

2SB1209

Silicon PNP triple diffusion planer type

For low-frequency amplification

Features

- High collector to base voltage V_{CBO} .
- High collector to emitter voltage V_{CEO} .
- Low collector to emitter saturation voltage $V_{CE(sat)}$.

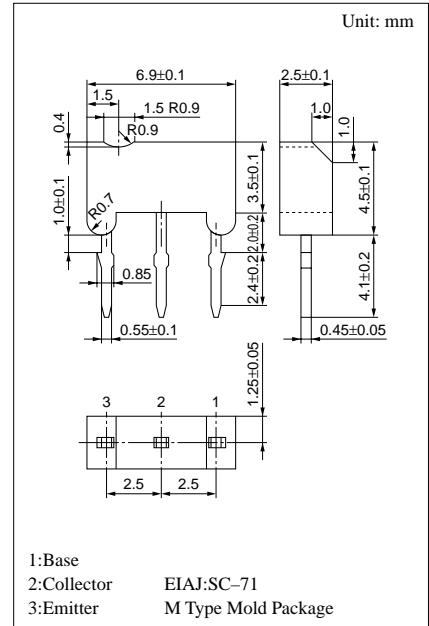
Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Ratings | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage | V_{CBO} | -400 | V |
| Collector to emitter voltage | V_{CEO} | -400 | V |
| Emitter to base voltage | V_{EBO} | -5 | V |
| Peak collector current | I_{CP} | -200 | mA |
| Collector current | I_C | -100 | mA |
| Collector power dissipation | P_C^* | 1 | W |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | °C |

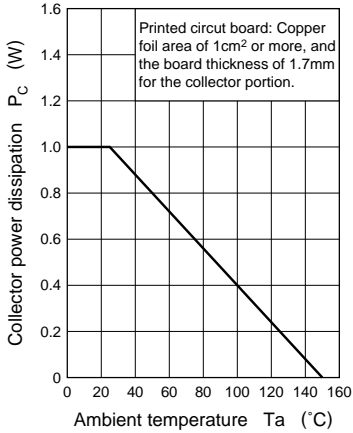
* Printed circuit board: Copper foil area of 1cm² or more, and the board thickness of 1.7mm for the collector portion

Electrical Characteristics (Ta=25°C)

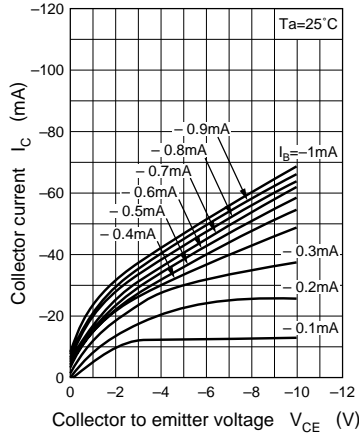
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|---------------|---|------|-----|------|------|
| Collector to base voltage | V_{CBO} | $I_C = -100\mu A, I_E = 0$ | -400 | | | V |
| Collector to emitter voltage | V_{CEO} | $I_C = -500\mu A, I_B = 0$ | -400 | | | V |
| Emitter to base voltage | V_{EBO} | $I_E = -100\mu A, I_C = 0$ | -5 | | | V |
| Forward current transfer ratio | h_{FE} | $V_{CE} = -5V, I_C = -30mA$ | 40 | | | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -10mA, I_B = -1mA$ | | | -0.6 | V |
| Base to emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -50mA, I_B = -5mA$ | | | -1.5 | V |
| Transition frequency | f_T | $V_{CB} = -30V, I_E = 20mA, f = 200MHz$ | | 50 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -30V, I_E = 0, f = 1MHz$ | | | 9 | pF |



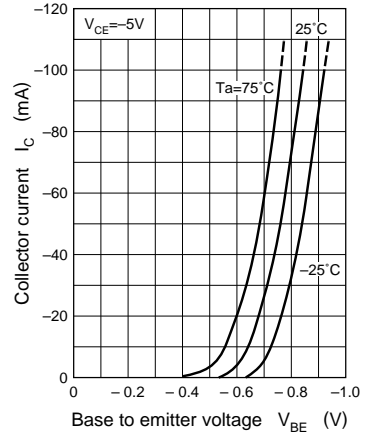
$P_C - T_a$



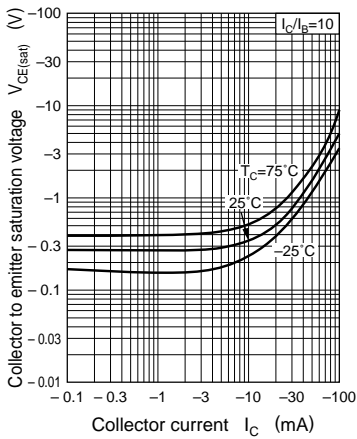
$I_C - V_{CE}$



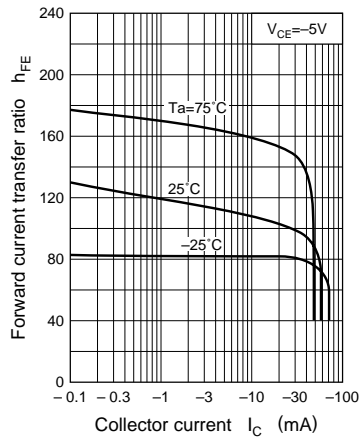
$I_C - V_{BE}$



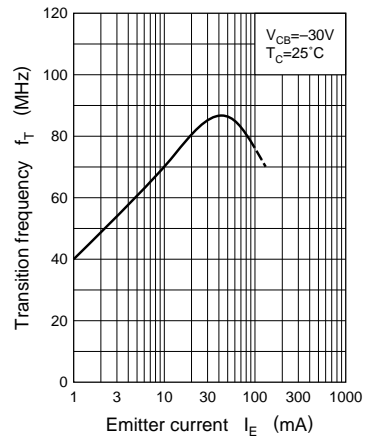
$V_{CE(sat)} - I_C$



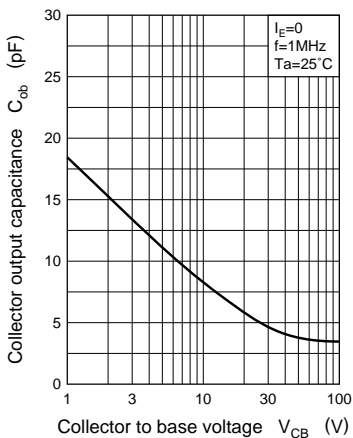
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



Area of safe operation (ASO)

