

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

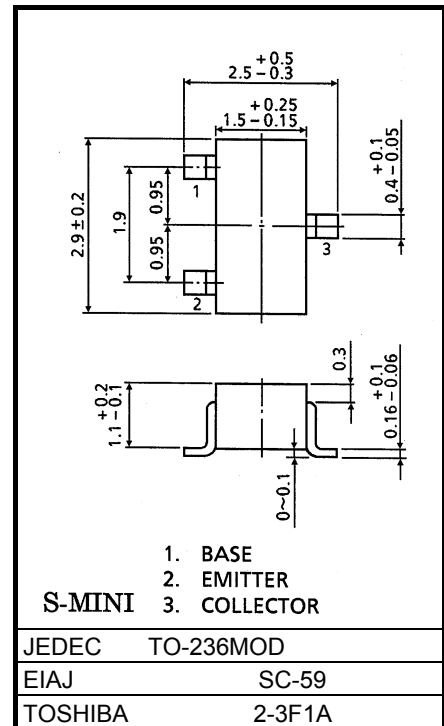
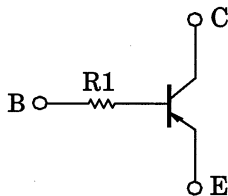
RN2410, RN2411

Switching, Inverter Circuit, Interface Circuit
And Driver Circuit Applications

Unit: mm

- With built-in bias resistors
- Simplified circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN1410, RN1411

Equivalent Circuit



Weight: 0.012g

Absolute Maximum Ratings (Ta = 25°C)

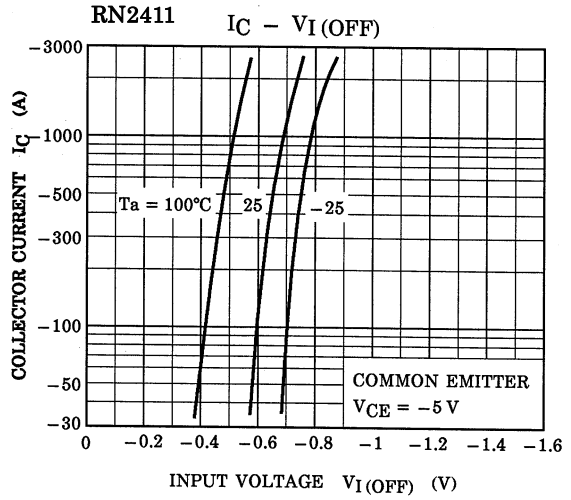
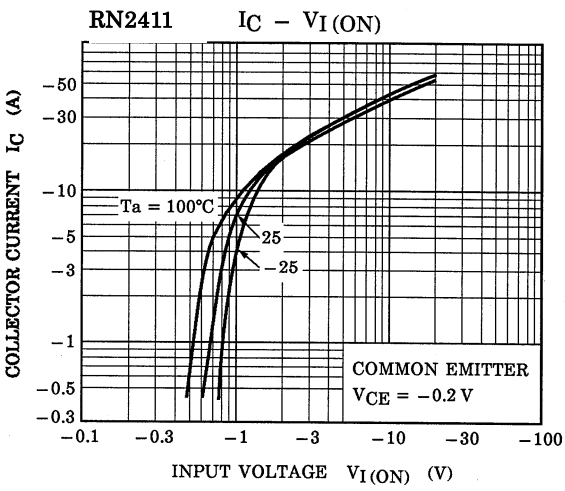
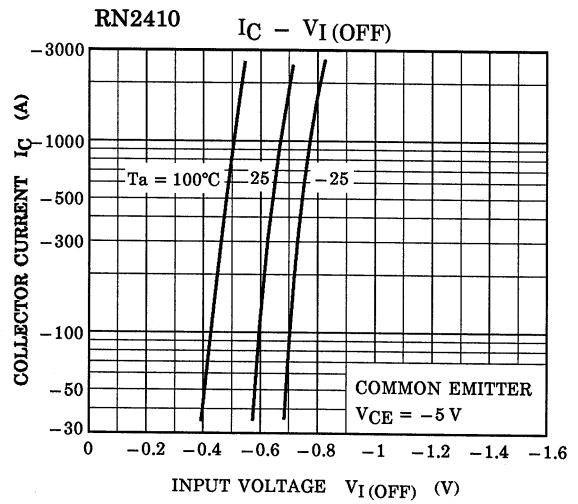
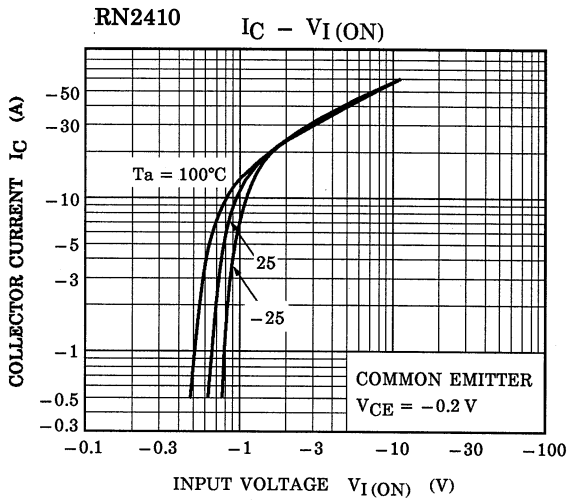
| Characteristic | Symbol | Rating | Unit |
|-----------------------------|-----------|---------|------|
| Collector-base voltage | V_{CBO} | -50 | V |
| Collector-emitter voltage | V_{CEO} | -50 | V |
| Emitter-base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -100 | mA |
| Collector power dissipation | P_C | 200 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature range | T_{stg} | -55~150 | °C |

