

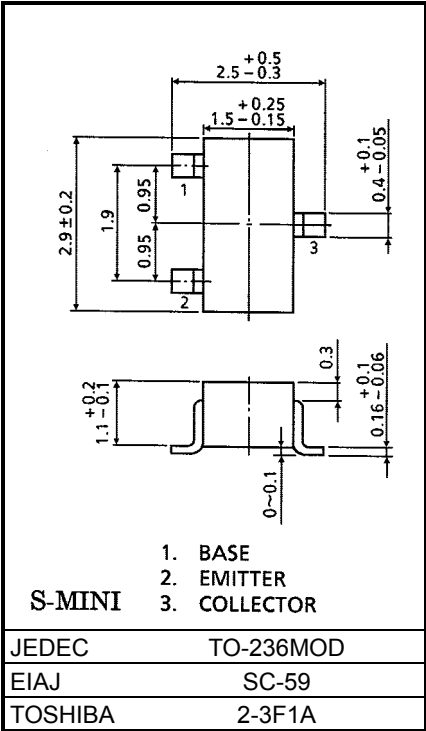
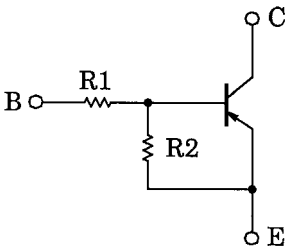
RN2407,RN2408,RN2409

