

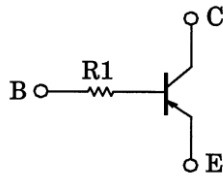
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process) (Bias Resistor built-in Transistor)

RN2610

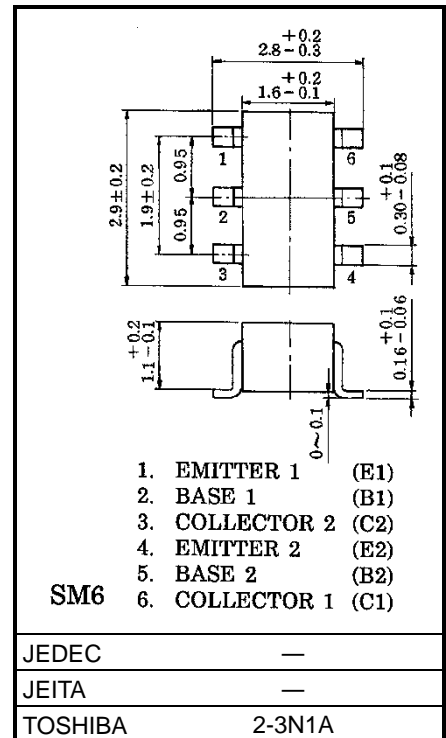
Switching, Inverter Circuit,
Interface Circuit and Driver Circuit

- Including twodevices in SM6 (super mini type with 6 leads)
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process and miniaturize equipment.
- Various resistance values are available to suit various circuit designs.
- Complementary to RN1610

Equivalent Circuit



Unit: mm



Weight: 15 mg (typ.)

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

| Characteristics | Symbol | Rating | Unit |
|-----------------------------|------------------|------------|------|
| Collector-base voltage | V _{CB0} | -50 | V |
| Collector-emitter voltage | V _{CE0} | -50 | V |
| Emitter-base voltage | V _{EB0} | -5 | V |
| Collector current | I _C | -100 | mA |
| Collector power dissipation | P _C * | 300 | mW |
| Junction temperature | T _j | 150 | °C |
| Storage temperature range | T _{stg} | -55 to 150 | °C |

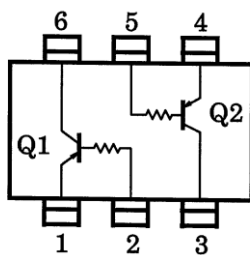
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

* Total rating

Start of commercial production
1988-11

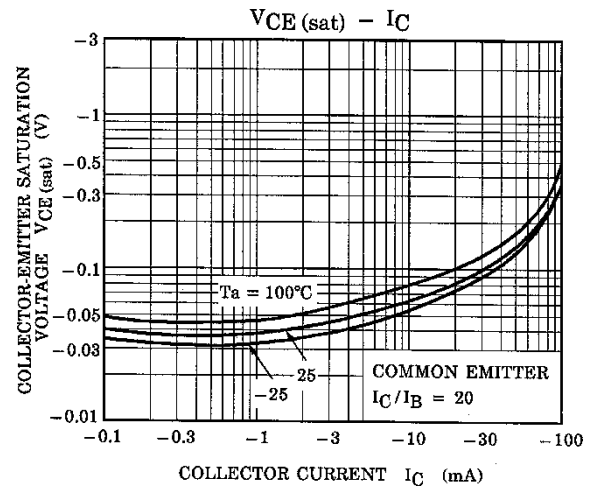
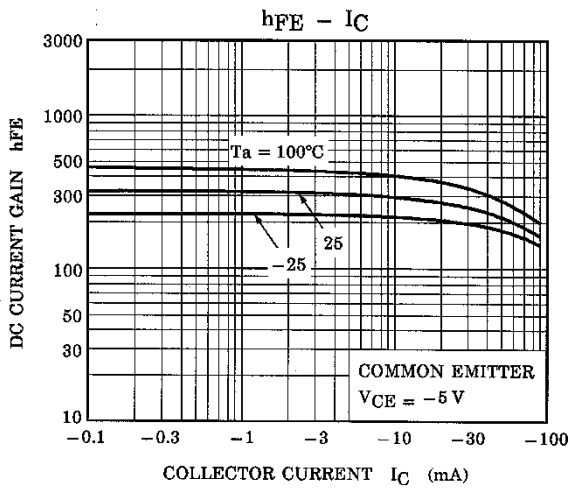
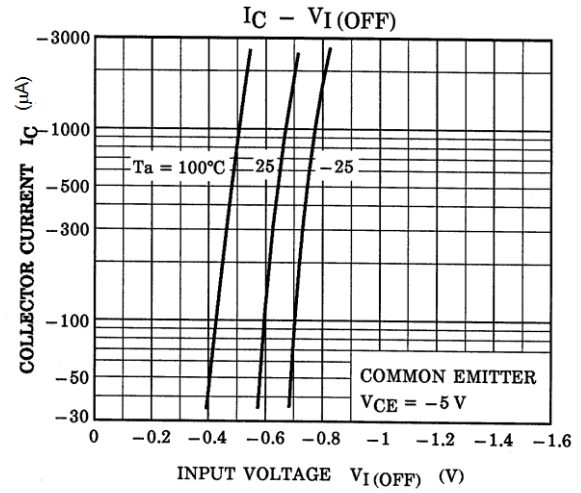
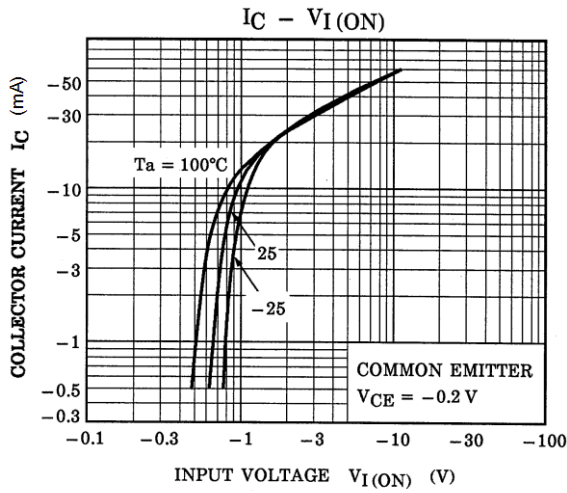
Equivalent Circuit (top view)



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

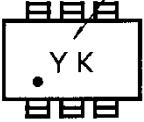
| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|---------------|--|------|------|------|------------|
| Collector cut-off current | I_{CBO} | $V_{CB} = -50\text{ V}$, $I_E = 0\text{ mA}$ | — | — | -100 | nA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5\text{ V}$, $I_C = 0\text{ mA}$ | — | — | -100 | nA |
| DC current gain | h_{FE} | $V_{CE} = -5\text{ V}$, $I_C = -1\text{ mA}$ | 120 | — | 400 | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -5\text{ mA}$, $I_B = -0.25\text{ mA}$ | — | -0.1 | -0.3 | V |
| Transition frequency | f_T | $V_{CE} = -10\text{ V}$, $I_C = -5\text{ mA}$ | — | 200 | — | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -10\text{ V}$, $I_E = 0\text{ mA}$, $f = 1\text{ MHz}$ | — | 3 | 6 | pF |
| Input resistance | R_1 | — | 3.29 | 4.7 | 6.11 | k Ω |

Characteristics curves (Q1, Q2 Common)



The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

Marking

| Part No | Marking |
|---------|--|
| RN2610 | <p data-bbox="571 293 831 315">Part No.(abbreviation code)</p>  |

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