

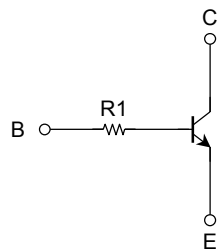
TOSHIBA Transistor    Silicon NPN Epitaxial Type (PCT process) (Bias Resistor built-in Transistor)

RN1910FE,RN1911FE

Switching, Inverter Circuit, Interface Circuit and Driver Circuit Applications.

- Two devices are incorporated into an Extreme-Super-Mini (6 pin) package.
- Incorporating a bias resistor into a transistor reduces parts count.  
Reducing the parts count enable the manufacture of ever more compact equipment and save assembly cost.
- Complementary to RN2910FE, RN2911FE

Equivalent Circuit and Bias Resistor Values

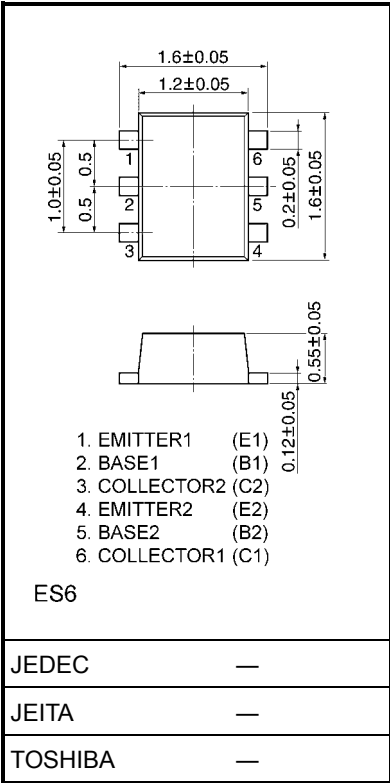


Maximum Ratings (Ta = 25°C) (Q1, Q2 common)

| Characteristics             | 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 | $P_C$ (Note) | 100     | mW   |
| Junction temperature        | $T_j$        | 150     | °C   |
| Storage temperature range   | $T_{stg}$    | -55~150 | °C   |

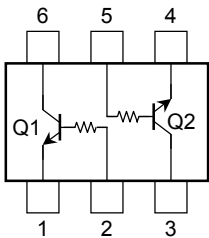
Note: Total rating

Unit: mm



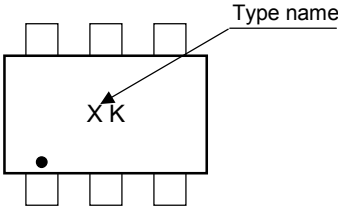
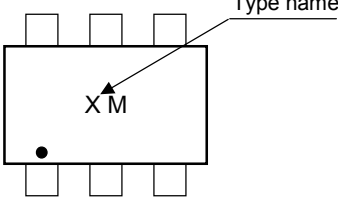
Weight:     g (typ.)

Equivalent Circuit (top view)



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

| Characteristics                      |          | Symbol        | Test Condition                                    | Min  | Typ. | Max  | Unit      |
|--------------------------------------|----------|---------------|---------------------------------------------------|------|------|------|-----------|
| Collector cut-off current            |          | $I_{CBO}$     | $V_{CB} = 50\text{ V}, I_E = 0$                   | —    | —    | 100  | nA        |
| Emitter cut-off current              |          | $I_{EBO}$     | $V_{EB} = 5\text{ V}, I_C = 0$                    | —    | —    | 100  | nA        |
| DC current gain                      |          | $h_{FE}$      | $V_{CE} = 5\text{ V}, I_C = 1\text{ mA}$          | 120  | —    | 700  |           |
| 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                 |          | $f_T$         | $V_{CE} = 10\text{ V}, I_C = 5\text{ mA}$         | —    | 250  | —    | MHz       |
| Collector output capacitance         |          | $C_{ob}$      | $V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$ | —    | 3    | 6    | pF        |
| Input resistor                       | RN1910FE | R1            | —                                                 | 3.29 | 4.7  | 6.11 | $k\Omega$ |
|                                      | RN1911FE |               |                                                   | 7    | 10   | 13   |           |

| Type Name | Marking                                                                             |
|-----------|-------------------------------------------------------------------------------------|
| RN1910FE  |   |
| RN1911FE  |  |

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000707EAA

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