

RT1P431X SERIES

Semiconductor
Transistor

Transistor With Resistor
For Switching Application
Silicon PNP Epitaxial Type

DESCRIPTION

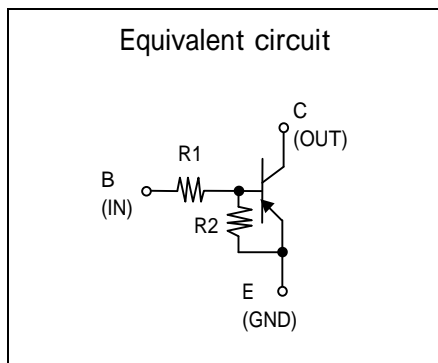
RT1P431X is a one chip transistor with built-in bias resistor, NPN type is RT1N431X.

FEATURE

- Built-in bias resistor ($R1=4.7k$, $R2=4.7k$).

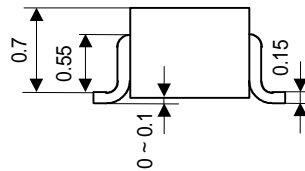
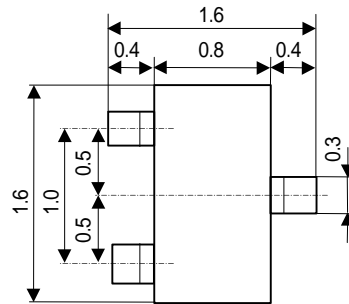
APPLICATION

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



OUTLINE DRAWING UNIT : mm

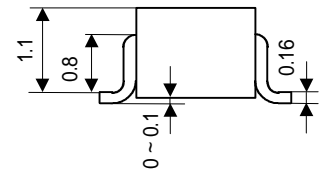
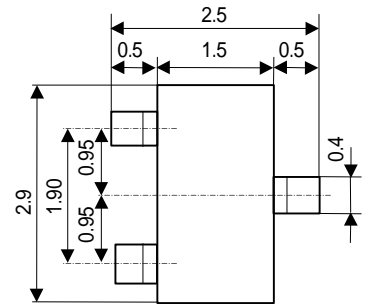
RT1P431U



EIAJ: -
JEDEC: -

Terminal Connector
: Base
: Emitter
: Collector

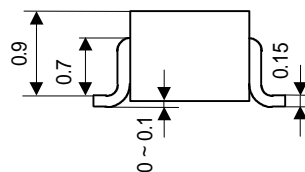
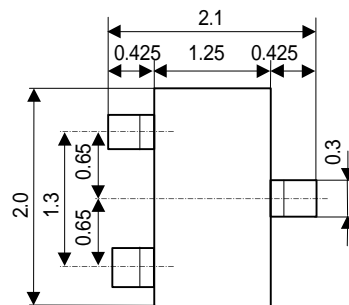
RT1P431C



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

Terminal Connector
: Base
: Emitter
: Collector

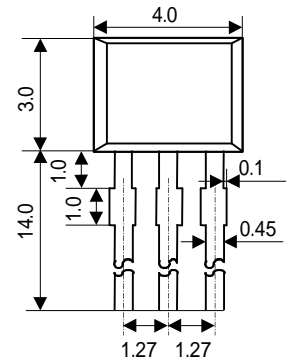
RT1P431M



EIAJ: SC-70
JEDEC: -

Terminal Connector
: Base
: Emitter
: Collector

RT1P431S



EIAJ: -
JEDEC: -

Terminal Connector
: Emitter
: Collector
: Base

RT1P431X SERIES

Transistor With Resistor
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Silicon PNP Epitaxial Type

