

# RT1P44QX SERIES

〈Transistor〉

Transistor With Resistor  
For Switching Application  
Silicon PNP Epitaxial Type

## DESCRIPTION

RT1P44QX is a one chip transistor with built-in bias resistor,NPN type is RT1N44QX.

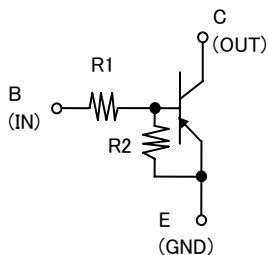
## FEATURE

•Built-in bias resistor (R1=47k $\Omega$ ,R2=10k $\Omega$ ).

## APPLICATION

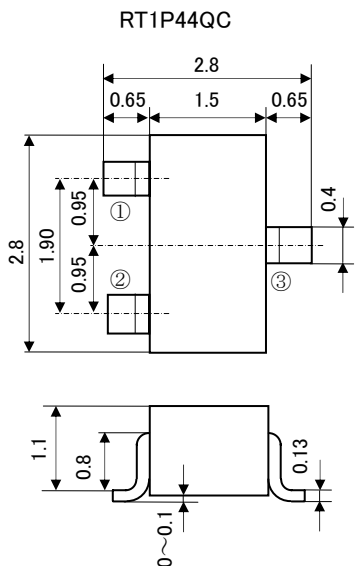
Inverted circuit,switching circuit,interface circuit,driver circuit.

Equivalent circuit



## OUTLINE DRAWING

UNIT : mm



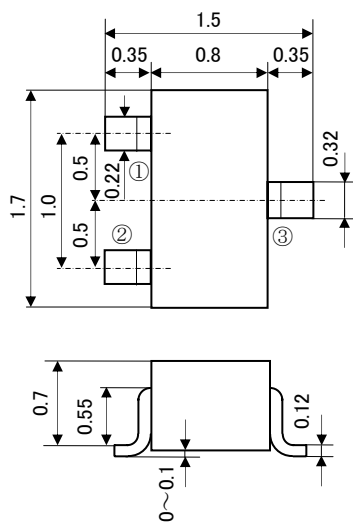
JEITA : SC-59

JEDEC : Similar to TO-236

Terminal Connector

- ① : Base
- ② : Emitter
- ③ : Collector

RT1P44QU



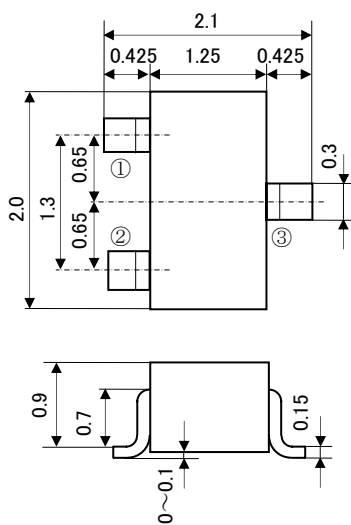
JEITA : SC-75A

JEDEC : —

Terminal Connector

- ① : Base
- ② : Emitter
- ③ : Collector

RT1P44QM



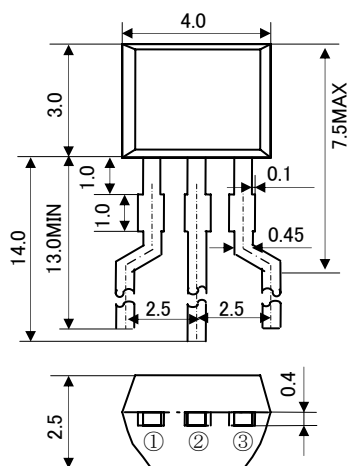
JEITA : SC-70

JEDEC : —

Terminal Connector

- ① : Base
- ② : Emitter
- ③ : Collector

RT1P44QS



JEITA : —

JEDEC : —

Terminal Connector

- ① : Emitter
- ② : Collector
- ③ : Base

# RT1P44QX SERIES

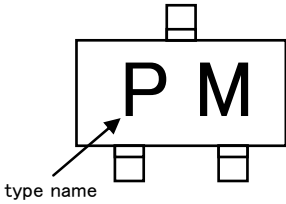
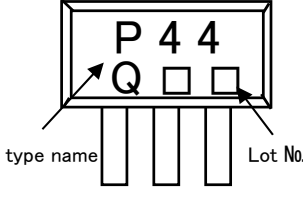
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## MARKING

| RT1P44QC<br>RT1P44QM<br>RT1P44QU                                                  | RT1P44QS                                                                          |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |

