

XP01401 (XP1401)

Silicon PNP epitaxial planer transistor

For general amplification

■ Features

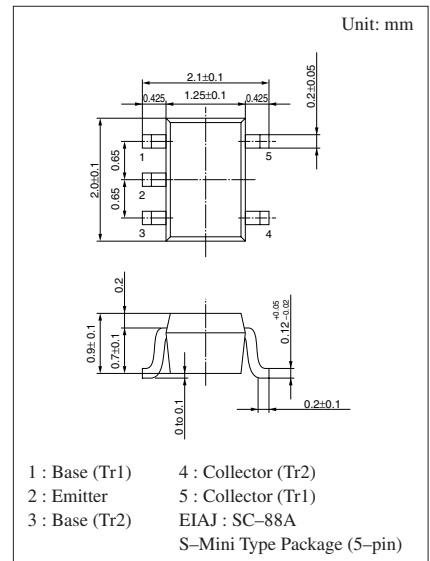
- Two elements incorporated into one package.
(Emitter-coupled transistors)
- Reduction of the mounting area and assembly cost by one half.

■ Basic Part Number of Element

- 2SB709A(2SB709A) × 2 elements

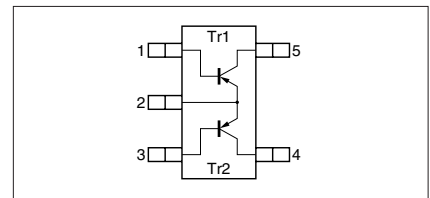
■ Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Ratings | Unit | |
|-------------------|------------------------------|-----------|-------------|----|
| Rating of element | Collector to base voltage | V_{CBO} | -60 | V |
| | Collector to emitter voltage | V_{CEO} | -50 | V |
| | Emitter to base voltage | V_{EBO} | -7 | V |
| | Collector current | I_C | -100 | mA |
| | Peak collector current | I_{CP} | -200 | mA |
| Overall | Total power dissipation | P_T | 150 | mW |
| | Junction temperature | T_j | 150 | °C |
| | Storage temperature | T_{sig} | -55 to +150 | °C |



Marking Symbol: **5V**

Internal Connection



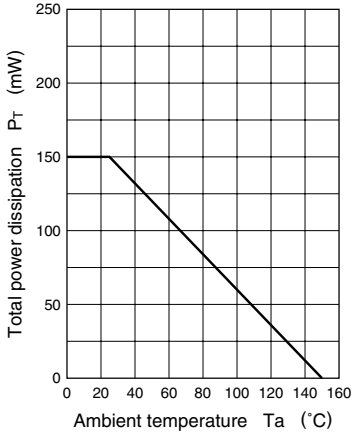
■ Electrical Characteristics (Ta=25°C)

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|-----------------------------------|--|-----|------|------|---------|
| Collector to base voltage | V_{CBO} | $I_C = -10\mu A, I_E = 0$ | -60 | | | V |
| Collector to emitter voltage | V_{CEO} | $I_C = -2mA, I_B = 0$ | -50 | | | V |
| Emitter to base voltage | V_{EBO} | $I_E = -10\mu A, I_C = 0$ | -7 | | | V |
| Collector cutoff current | I_{CBO} | $V_{CB} = -20V, I_E = 0$ | | | -0.1 | μA |
| | I_{CEO} | $V_{CE} = -10V, I_B = 0$ | | | -100 | μA |
| Forward current transfer ratio | h_{FE} | $V_{CE} = -10V, I_C = -2mA$ | 160 | | 460 | |
| Forward current transfer h_{FE} ratio | $h_{FE}(\text{small/large})^{*1}$ | $V_{CE} = -10V, I_C = -2mA$ | 0.5 | 0.99 | | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -100mA, I_B = -10mA$ | | -0.3 | -0.5 | V |
| Transition frequency | f_T | $V_{CB} = -10V, I_E = 1mA, f = 200MHz$ | | 80 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | | 2.7 | | pF |

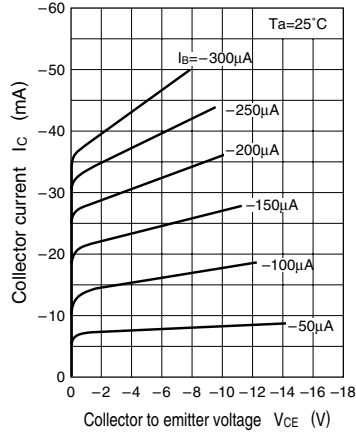
*1 Ratio between 2 elements

Note.) The Part number in the Parenthesis shows conventional part number.

