# RT1N434X SERIES

〈Transistor〉

Transistor With Resistor

For Switching Application

Silicon NPN Epitaxial Type

## DESCRIPTION

RT1N434X is a one chip transistor
with built-in bias resistor,PNP type is RT1P434X.

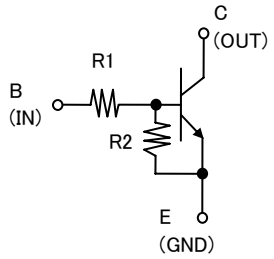
## FEATURE

・Built-in bias resistor (R1=4.7kΩ,R2=22kΩ).

## APPLICATION

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

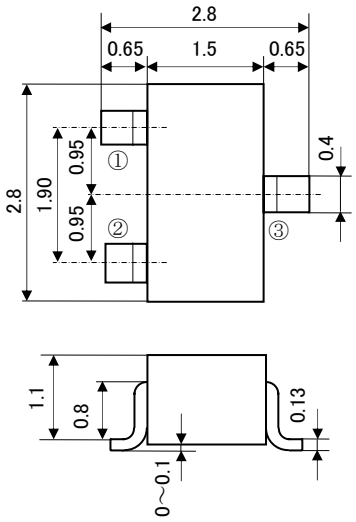
### Equivalent circuit




## OUTLINE DRAWING

UNIT : mm

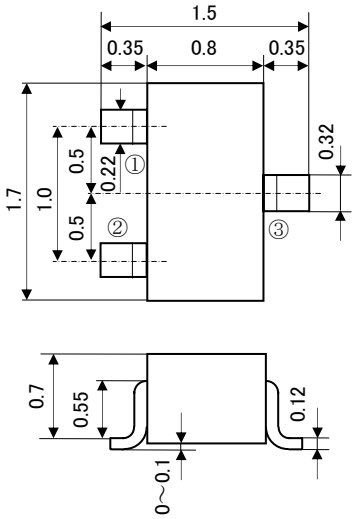
RT1N434C




JEITA : SC-59
JEDEC : Similar to TO-236

Terminal Connector
①:Base
②:Emitter
③:Collector

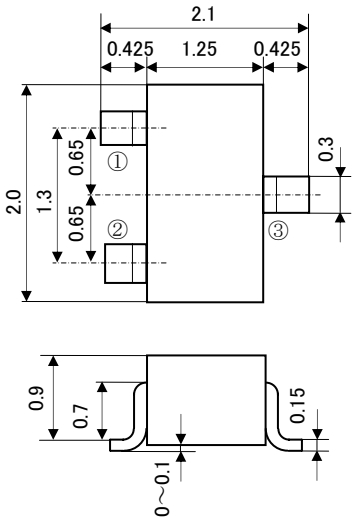
RT1N434U




JEITA : SC-75A
JEDEC : —

Terminal Connector
①:Base
②:Emitter
③:Collector

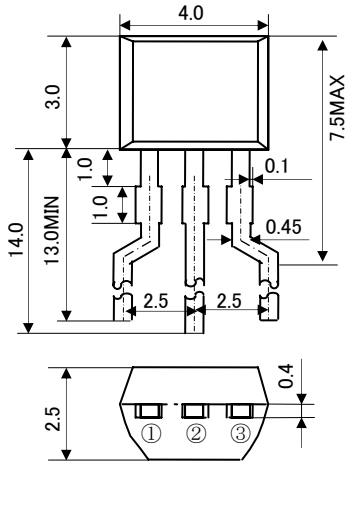
RT1N434M




JEITA : SC-70
JEDEC : —

Terminal Connector
①:Base
②:Emitter
③:Collector

RT1N434S




JEITA : —
JEDEC : —

Terminal Connector
①:Emitter
②:Collector
③:Base

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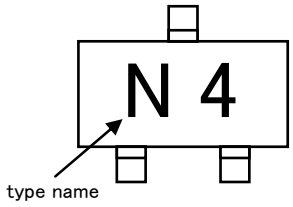
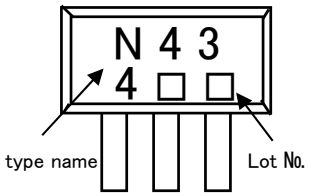
## MARKING