## MAXIMUM RATING (Ta=25°C)

| SYMBOL           | PARAMETER                      | RATING   |          |          |          | UNIT |
|------------------|--------------------------------|----------|----------|----------|----------|------|
|                  |                                | RT1P44QU | RT1P44QM | RT1P44QC | RT1P44QS |      |
| V <sub>CBO</sub> | Collector to Base voltage      | -50      |          |          |          | V    |
| V <sub>EBO</sub> | Emitter to Base voltage        | -15      |          |          |          | V    |
| V <sub>CEO</sub> | Collector to Emitter voltage   | -50      |          |          |          | V    |
| V <sub>IN</sub>  | Input voltage                  | -40      |          |          |          | V    |
| I <sub>C</sub>   | Collector current              | -100     |          |          |          | mA   |
| I <sub>CM</sub>  | Peak Collector current         | -200     |          |          |          | mA   |
| P <sub>C</sub>   | Collector dissipation(Ta=25°C) | 150      | 200      |          | 450      | mW   |
| Tj               | Junction temperature           | +150     |          |          |          | °C   |
| Tstg             | Storage temperature            | -55~+150 |          |          |          | °C   |

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

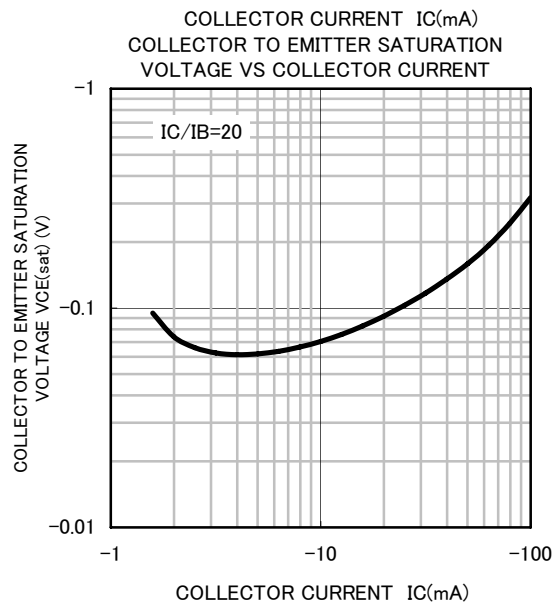
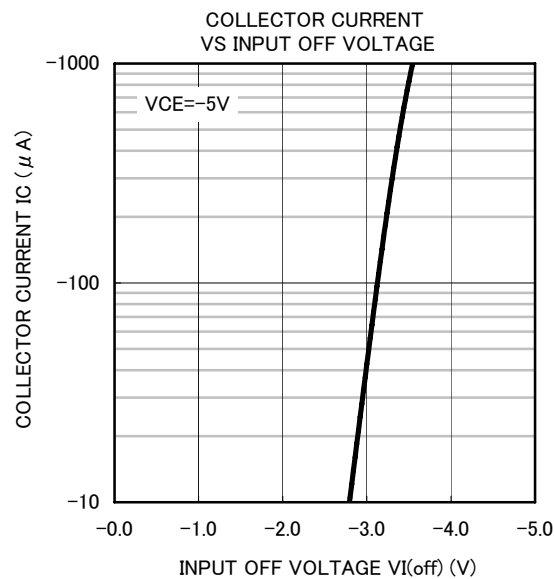
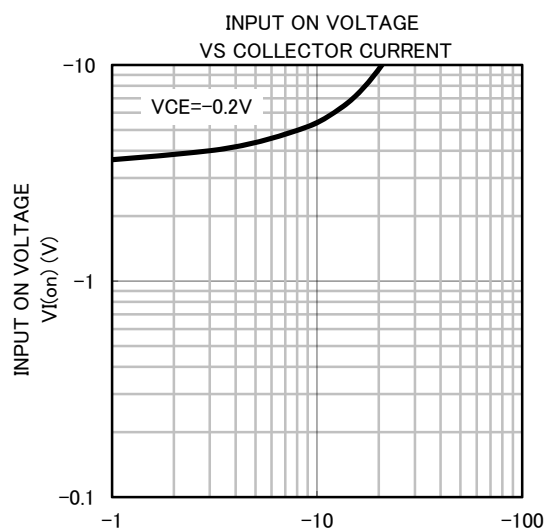
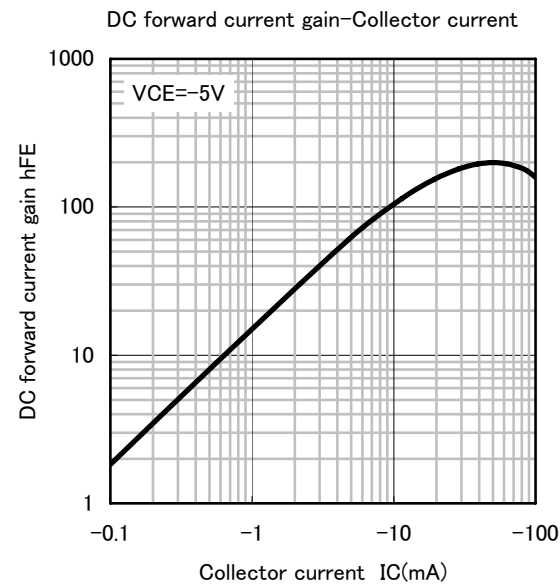
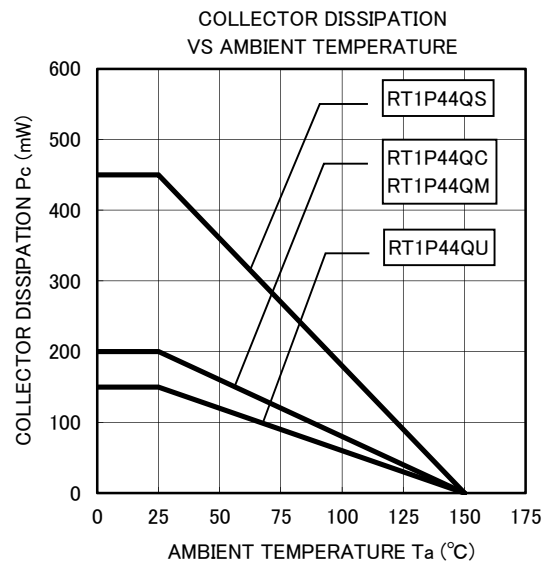