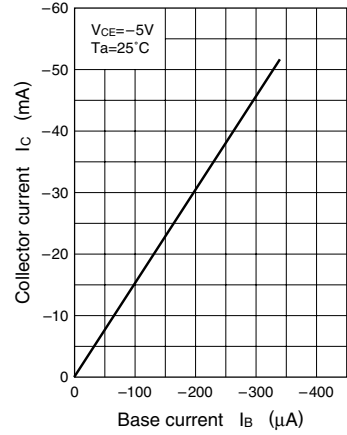
$P_T - T_a$



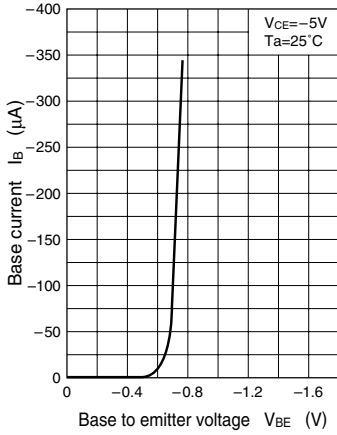
$I_C - V_{CE}$



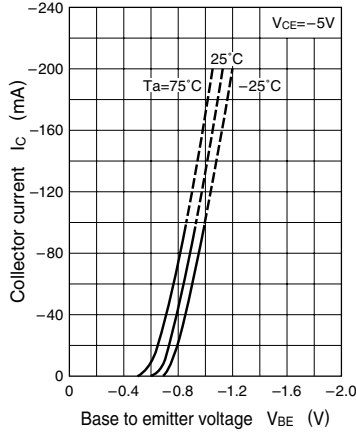
$I_C - I_B$



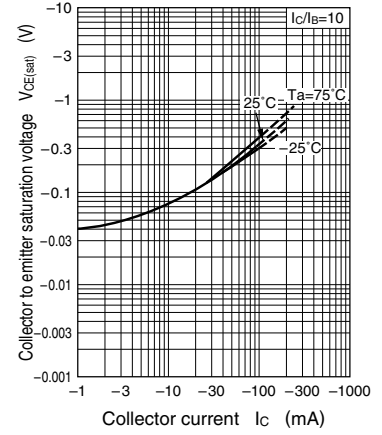
$I_B - V_{BE}$



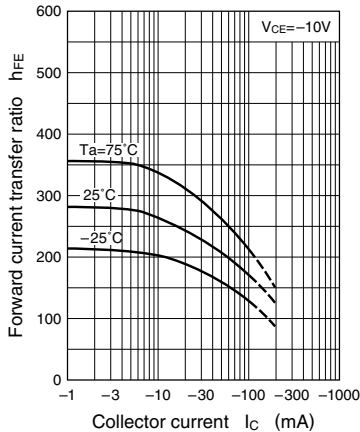
$I_C - V_{BE}$



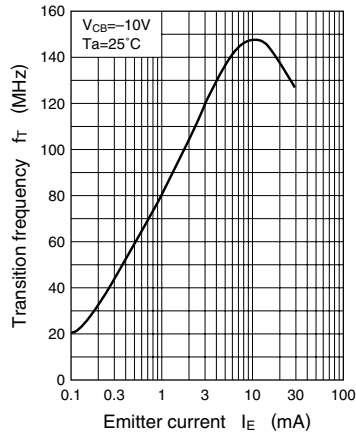
$V_{CE(sat)} - I_C$



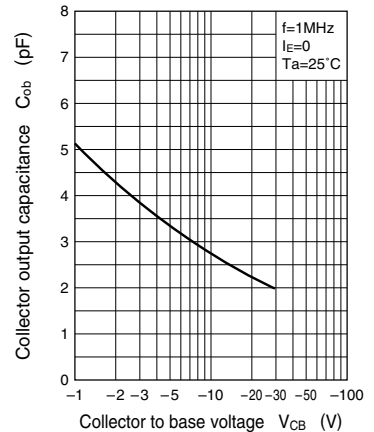
$h_{FE} - I_C$



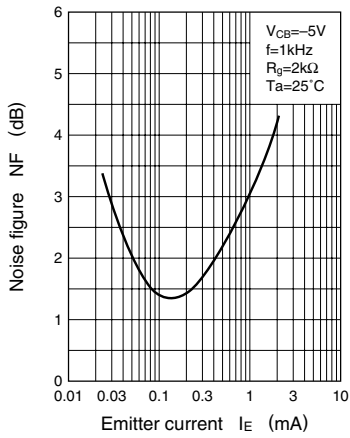
$f_T - I_E$



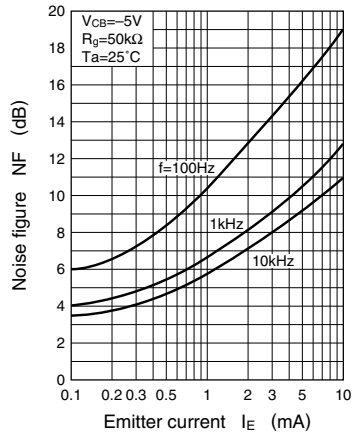
$C_{ob} - V_{CB}$



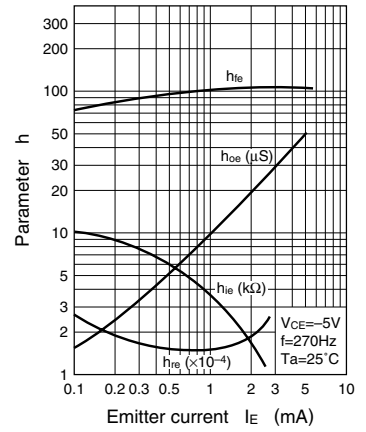
NF — I_E



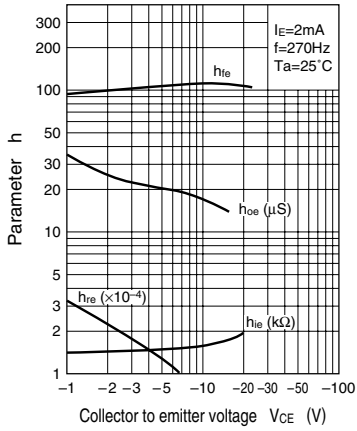
NF — I_E



h Parameter — I_E



h Parameter — V_{CE}



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