| RT1N434C<br>RT1N434M<br>RT1N434U | RT1N434S |
|---|---|
|  |  |

## MAXIMUM RATING (Ta=25℃)

| SYMBOL | PARAMETER | RATING | | | | UNIT |
|---|---|---|---|---|---|---|
| | | RT1N434U | RT1N434M | RT1N434C | RT1N434S | |
| $V_{CBO}$ | Collector to Base voltage | 50 | | | | V |
| $V_{EBO}$ | Emitter to Base voltage | 6 | | | | V |
| $V_{CEO}$ | Collector to Emitter voltage | 50 | | | | V |
| $V_{IN}$ | Input voltage | 30 | | | | V |
| $I_C$ | Collector current | 100 | | | | mA |
| $I_{CM}$ | Peak Collector current | 200 | | | | mA |
| $P_C$ | Collector dissipation(Ta=25℃) | 150 | 200 | | 450 | mW |
| Tj | Junction temperature | +150 | | | | ℃ |
| Tstg | Storage temperature | −55～+150 | | | | ℃ |

## ELECTRICAL CHARACTERISTICS (Ta=25℃)

| SYMBOL | PARAMETER | TEST CONDITION | LIMIT | | | UNIT |
|---|---|---|---|---|---|---|
| | | | MIN | TYP | MAX | |
| $V_{(BR)CEO}$ | C to E break down voltage | $I_C$=100μA, $R_{BE}$=∞ | 50 | — | — | V |
| $I_{CBO}$ | Collector cut off current | $V_{CB}$=50V, $I_E$=0 | — | — | 0.1 | μA |
| $I_{EBO}$ | Emitter cut off current | $V_{EB}$=5V, $I_C$=0 | 147 | 187 | 259 | μA |
| $h_{FE}$ | DC forward current gain | $V_{CE}$=5V, $I_C$=5mA | 50 | — | — | — |
| $V_{CE(sat)}$ | C to E saturation voltage | $I_C$=10mA, $I_B$=0.5mA | — | 0.1 | 0.3 | V |
| $V_{I(ON)}$ | Input on voltage | $V_{CE}$=0.2V, $I_C$=5mA | — | 0.9 | 1.7 | V |
| $V_{I(OFF)}$ | Input off voltage | $V_{CE}$=5V, $I_C$=100μA | 0.5 | 0.7 | — | V |
| $R_1$ | Input resistor | — | 3.3 | 4.7 | 6.1 | kΩ |
| $R_2/R_1$ | Resistor ratio | — | 4.2 | 4.7 | 5.1 | — |
| $f_T$ | Gain band width product | $V_{CE}$=6V, $I_E$=−10mA | — | 200 | — | MHz |

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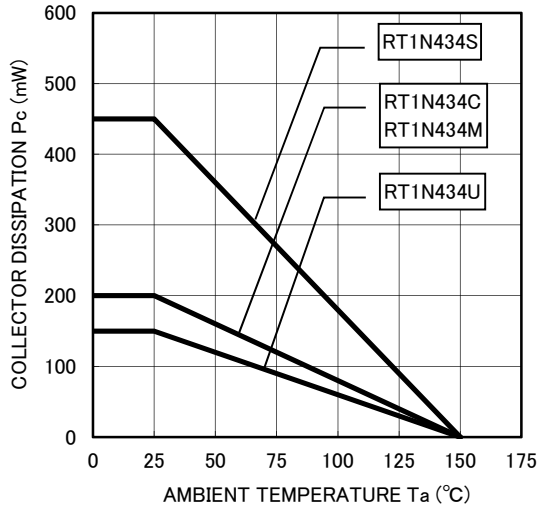
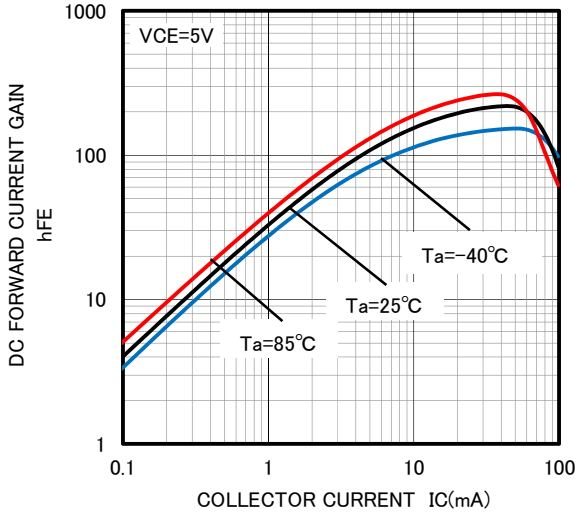
## TYPICAL CHARACTERISTICS

