

UN2121/2122/2123/2124/212X/212Y

Silicon PNP epitaxial planer transistor

For digital circuits

■ Features

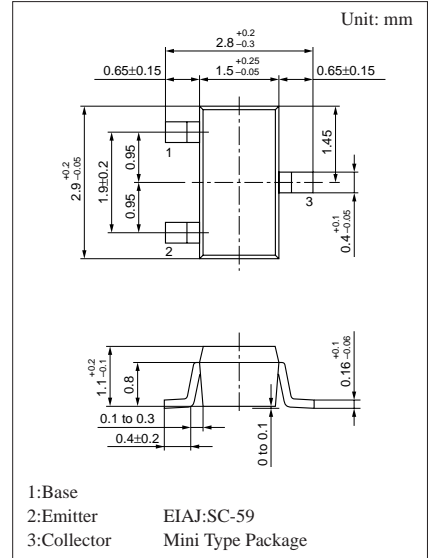
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.
- Mini type package, allowing downsizing of the equipment and automatic insertion through tape packing and magazine packing.

■ Resistance by Part Number

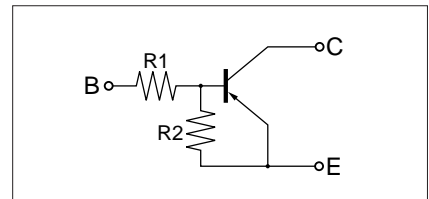
| | Marking Symbol | (R ₁) | (R ₂) |
|----------|----------------|-------------------|-------------------|
| • UN2121 | 7A | 2.2kΩ | 2.2kΩ |
| • UN2122 | 7B | 4.7kΩ | 4.7kΩ |
| • UN2123 | 7C | 10kΩ | 10kΩ |
| • UN2124 | 7D | 2.2kΩ | 10kΩ |
| • UN212X | 7I | 0.27kΩ | 5kΩ |
| • UN212Y | 7Y | 3.1kΩ | 4.6kΩ |

■ Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Ratings | Unit |
|------------------------------|------------------|-------------|------|
| Collector to base voltage | V _{CBO} | -50 | V |
| Collector to emitter voltage | V _{CEO} | -50 | V |
| Collector current | I _C | -500 | mA |
| Total power dissipation | P _T | 200 | mW |
| Junction temperature | T _j | 150 | °C |
| Storage temperature | T _{stg} | -55 to +150 | °C |



