

2SC2206

Silicon NPN epitaxial planar type

For high-frequency amplification

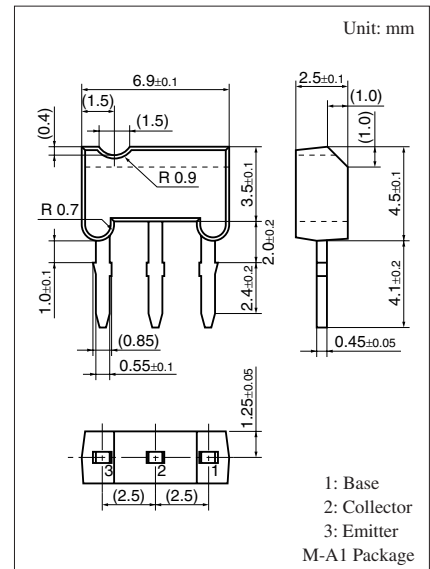
Complementary to 2SA1254

■ Features

- Optimum for RF amplification of FM/AM radios
- High transition frequency f_T
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board

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

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 30 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 20 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | 5 | V |
| Collector current | I_C | 30 | mA |
| Peak collector current | I_{CP} | 60 | mA |
| Collector power dissipation | P_C | 400 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |



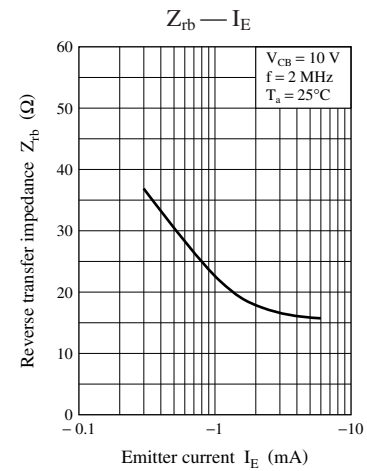
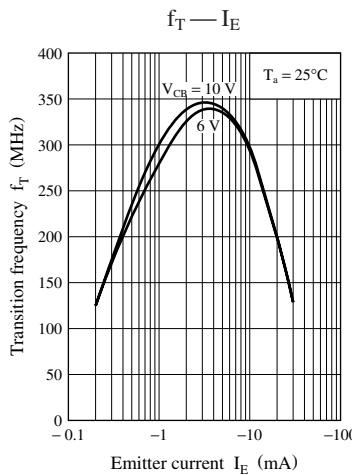
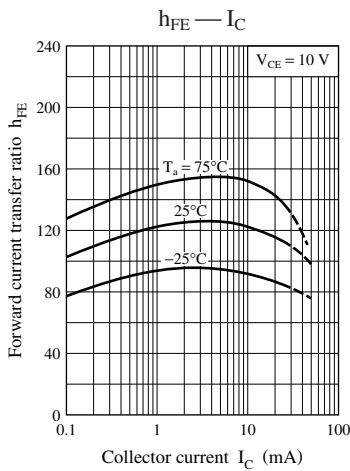
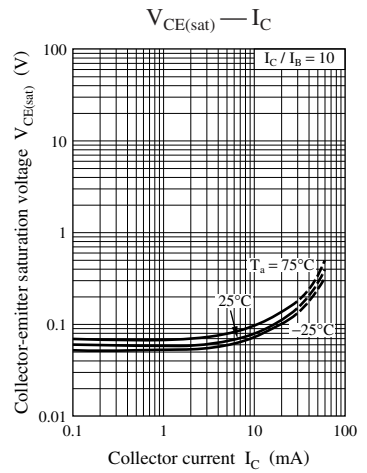
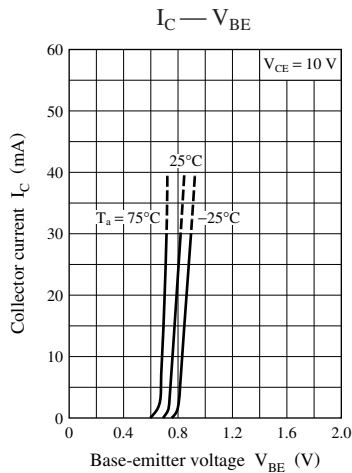
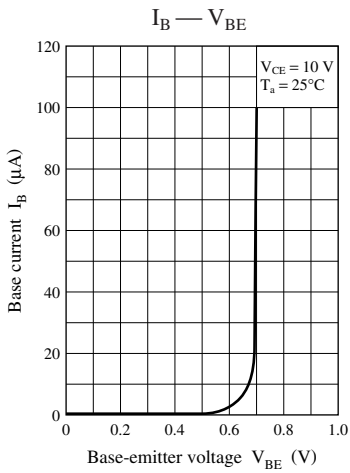
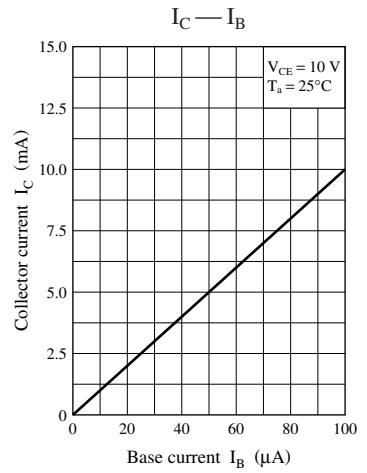
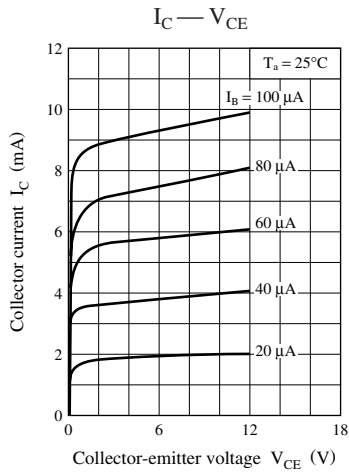
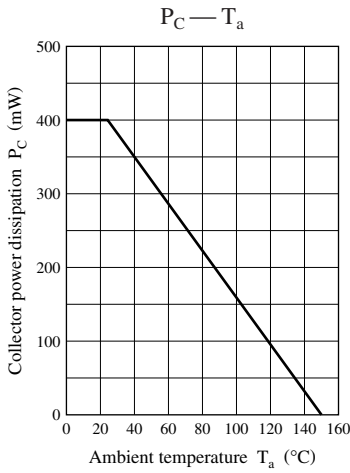
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

