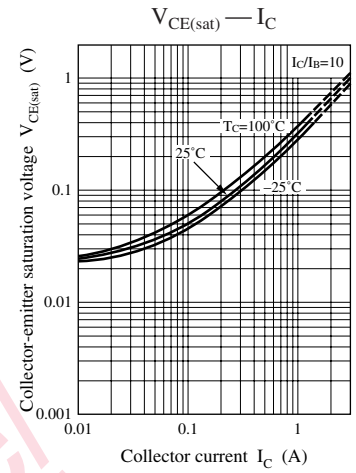
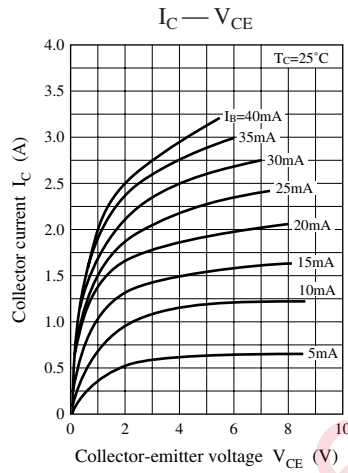
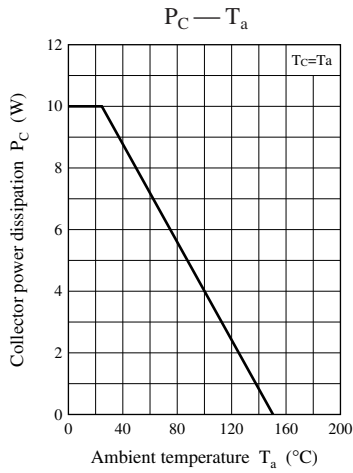
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

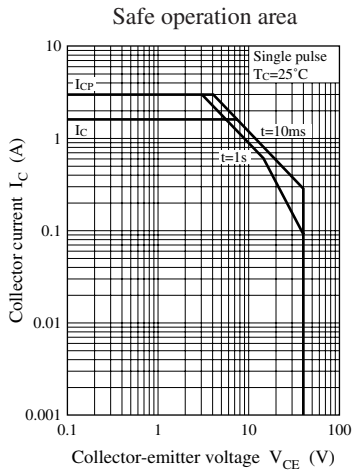
2. *1: Pulse measurement

*2: Rank classification

| Rank | Q | R |
|----------|-----------|------------|
| h_{FE} | 80 to 160 | 120 to 220 |







Maintenance/Discontinued

Maintenance/Discontinued includes following four Product lifecycle stage.
(planned maintenance type, maintenance type, planned discontinued type, discontinued type)

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