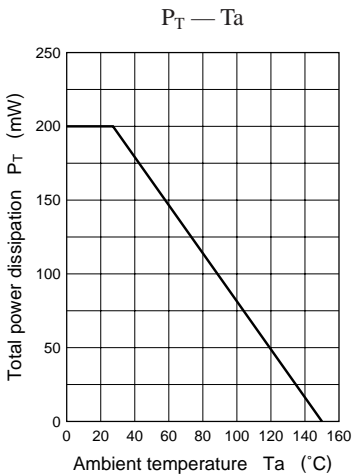
Internal Connection



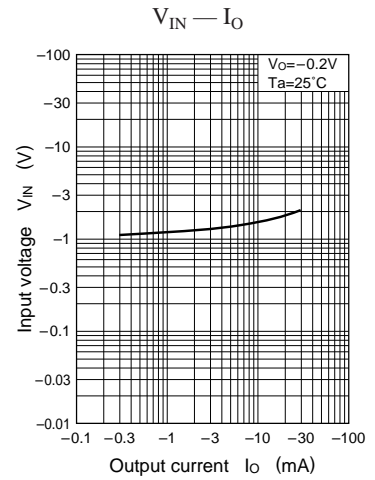
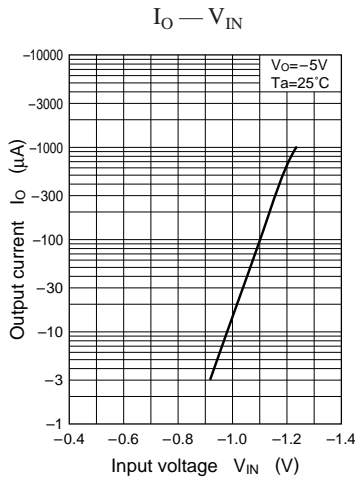
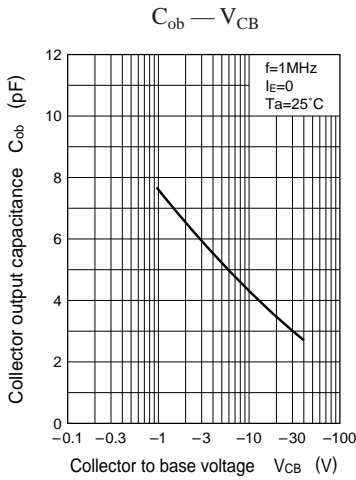
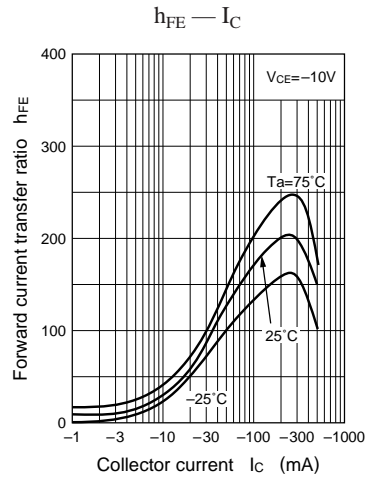
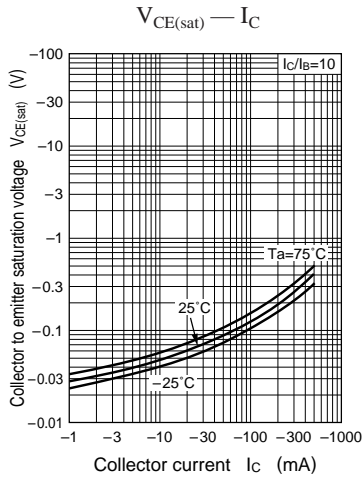
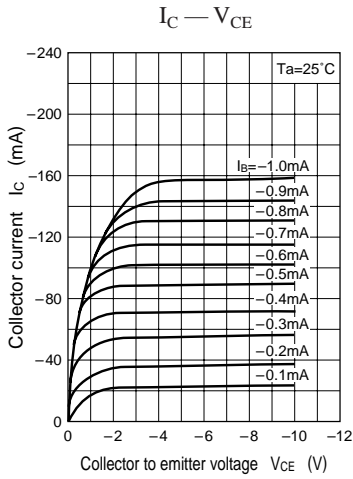
■ Electrical Characteristics (Ta=25°C)