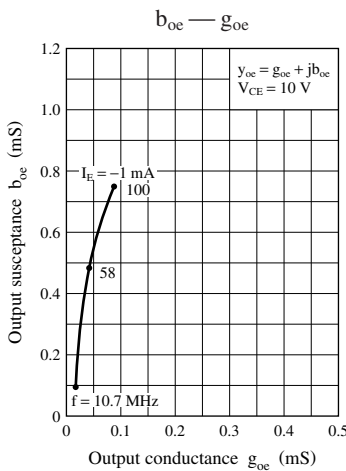
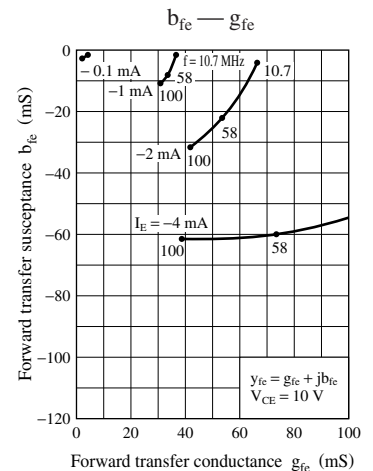
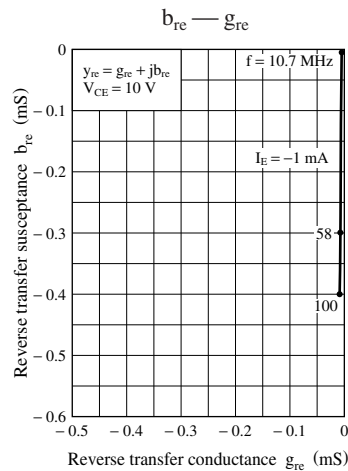
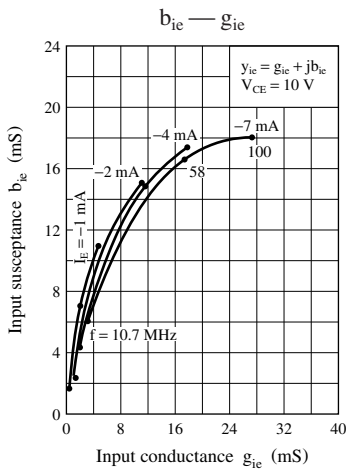
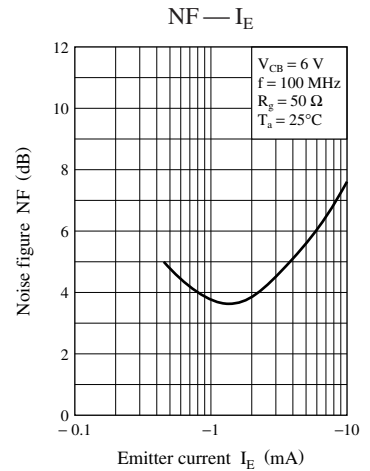
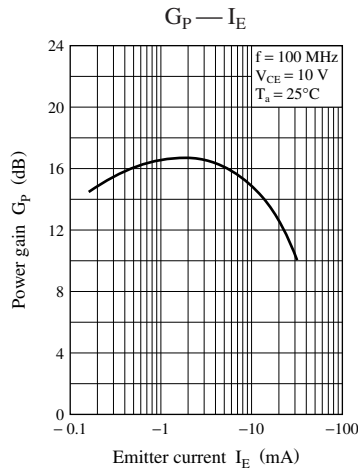
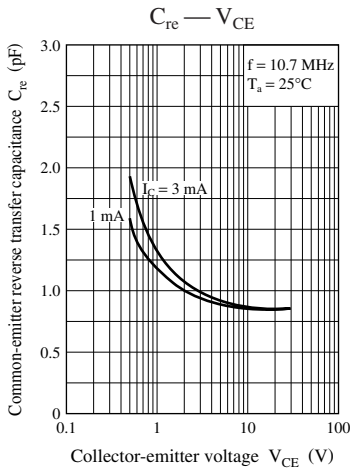
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---------------|--|-----|-----|-----|----------|
| Collector-base voltage (Emitter open) | V_{CBO} | $I_C = 10 \mu\text{A}, I_E = 0$ | 30 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 1 \text{ mA}, I_B = 0$ | 20 | | | V |
| Emitter-base voltage (Collector open) | V_{EBO} | $I_E = 10 \mu\text{A}, I_C = 0$ | 5 | | | V |
| Base-emitter voltage | V_{BE} | $V_{CE} = 10 \text{ V}, I_C = 1 \text{ mA}$ | | 0.7 | | V |
| Forward current transfer ratio * | h_{FE} | $V_{CE} = 10 \text{ V}, I_C = 1 \text{ mA}$ | 70 | | 220 | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$ | | 0.1 | | V |
| Transition frequency | f_T | $V_{CB} = 10 \text{ V}, I_E = -1 \text{ mA}, f = 200 \text{ MHz}$ | 150 | 300 | | MHz |
| Noise figure | NF | $V_{CB} = 10 \text{ V}, I_E = -1 \text{ mA}, f = 5 \text{ MHz}$ | | 2.8 | 4 | dB |
| Common-emitter reverse transfer capacitance | C_{re} | $V_{CB} = 10 \text{ V}, I_E = -1 \text{ mA}, f = 10.7 \text{ MHz}$ | | | 1.5 | pF |
| Reverse transfer impedance | Z_{rb} | $V_{CB} = 10 \text{ V}, I_E = -1 \text{ mA}, f = 2 \text{ MHz}$ | | | 50 | Ω |

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

2. *: Rank classification

| Rank | B | C |
|----------|-----------|------------|
| h_{FE} | 70 to 140 | 110 to 220 |





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