

# RT1P150X SERIES

<Transistor>

Transistor With Resistor  
For Switching Application  
Silicon PNP Epitaxial Type

## DESCRIPTION

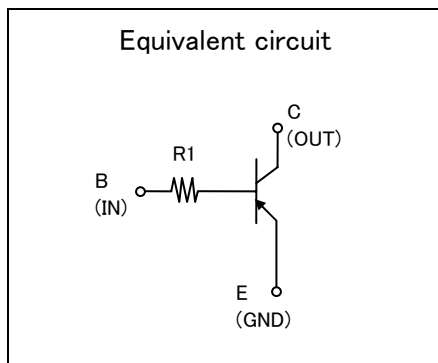
RT1P150X is a one chip transistor with built-in bias resistor, NPN type is RT1N150X.

## FEATURE

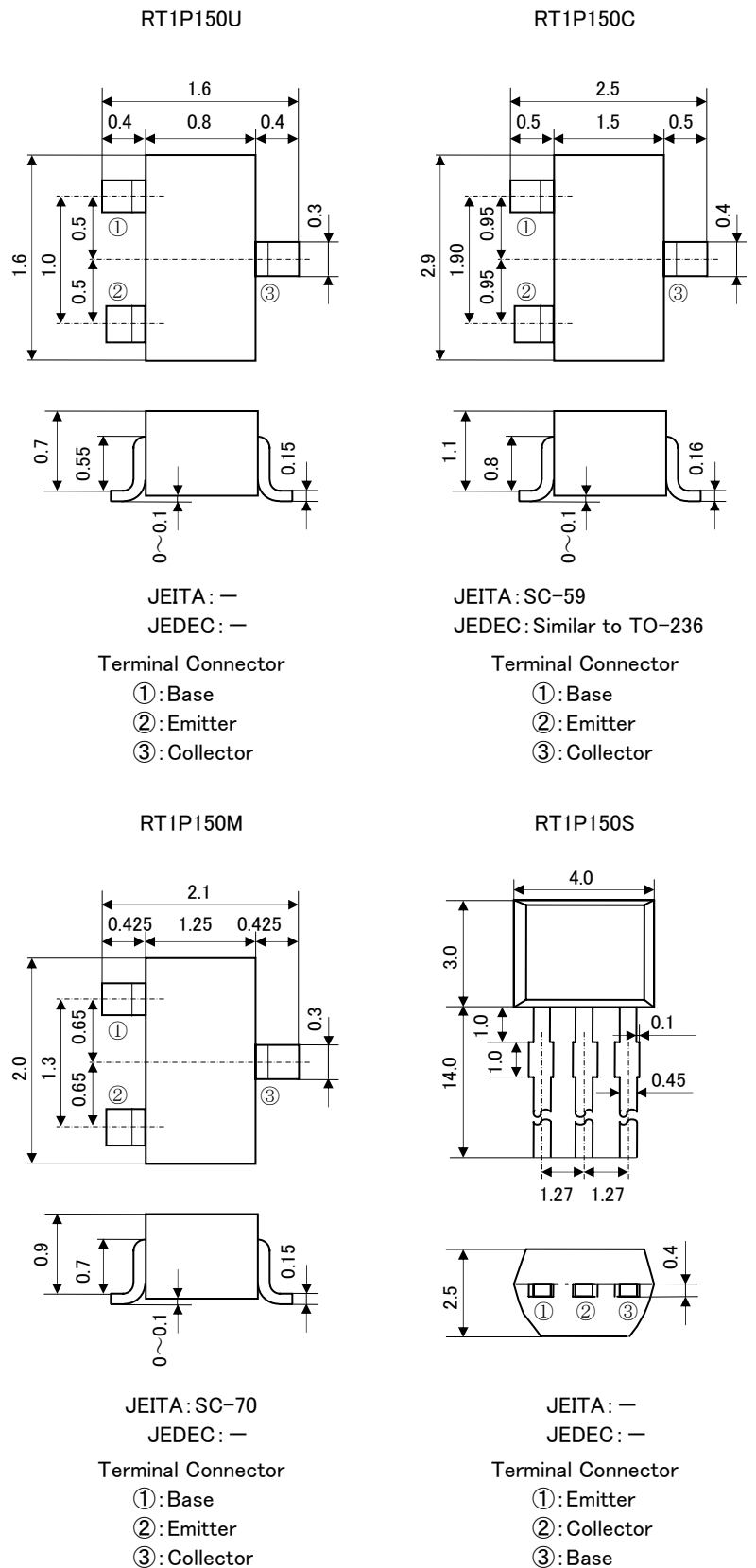
- Built-in bias resistor (R1=100kΩ).