| Parameter | | Symbol | Conditions | min | typ | max | Unit | |
|---|------------------|---------------|--|-----------------------------|------|--------|------------|-------|
| Collector cutoff current | | I_{CBO} | $V_{CB} = -50V, I_E = 0$ | | | -1 | μA | |
| | UN212X | I_{CBO} | $V_{CB} = -50V, I_E = 0$ | | | -0.1 | | |
| Collector cutoff current | | I_{CEO} | $V_{CE} = -50V, I_B = 0$ | | | -1 | μA | |
| | UN212X | I_{CEO} | $V_{CE} = -50V, I_B = 0$ | | | -0.5 | | |
| Emitter cutoff current | UN2121 | I_{EBO} | $V_{EB} = -6V, I_C = 0$ | | | -5 | mA | |
| | UN2122/212X/212Y | | | | | -2 | | |
| | UN2123/2124 | | | | | -1 | | |
| Collector to base voltage | | V_{CBO} | $I_C = -10\mu A, I_E = 0$ | -50 | | | V | |
| Forward transfer ratio | UN2121 | h_{FE} | $V_{CE} = -10V, I_C = -100mA$ | 40 | | | | |
| | UN2122/212Y | | | 50 | | | | |
| | UN2123/2124 | | | 60 | | | | |
| | UN212X | | | 20 | | | | |
| Collector to emitter saturation voltage | | $V_{CE(sat)}$ | $I_C = -100mA, I_B = -5mA$ | | | -0.25 | V | |
| | | UN212X | $V_{CE(sat)}$ | $I_C = -10mA, I_B = -0.3mA$ | | | | -0.25 |
| | | UN212Y | $V_{CE(sat)}$ | $I_C = -50mA, I_B = -5mA$ | | | | -0.15 |
| Output voltage high level | | V_{OH} | $V_{CC} = -5V, V_B = -0.5V, R_L = 500\Omega$ | -4.9 | | | V | |
| Output voltage low level | | V_{OL} | $V_{CC} = -5V, V_B = -3.5V, R_L = 500\Omega$ | | | -0.2 | V | |
| Transition frequency | | f_T | $V_{CB} = -10V, I_E = 50mA, f = 200MHz$ | | 200 | | MHz | |
| Input resistance | UN2121 | R_1 | | (-30%) | 2.2 | (+30%) | k Ω | |
| | UN2122 | | | | 4.7 | | | |
| | UN2123 | | | | 10 | | | |
| | UN212X | | | | 0.27 | | | |
| | UN212Y | | | | 3.1 | | | |
| Resistance ratio | | R_1/R_2 | | | 0.8 | 1.0 | 1.2 | |
| | | | | | | 0.22 | | |
| | | | | | | 0.054 | | |
| | | | | | | 0.67 | | |

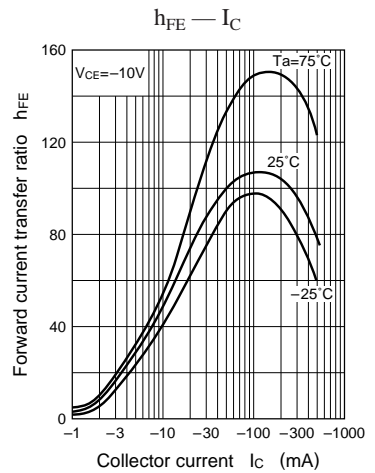
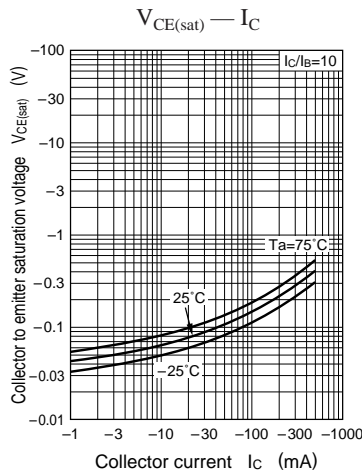
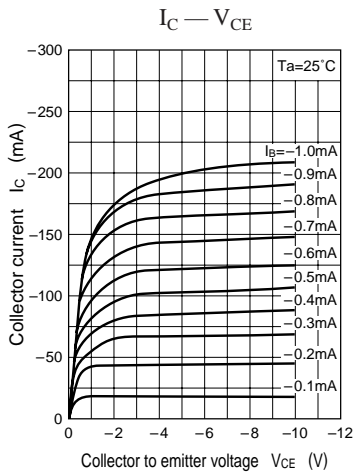
Common characteristics chart

