

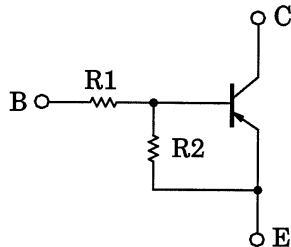
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

RN2907, RN2908, RN2909

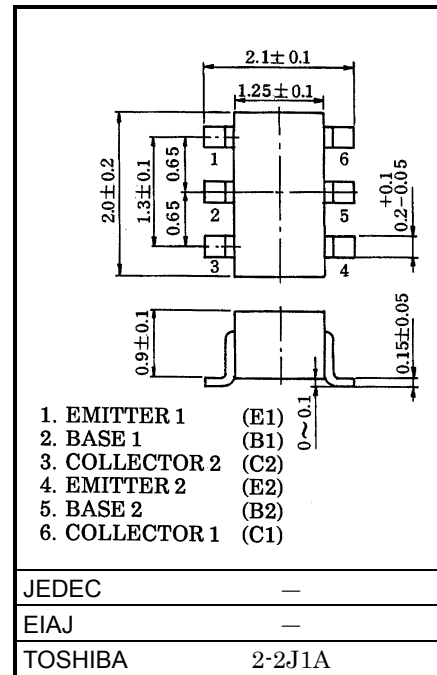
Switching, Inverter Circuit, Interface Circuit
And Driver Circuit Applications

- Including two devices in US6 (ultra super mini type with 6 leads)
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN1907~1909

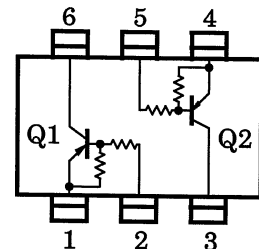
Equivalent Circuit and Bias Resistor Values



| Type No. | R1 (kΩ) | R2 (kΩ) |
|----------|---------|---------|
| RN2907 | 10 | 47 |
| RN2908 | 22 | 47 |
| RN2909 | 47 | 22 |



Equivalent Circuit (Top View)



000707EAA1

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Maximum Ratings (Ta = 25°C) (Q1, Q2 Common)

