

2SC2206

Silicon NPN epitaxial planer type

For high-frequency amplification

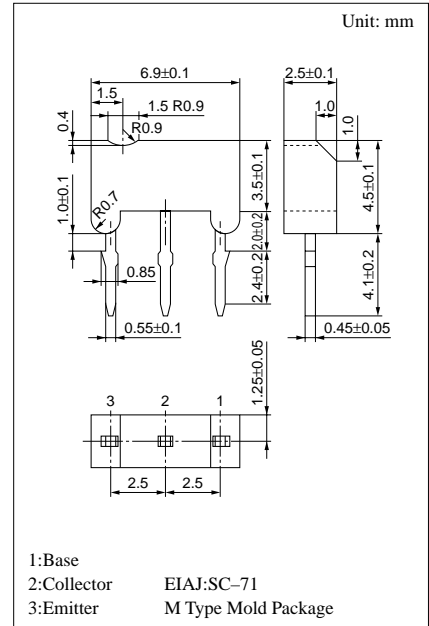
Complementary to 2SA1254

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 (Ta=25°C)

| Parameter | Symbol | Ratings | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage | V_{CBO} | 30 | V |
| Collector to emitter voltage | V_{CEO} | 20 | V |
| Emitter to base voltage | C_{EBO} | 5 | V |
| Collector current | I_C | 30 | mA |
| Collector power dissipation | P_C | 400 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | °C |



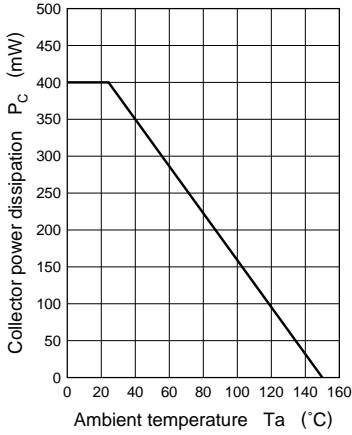
Electrical Characteristics (Ta=25°C)

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

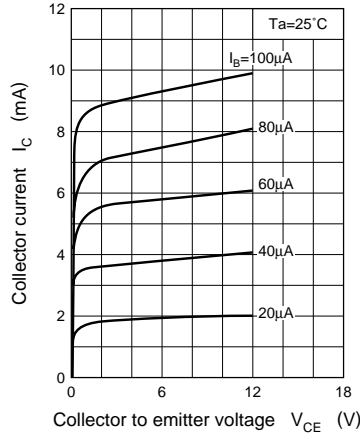
* h_{FE} Rank classification

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

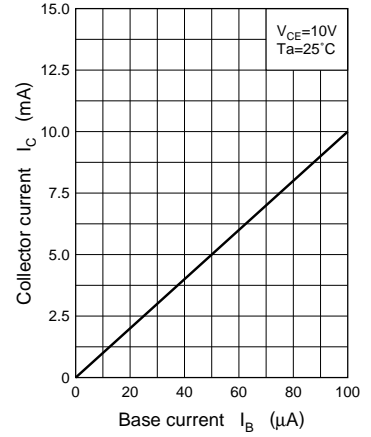
$P_C - T_a$



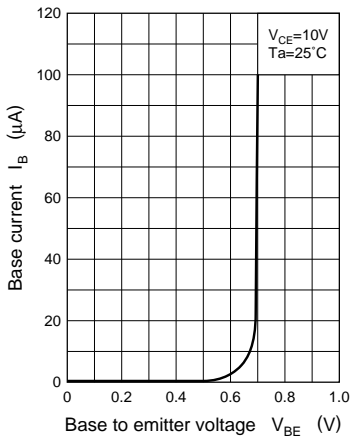
$I_C - V_{CE}$



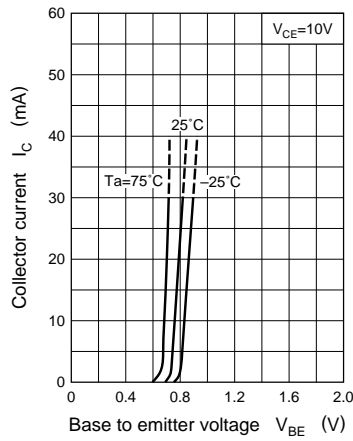
$I_C - I_B$



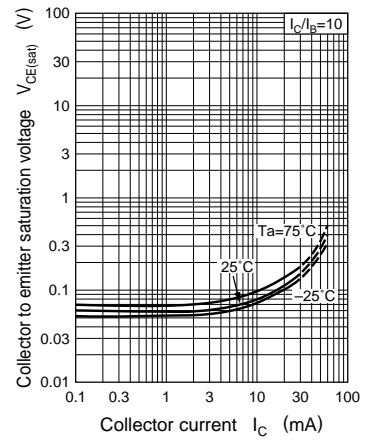
$I_B - V_{BE}$



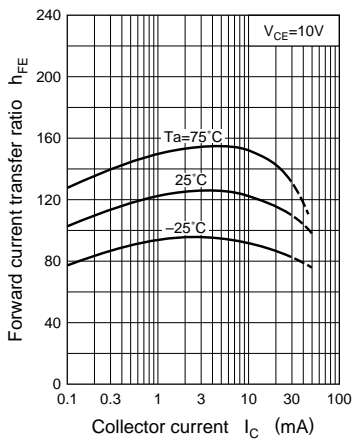
$I_C - V_{BE}$



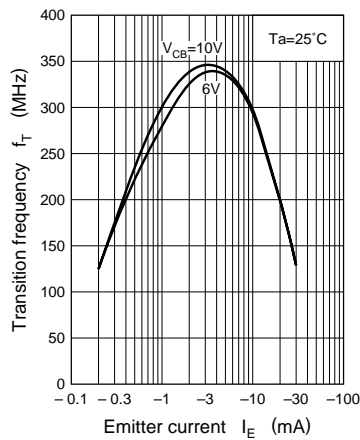
$V_{CE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$Z_{rb} - I_E$

