

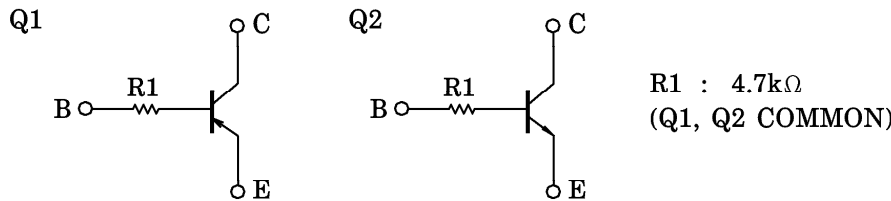
TOSHIBA TRANSISTOR
 SILICON PNP EPITAXIAL TYPE (PCT PROCESS) SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

RN4610

SWITCHING, INVERTER CIRCUIT, INTERFACE CIRCUIT
 AND DRIVER CIRCUIT APPLICATIONS.

- Including Two Devices in SM6 (Super Mini Type with 6 leads)
- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process

EQUIVALENT CIRCUIT



Q1 MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---------------------------|------------------|--------|------|
| Collector-Base Voltage | V _{CB0} | -50 | V |
| Collector-Emitter Voltage | V _{CEO} | -50 | V |
| Emitter-Base Voltage | V _{EBO} | -5 | V |
| Collector Current | I _C | -100 | mA |

Q2 MAXIMUM RATINGS (Ta = 25°C)

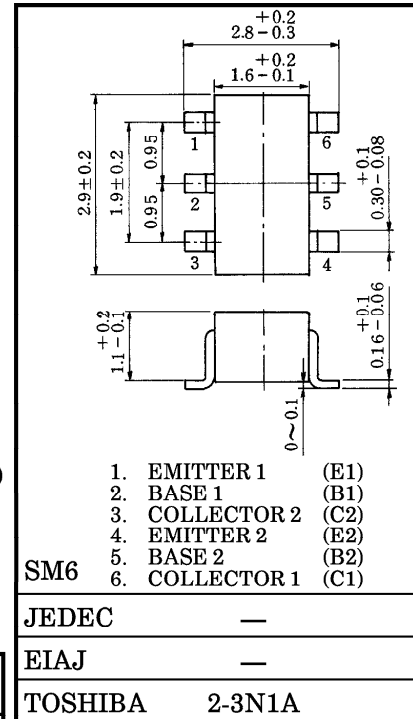
| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---------------------------|------------------|--------|------|
| Collector-Base Voltage | V _{CB0} | 50 | V |
| Collector-Emitter Voltage | V _{CEO} | 50 | V |
| Emitter-Base Voltage | V _{EBO} | 5 | V |
| Collector Current | I _C | 100 | mA |

Q1, Q2 COMMON MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------------|------------------|---------|------|
| Collector Power Dissipation | P _C * | 300 | mW |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature Range | T _{stg} | -55~150 | °C |

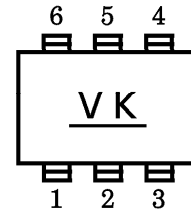
* : Total Rating

Unit in mm

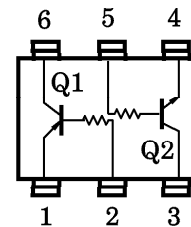


Weight : 0.015g

MARKING



EQUIVALENT CIRCUIT (TOP VIEW)



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Q1 ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|---------------|------------------------------------|------|------|------|------|
| Collector Cut-off Current | I_{CBO} | $V_{CB} = -50V, I_E = 0$ | — | — | -100 | nA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = -5V, I_C = 0$ | — | — | -100 | nA |
| DC Current Gain | h_{FE} | $V_{CE} = -5V, I_C = -1mA$ | 120 | — | 400 | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -5mA, I_B = -0.25mA$ | — | -0.1 | -0.3 | V |
| Transition Frequency | f_T | $V_{CE} = -10V, I_C = -5mA$ | — | 200 | — | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | — | 3 | 6 | pF |

Q2 ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|---------------|-----------------------------------|------|------|------|------|
| Collector Cut-off Current | I_{CBO} | $V_{CB} = 50V, I_E = 0$ | — | — | 100 | nA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = 5V, I_C = 0$ | — | — | 100 | nA |
| DC Current Gain | h_{FE} | $V_{CE} = 5V, I_C = 1mA$ | 120 | — | 700 | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 5mA, I_B = 0.25mA$ | — | 0.1 | 0.3 | V |
| Transition Frequency | f_T | $V_{CE} = 10V, I_C = 5mA$ | — | 250 | — | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | — | 3 | 6 | pF |