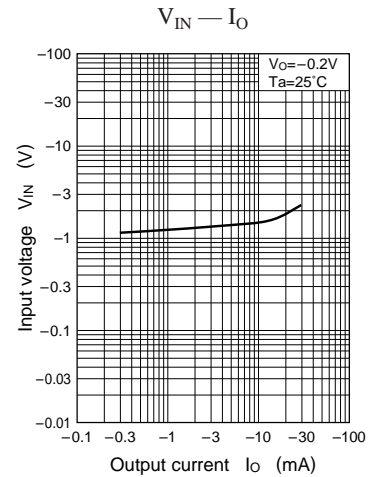
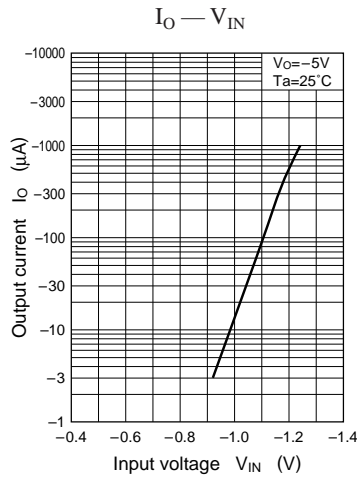
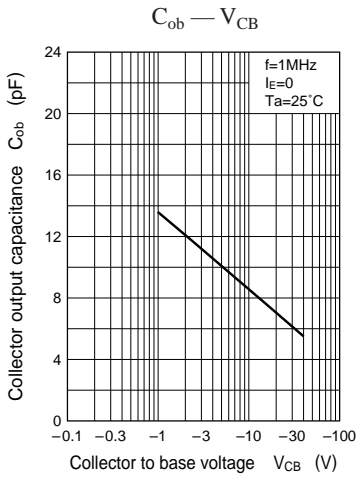


Characteristics charts of UN2121

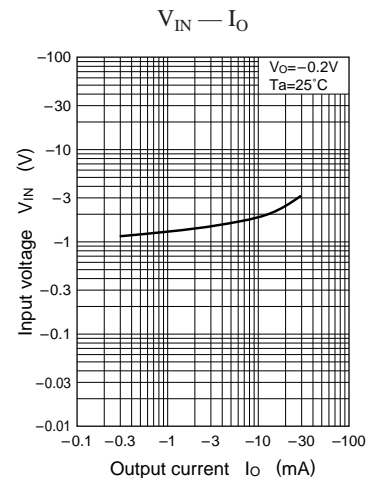
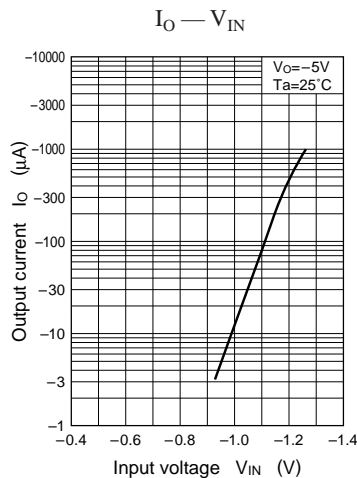
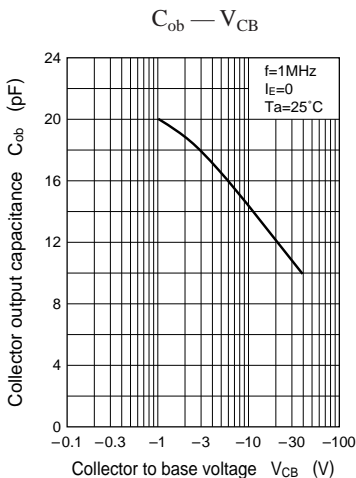
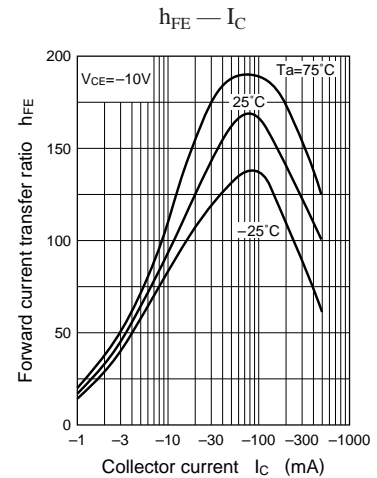
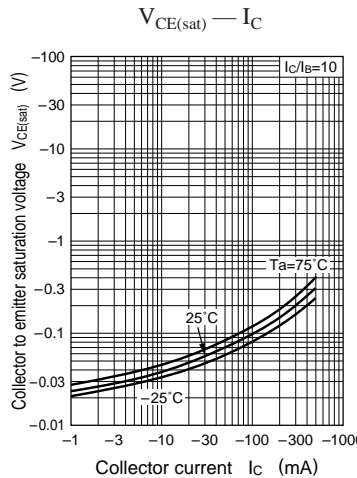
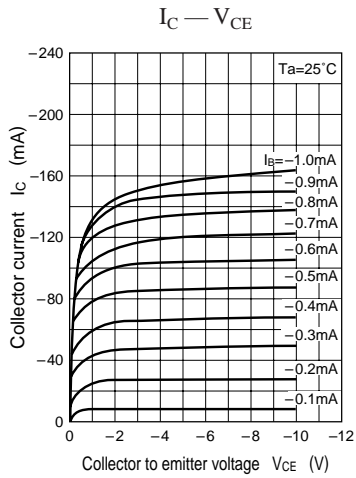