Unit: mm

Switching, Inverter Circuit, Interface Circuit  
And Driver Circuit Applications

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN1407~1409

Equivalent Circuit

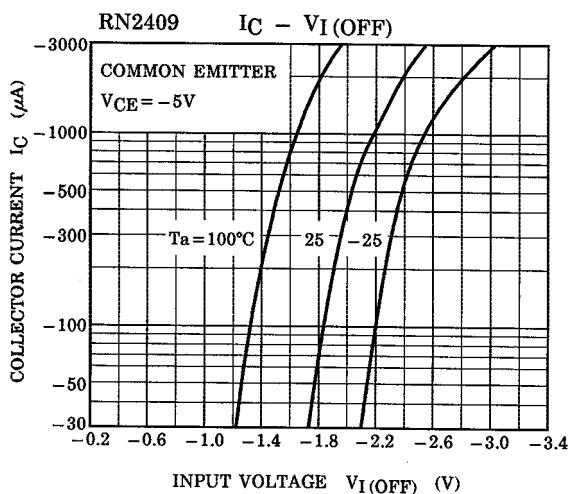
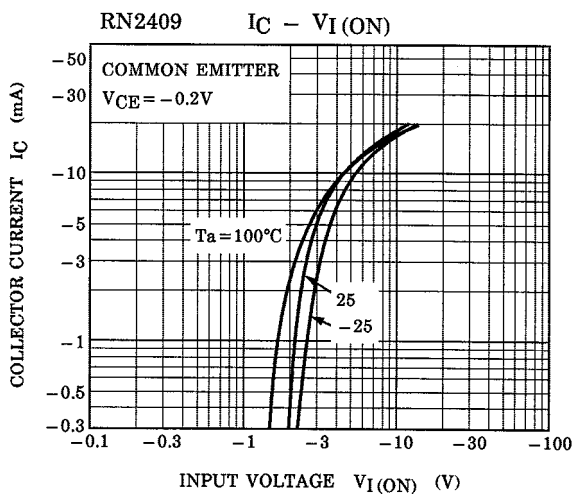
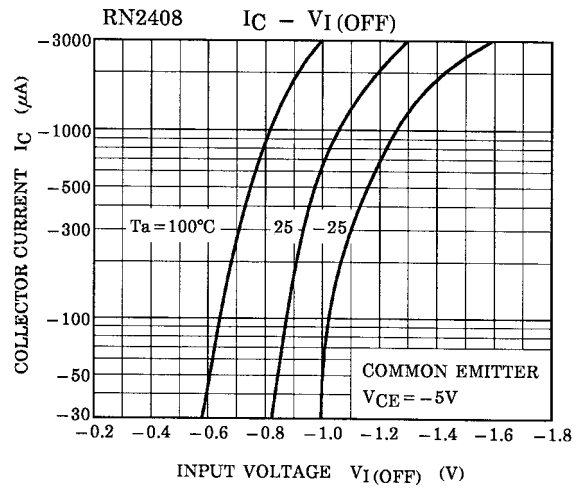
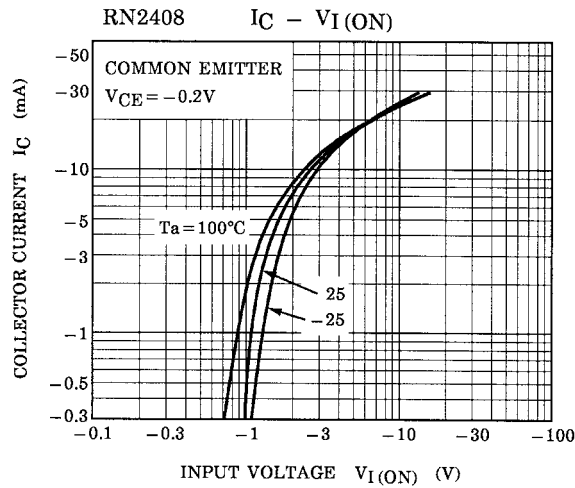
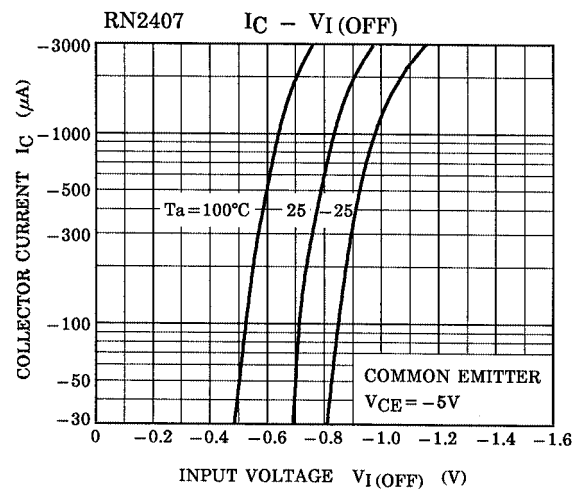
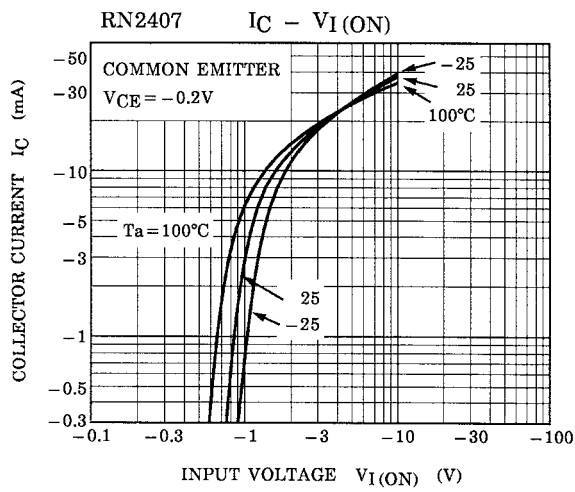