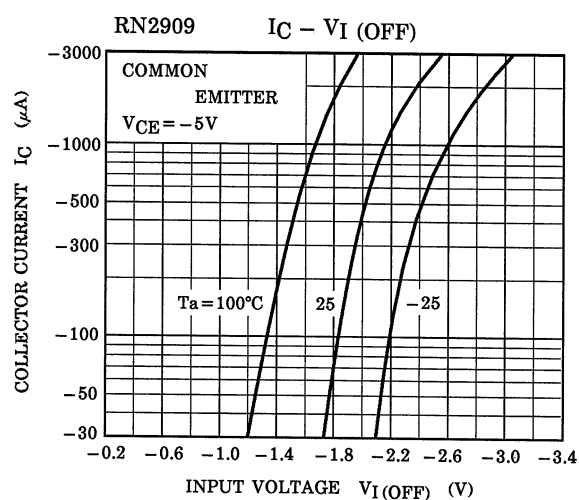
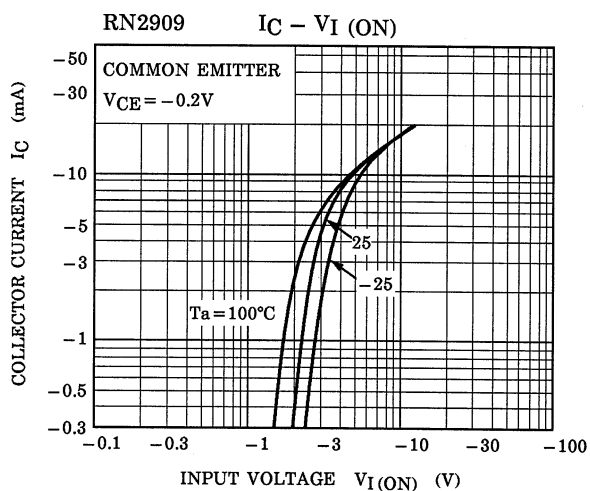
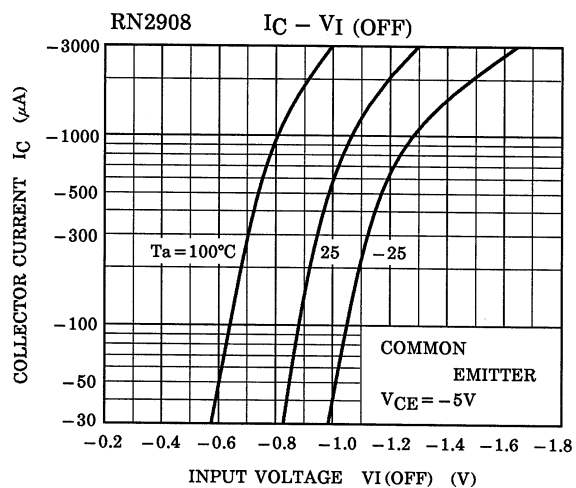
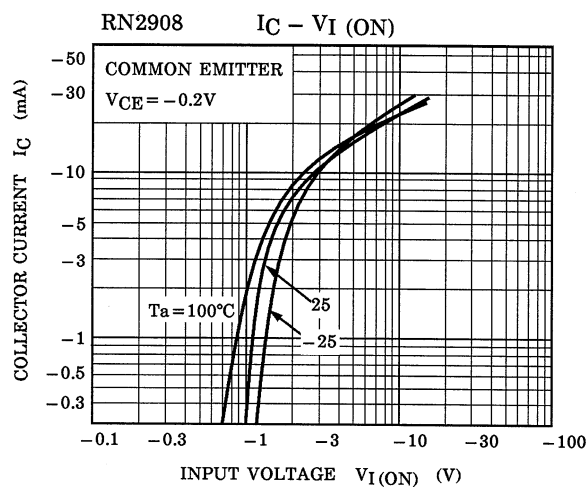
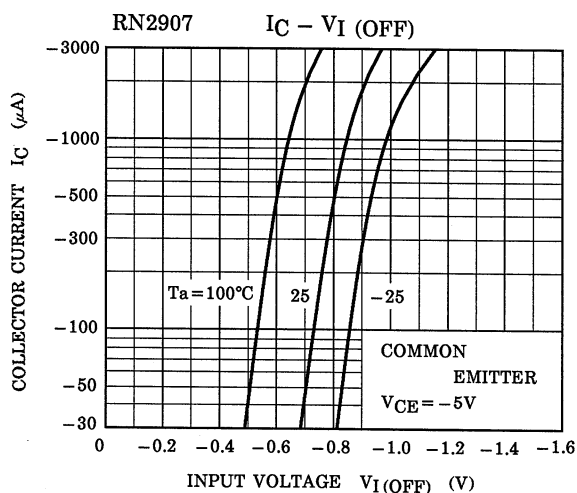
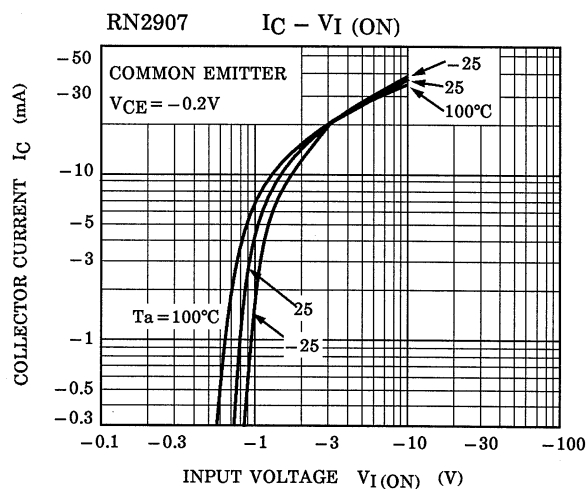
| Characteristic | | Symbol | Rating | Unit |
|-----------------------------|-------------|-----------|---------|------|
| Collector-base voltage | RN2907~2909 | V_{CB0} | -50 | V |
| Collector-emitter voltage | | V_{CEO} | -50 | V |
| Emitter-base voltage | RN2907 | V_{EBO} | -6 | V |
| | RN2908 | | -7 | |
| | RN2909 | | -15 | |
| Collector current | RN2907~2909 | I_C | -100 | mA |
| Collector power dissipation | | P_C^* | 200 | mW |
| Junction temperature | | T_j | 150 | °C |
| Storage temperature range | | T_{stg} | -55~150 | °C |