Characteristics charts of UN2122

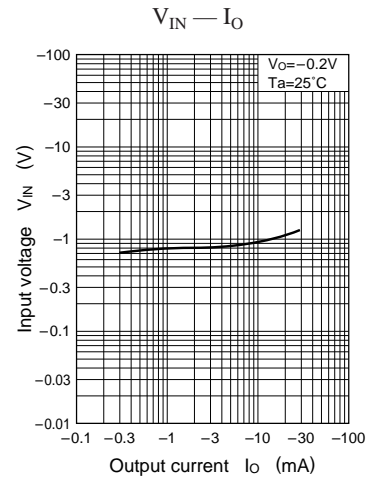
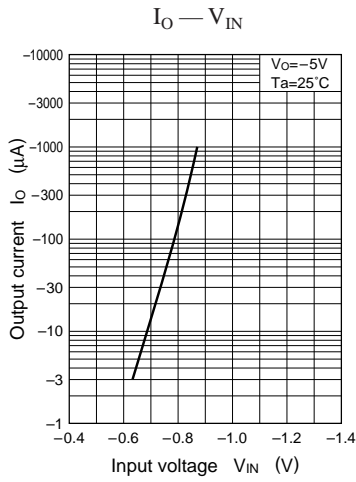
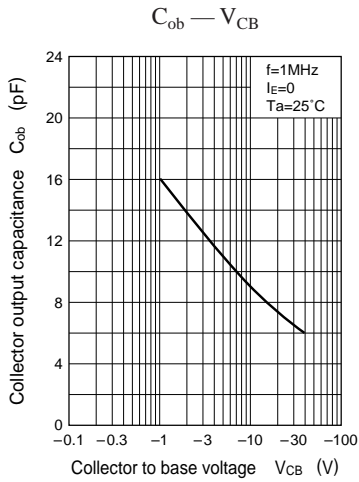
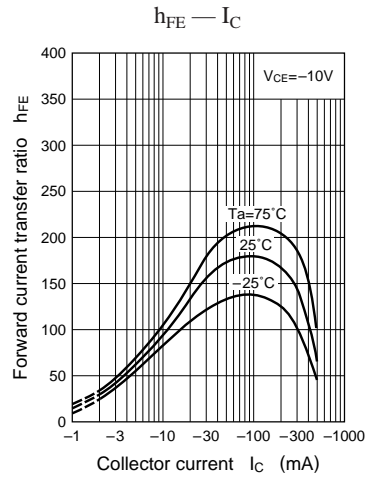
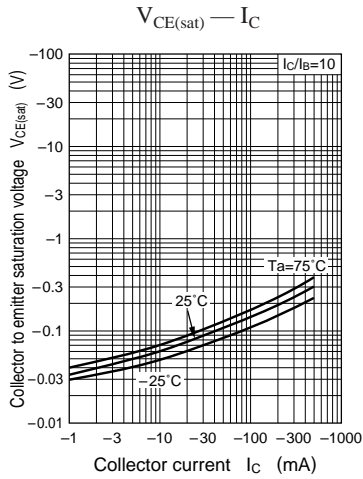
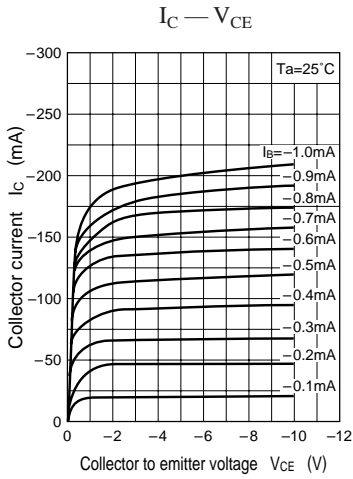