| SYMBOL        | PARAMETER                 | TEST CONDITION                      | LIMIT |      |      | UNIT       |
|---------------|---------------------------|-------------------------------------|-------|------|------|------------|
|               |                           |                                     | MIN   | TYP  | MAX  |            |
| $V_{(BR)CEO}$ | C to E breakdown 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 | $\mu A$    |
| $I_{EBO}$     | Emitter cut off current   | $V_{EB} = -5V, I_C = 0$             | -66   | -88  | -127 | $\mu A$    |
| $h_{FE}$      | DC forward current gain   | $V_{CE} = -5V, I_C = -5mA$          | 33    | —    | —    | —          |
| $V_{CE(sat)}$ | C to E saturation voltage | $I_C = -10mA, I_B = -0.5mA$         | —     | —    | -0.3 | V          |
| $V_{I(ON)}$   | Input on voltage          | $V_{CE} = -0.2V, I_C = -5mA$        | —     | -4.2 | -8.9 | V          |
| $V_{I(OFF)}$  | Input off voltage         | $V_{CE} = -5V, I_C = -100 \mu A$    | -2.3  | -3.1 | —    | V          |
| $R_1$         | Input resistor            | —                                   | 33    | 47   | 61   | k $\Omega$ |
| $R_2/R_1$     | Resistor ratio            | —                                   | 0.17  | 0.21 | 0.26 | —          |
| $f_T$         | Gain band width product   | $V_{CE} = -6V, I_E = 10mA$          | —     | 150  | —    | MHz        |

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## TYPICAL CHARACTERISTICS (Ta=25°C)



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

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