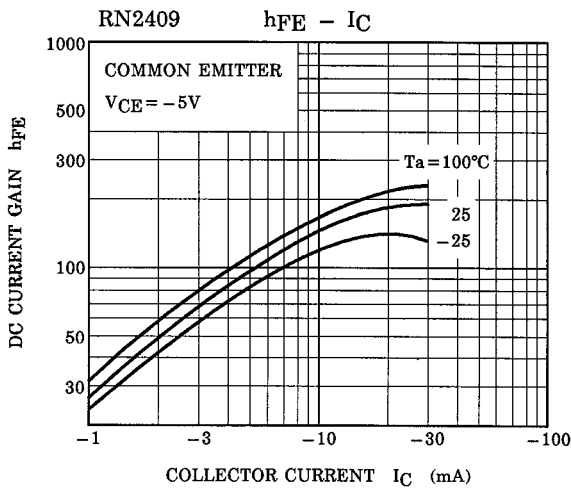
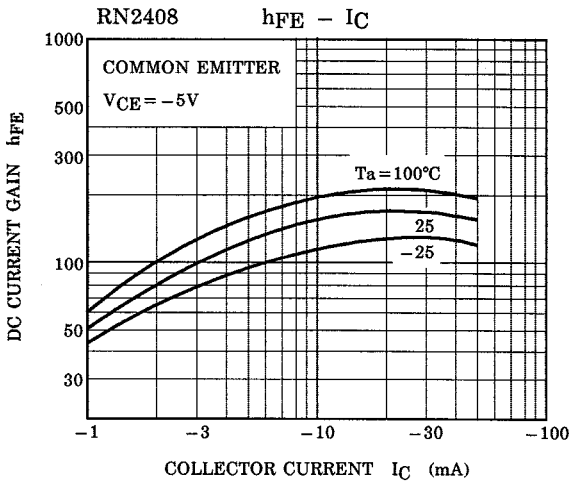
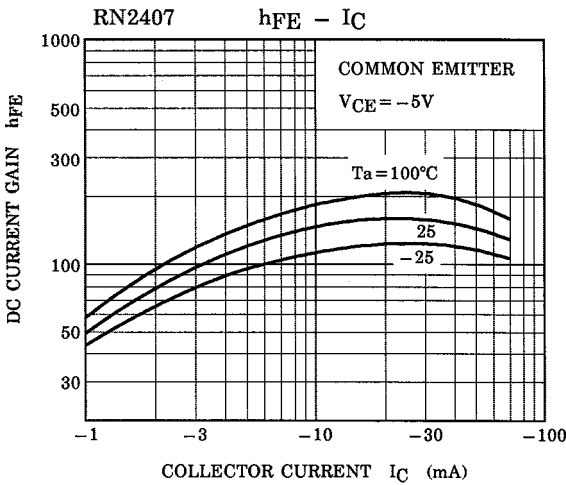
Maximum Ratings (Ta = 25°C)

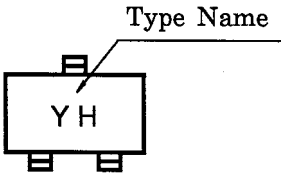
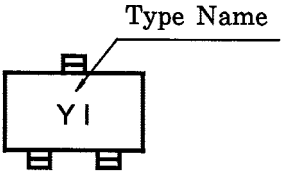
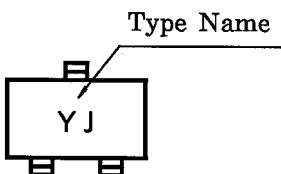
| Characteristic              |               | Symbol           | Rating | Unit |
|-----------------------------|---------------|------------------|--------|------|
| Collector-base voltage      | RN2407~RN2409 | V <sub>CBO</sub> | -50    | V    |
| Collector-emitter voltage   |               | V <sub>CEO</sub> | -50    | V    |
| Emitter-base voltage        | RN2407        | V <sub>EBO</sub> | -6     | V    |
|                             | RN2408        |                  | -7     |      |
|                             | RN2409        |                  | -15    |      |
| Collector current           | RN2407~RN2409 | I <sub>C</sub>   | -100   | mA   |
| Collector power dissipation |               | P <sub>C</sub>   | 200    | mW   |
| Junction temperature        |               | T <sub>j</sub>   | 150    | °C   |
| Storage temperature range   |               | T <sub>stg</sub> | -5~150 | °C   |