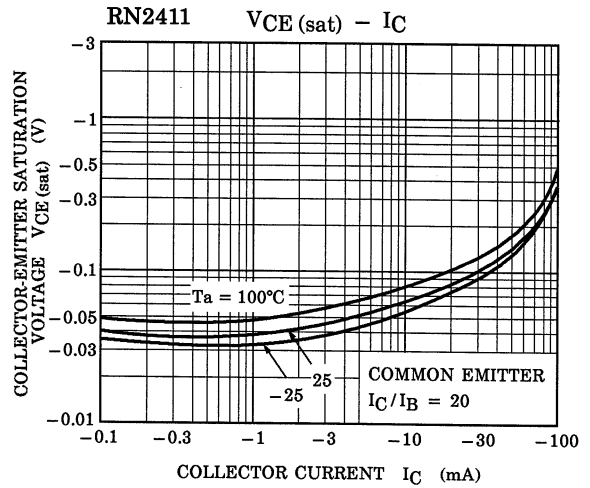
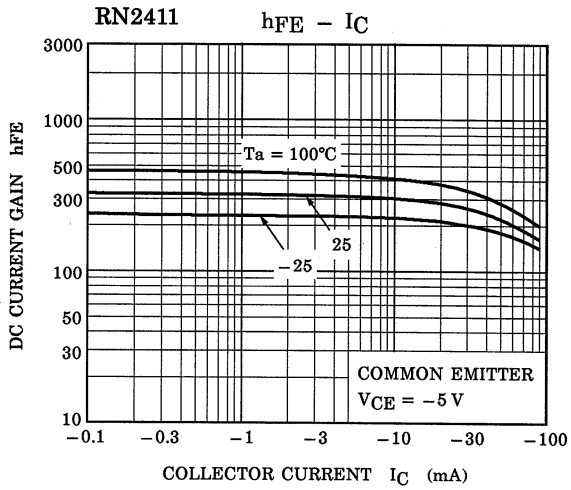
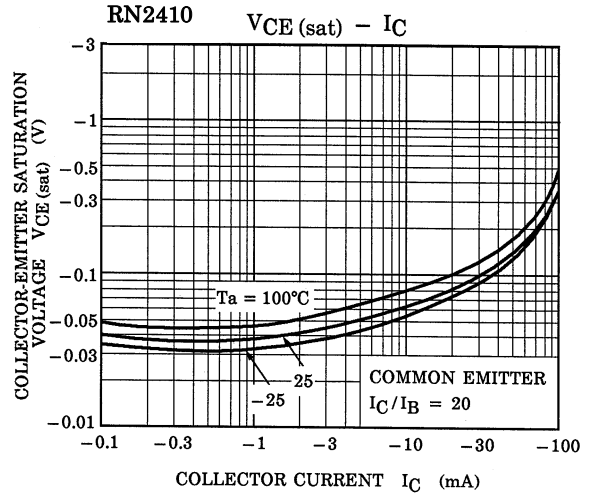
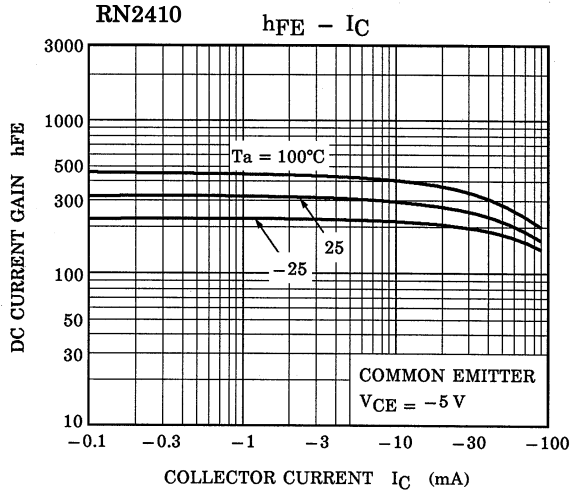
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