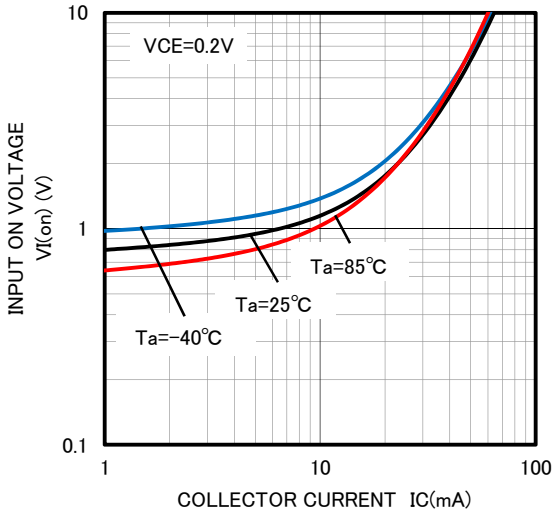
COLLECTOR DISSIPATION
VS AMBIENT TEMPERATURE



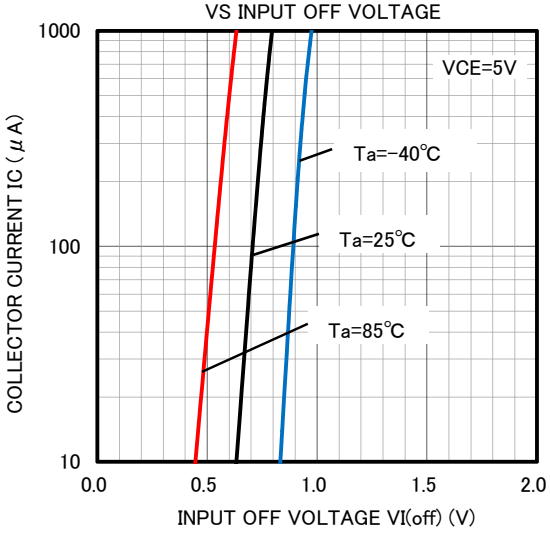

DC FORWARD CURRENT GAIN
VS COLLECTOR CURRENT



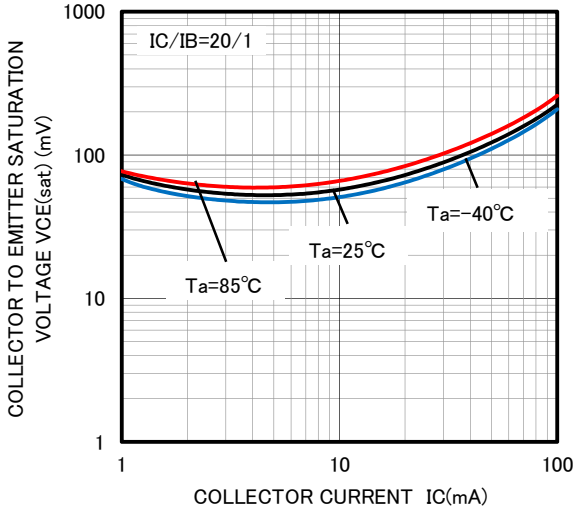

INPUT ON VOLTAGE
VS COLLECTOR CURRENT




COLLECTOR CURRENT
VS INPUT OFF VOLTAGE




COLLECTOR TO EMITTER SATURATION
VOLTAGE VS COLLECTOR CURRENT



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