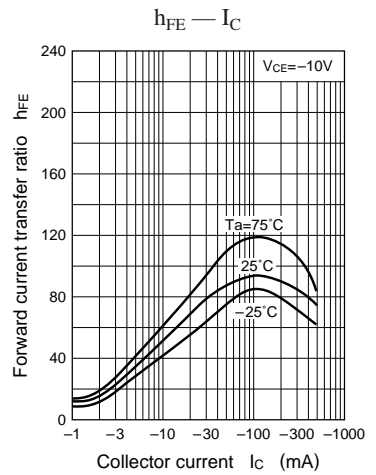
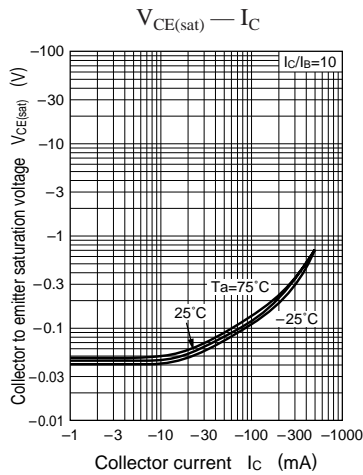
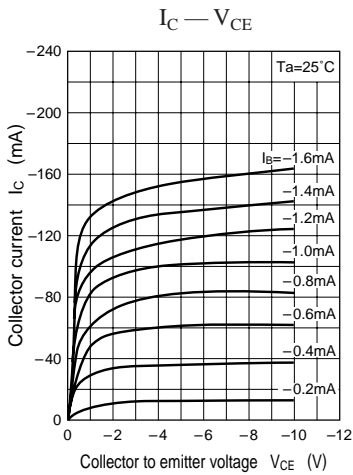
Characteristics charts of UN2123

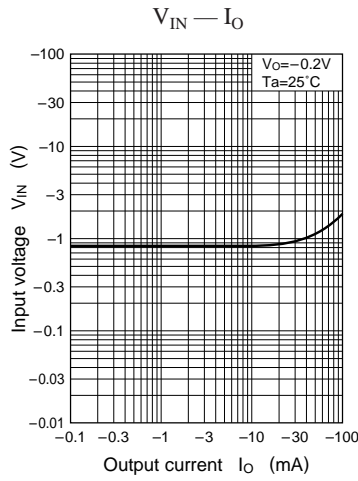
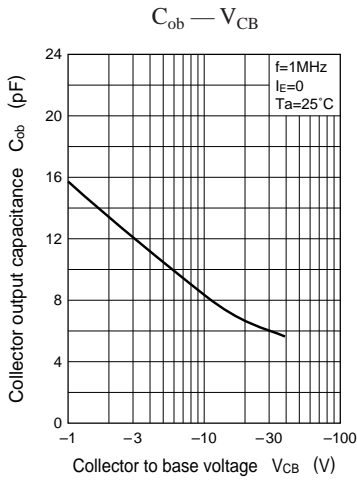


Characteristics charts of UN2124



Characteristics charts of UN212X





Characteristics charts of UN212Y