## APPLICATION

Inverted circuit, switching circuit, interface circuit, driver circuit.



## OUTLINE DRAWING UNIT : mm



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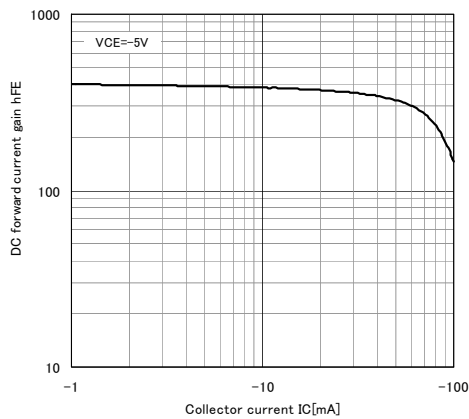
## MAXIMUM RATING (Ta=25°C)

| SYMBOL    | PARAMETER                      | RATING   |          |          |          | UNIT |
|-----------|--------------------------------|----------|----------|----------|----------|------|
|           |                                | RT1P150U | RT1P150M | RT1P150C | RT1P150S |      |
| $V_{CBO}$ | Collector to Base voltage      | -50      |          |          |          | V    |
| $V_{EBO}$ | Emitter to Base voltage        | -6       |          |          |          | V    |
| $V_{CEO}$ | Collector to Emitter voltage   | -50      |          |          |          | V    |
| $I_C$     | Collector current              | -100     |          |          |          | mA   |
| $I_{CM}$  | Peak Collector current         | -200     |          |          |          | mA   |
| $P_C$     | Collector dissipation(Ta=25°C) | 150      | 200      | 450      |          | mW   |
| $T_j$     | Junction temperature           | +150     | +150     |          |          | °C   |
| $T_{stg}$ | Storage temperature            | -55~+150 |          | -55~+150 |          | °C   |

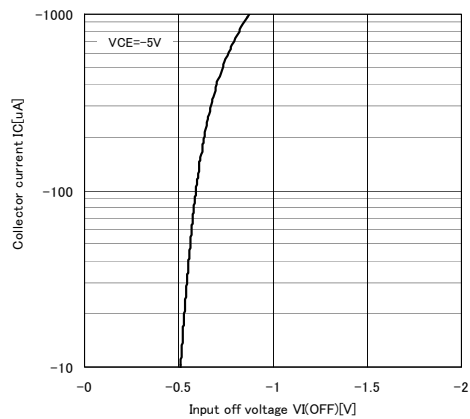
## ELECTRICAL CHARACTERISTICS (Ta=25°C)

| SYMBOL        | PARAMETER                 | TEST CONDITION                      | LIMIT |     |      | UNIT      |
|---------------|---------------------------|-------------------------------------|-------|-----|------|-----------|
|               |                           |                                     | MIN   | TYP | MAX  |           |
| $V_{(BR)CEO}$ | C to E break down voltage | $I_C = -100 \mu A, R_{BE} = \infty$ | -50   |     |      | V         |
| $I_{CBO}$     | Collector cut off current | $V_{CB} = -50V, I_E = 0$            |       |     | -0.1 | $\mu A$   |
| $h_{FE}$      | DC forward current gain   | $V_{CE} = -5V, I_C = -1mA$          | 100   |     |      | —         |
| $V_{CE(sat)}$ | C to E saturation voltage | $I_C = -1mA, I_B = -0.1mA$          |       |     | -0.3 | V         |
| $R_1$         | Input resistance          |                                     |       | 100 |      | $k\Omega$ |
| $f_T$         | Gain band width product   | $V_{CE} = -6V, I_E = 10mA$          |       | 150 |      | MHz       |

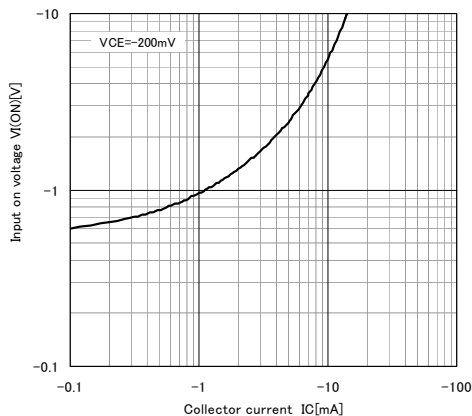
DC forward current gain-Collector current



Collector current-Input off voltage



Input on voltage-Collector current





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**Keep safety first in your circuit designs!**

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