**Electrical Characteristics (Ta = 25°C)**

| Characteristic                       |               | Symbol        | Test Circuit | Test Condition                     | Min    | Typ.  | Max    | Unit |
|--------------------------------------|---------------|---------------|--------------|------------------------------------|--------|-------|--------|------|
| Collector cut-off current            | RN2407~RN2409 | $I_{CBO}$     | —            | $V_{CB} = -50V, I_E = 0$           | —      | —     | -0.1   | nA   |
|                                      |               | $I_{CEO}$     | —            | $V_{CE} = -50V, I_B = 0$           | —      | —     | -0.5   |      |
| Emitter cut-off current              | RN2407        | $I_{EBO}$     | —            | $V_{EB} = -6V, I_C = 0$            | -0.081 | —     | -0.15  | mA   |
|                                      | RN2408        |               | —            | $V_{EB} = -7V, I_C = 0$            | -0.078 | —     | -0.145 |      |
|                                      | RN2409        |               | —            | $V_{EB} = -15V, I_C = 0$           | -0.167 | —     | -0.311 |      |
| DC current gain                      | RN2407        | $h_{FE}$      | —            | $V_{CE} = -5V, I_C = -10mA$        | 80     | —     | —      | —    |
|                                      | RN2408        |               | —            |                                    | 80     | —     | —      |      |
|                                      | RN2409        |               | —            |                                    | 70     | —     | —      |      |
| Collector-emitter saturation voltage | RN2407~RN2409 | $V_{CE(sat)}$ | —            | $I_C = -5mA, I_B = -0.25mA$        | —      | -0.1  | -0.3   | V    |
| Input voltage (ON)                   | RN2407        | $V_{I(ON)}$   | —            | $V_{CE} = -0.2V, I_C = -5mA$       | -0.7   | —     | -1.8   | V    |
|                                      | RN2408        |               | —            |                                    | -1.0   | —     | -2.6   |      |
|                                      | RN2409        |               | —            |                                    | -2.2   | —     | -5.8   |      |
| Input voltage (OFF)                  | RN2407        | $V_{I(OFF)}$  | —            | $V_{CE} = -5V, I_C = -0.1mA$       | -0.5   | —     | -1.0   | V    |
|                                      | RN2408        |               | —            |                                    | -0.6   | —     | -1.16  |      |
|                                      | RN2409        |               | —            |                                    | -1.5   | —     | -2.6   |      |
| Translation frequency                | RN2407~RN2409 | $f_T$         | —            | $V_{CE} = -10V, I_C = -5mA$        | —      | 200   | —      | MHz  |
| Collector output capacitance         | RN2407~RN2409 | $C_{ob}$      | —            | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | —      | 3     | 6      | pF   |
| Input resistor                       | RN2407        | R1            | —            | —                                  | 7      | 10    | 13     | kΩ   |
|                                      | RN2408        |               | —            |                                    | 15.4   | 22    | 28.6   |      |
|                                      | RN2409        |               | —            |                                    | 32.9   | 47    | 61.1   |      |
| Resistor ratio                       | RN2407        | R1/R2         | —            | —                                  | 0.191  | 0.213 | 0.232  | —    |
|                                      | RN2408        |               | —            |                                    | 0.421  | 0.468 | 0.515  |      |
|                                      | RN2409        |               | —            |                                    | 1.92   | 2.14  | 2.35   |      |





| Type Name | Marking                                                                                                                                                                                                                                                                                 |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RN2407    |  <p>The diagram shows a rectangular component with two pins at the bottom. A label 'Y H' is centered on the component. A leader line points from the text 'Type Name' to the top of the component.</p> |
| RN2408    |  <p>The diagram shows a rectangular component with two pins at the bottom. A label 'Y I' is centered on the component. A leader line points from the text 'Type Name' to the top of the component.</p> |
| RN2409    |  <p>The diagram shows a rectangular component with two pins at the bottom. A label 'Y J' is centered on the component. A leader line points from the text 'Type Name' to the top of the component.</p> |

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