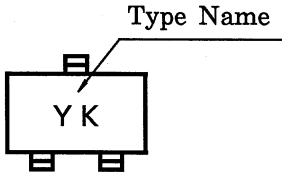
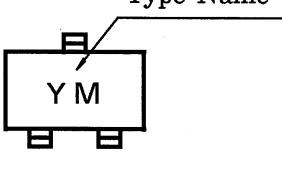
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Electrical Characteristics (Ta = 25°C)

| Characteristic | Symbol | Test Circuit | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|---------------|--------------|--------------------------------------|------|------|------|------|
| Collector cut-off current | I_{CBO} | — | $V_{CB} = -50 V, I_E = 0$ | — | — | -100 | nA |
| Emitter cut-off current | I_{EBO} | — | $V_{EB} = -5 V, I_C = 0$ | — | — | -100 | nA |
| DC current gain | h_{FE} | — | $V_{CE} = -5 V, I_C = -1 mA$ | 120 | — | 400 | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | — | $I_C = -5 mA, I_B = -0.25 mA$ | — | -0.1 | -0.3 | V |
| Transition frequency | f_T | — | $V_{CE} = -10 V, I_C = -5 mA$ | — | 200 | — | MHz |
| Collector output capacitance | C_{ob} | — | $V_{CB} = -10 V, I_E = 0, f = 1 MHz$ | — | 3 | 6 | pF |
| Input resistor | RN2410 | R1 | — | 3.29 | 4.7 | 6.11 | kΩ |
| | RN2411 | | | 7 | 10 | 13 | |





| Type Name | Marking |
|-----------|--|
| RN2410 |  A diagram of a rectangular component with two pins at the bottom. The letters 'Y K' are printed on the component. A line points from the text 'Type Name' above to the top-left corner of the component. |
| RN2411 |  A diagram of a rectangular component with two pins at the bottom. The letters 'Y M' are printed on the component. A line points from the text 'Type Name' above to the top-left corner of the component. |

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20070701-EN GENERAL

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