*: Total rating

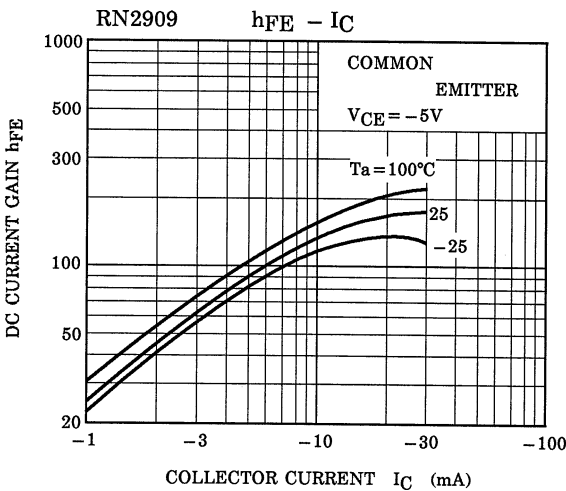
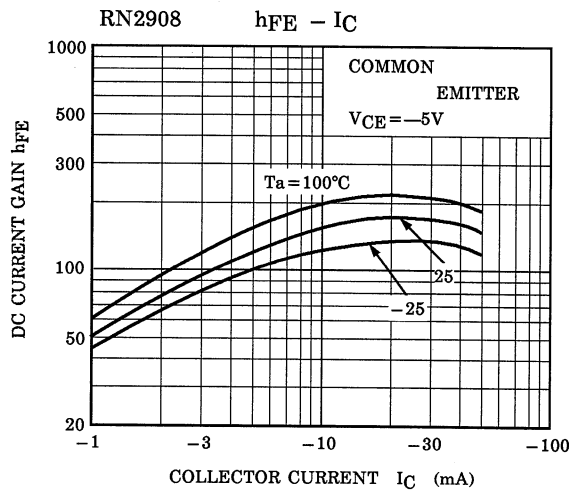
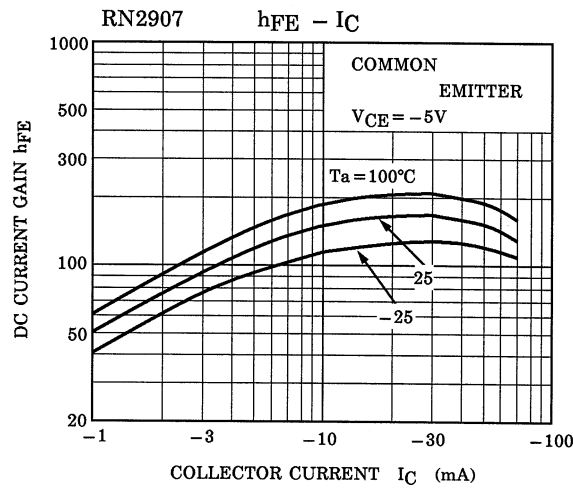
Electrical Characteristics (Ta = 25°C) (Q1, Q2 Common)

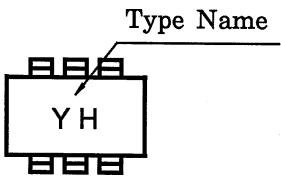
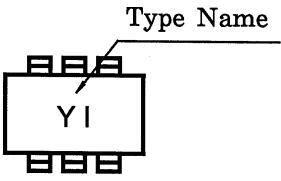
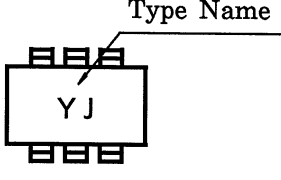
| Characteristic | | Symbol | Test Circuit | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|-------------|---------------|--------------|------------------------------------|--------|-------|--------|------|
| Collector cut-off current | RN2907~2909 | I_{CBO} | — | $V_{CB} = -50V, I_E = 0$ | — | — | -100 | nA |
| | | I_{CEO} | — | $V_{CE} = -50V, I_B = 0$ | — | — | -500 | nA |
| Emitter cut-off current | RN2907 | I_{EBO} | — | $V_{EB} = -6V, I_C = 0$ | -0.081 | — | -0.15 | mA |
| | RN2908 | | — | $V_{EB} = -7V, I_C = 0$ | -0.078 | — | -0.145 | |
| | RN2909 | | — | $V_{EB} = -15V, I_C = 0$ | -0.167 | — | -0.311 | |
| DC current gain | RN2907 | h_{FE} | — | $V_{CE} = -5V, I_C = -10mA$ | 80 | — | — | — |
| | RN2908 | | — | | 80 | — | — | |
| | RN2909 | | — | | 70 | — | — | |
| Collector-emitter saturation voltage | RN2907~2909 | $V_{CE(sat)}$ | — | $I_C = -5mA, I_B = -0.25mA$ | — | -0.1 | -0.3 | V |
| Input voltage (ON) | RN2907 | $V_{I(ON)}$ | — | $V_{CE} = -0.2V, I_C = -5mA$ | -0.7 | — | -1.8 | V |
| | RN2908 | | — | | -1.0 | — | -2.6 | |
| | RN2909 | | — | | -2.2 | — | -5.8 | |
| Input voltage (OFF) | RN2907 | $V_{I(OFF)}$ | — | $V_{CE} = -5V, I_C = -0.1mA$ | -0.5 | — | -1.0 | V |
| | RN2908 | | — | | -0.6 | — | -1.16 | |
| | RN2909 | | — | | -1.5 | — | -2.6 | |
| Transition frequency | RN2907~2909 | f_T | — | $V_{CE} = -10V, I_C = -5mA$ | — | 200 | — | MHz |
| Collector output capacitance | RN2907~2909 | C_{ob} | — | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | — | 3 | 6 | pF |
| Input resistor | RN2907 | R1 | — | — | 7 | 10 | 13 | kΩ |
| | RN2908 | | — | | 15.4 | 22 | 28.6 | |
| | RN2909 | | — | | 32.9 | 47 | 61.1 | |
| Resistor ratio | RN2907 | R1/R2 | — | — | 0.191 | 0.213 | 0.232 | — |
| | RN2908 | | — | | 0.421 | 0.468 | 0.515 | |
| | RN2909 | | — | | 1.92 | 2.14 | 2.35 | |

(Q1, Q2 Common)



(Q1, Q2 Common)



| Type Name | Marking |
|-----------|--|
| RN2907 |  |
| RN2908 |  |
| RN2909 |  |