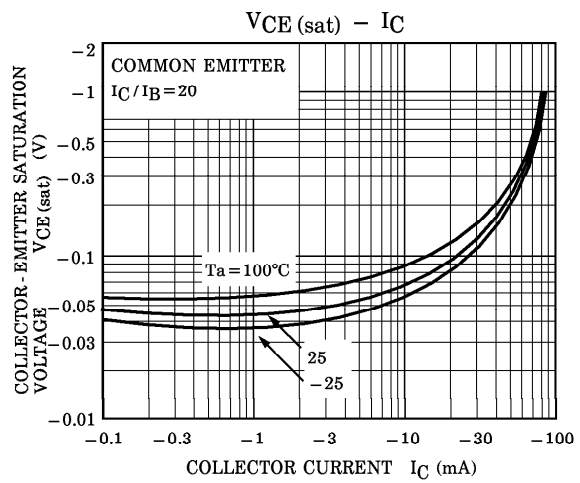
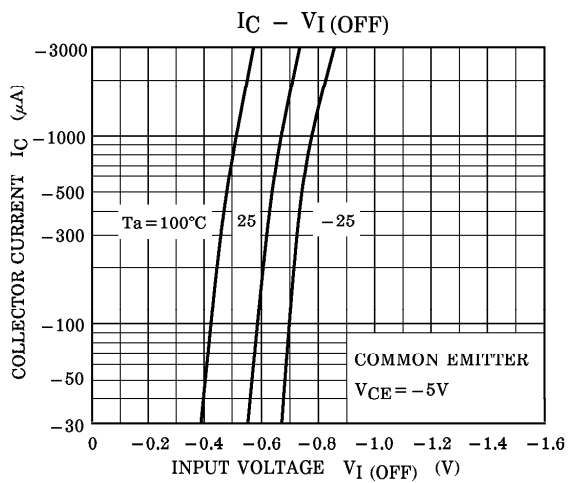
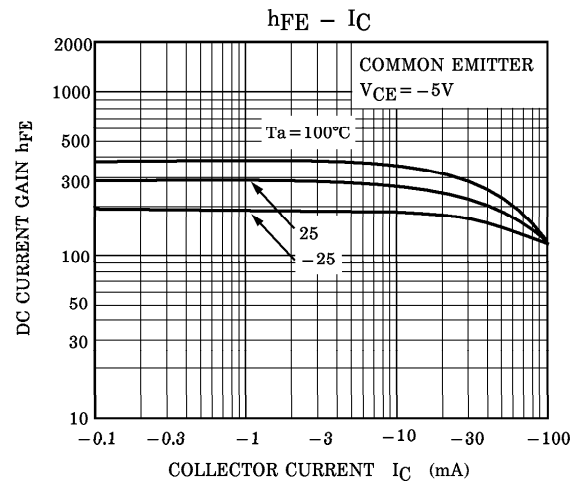
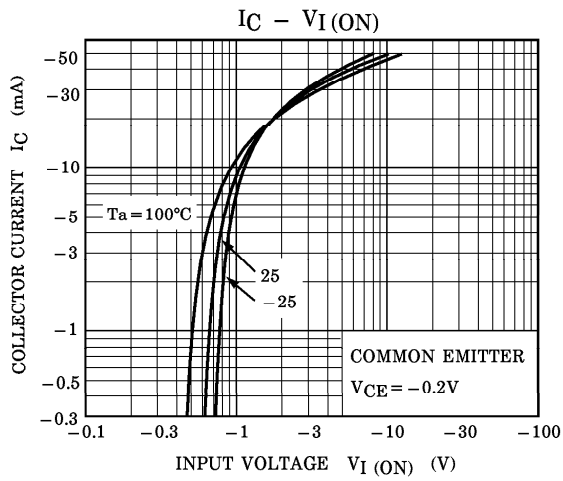
Q1, Q2 COMMON ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|----------------|--------|----------------|------|------|------|------|
| Input Resistor | R1 | — | 3.29 | 4.7 | 6.11 | kΩ |

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Q1



Q2