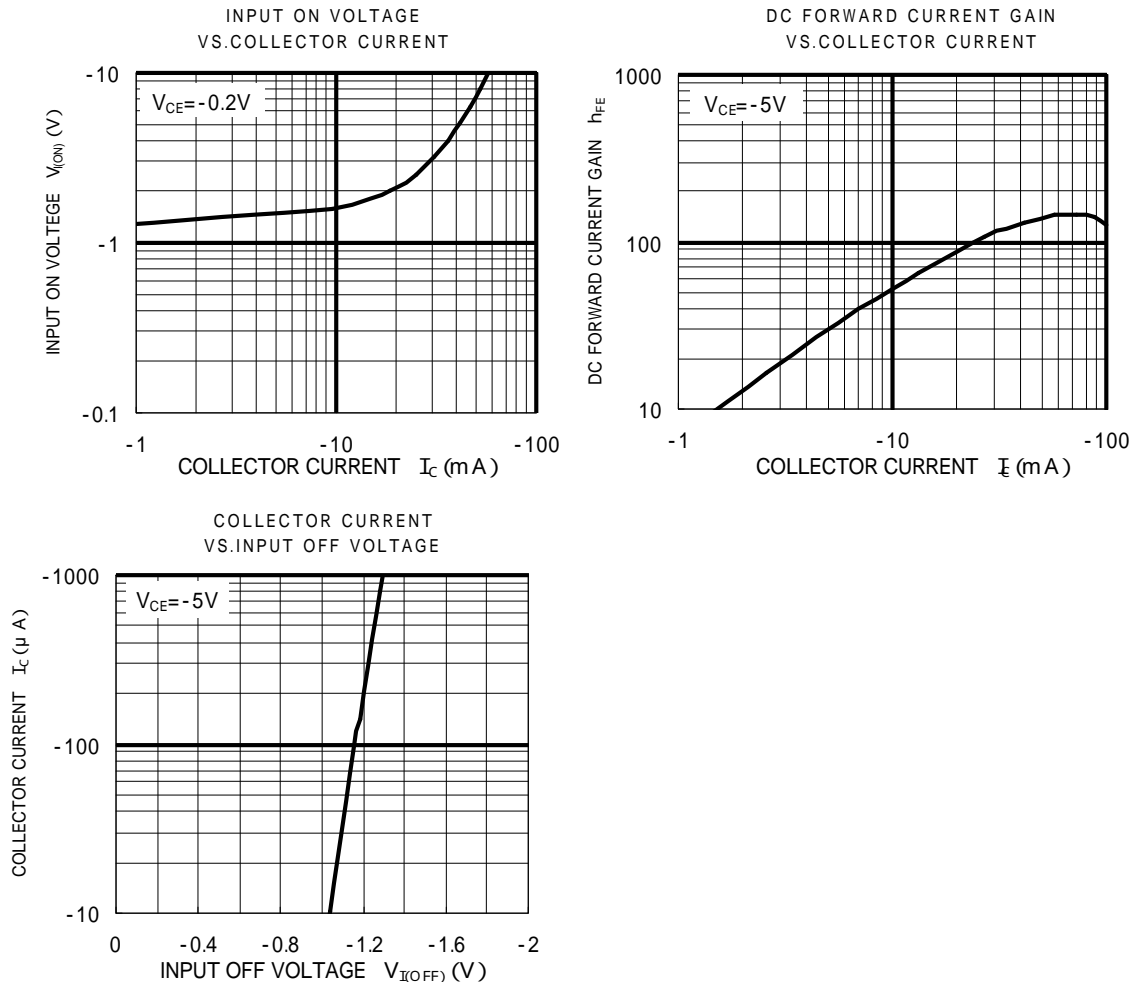
MAXIMUM RATING (Ta=25)

| SYMBOL | PARAMETER | RATING | | | | UNIT |
|-----------|-------------------------------|------------|----------|------------|----------|------|
| | | RT1P431U | RT1P431M | RT1P431C | RT1P431S | |
| V_{CBO} | Collector to Base voltage | -50 | | | | V |
| V_{EBO} | Emitter to Base voltage | -10 | | | | 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) | 150 | 200 | 450 | mW | |
| T_j | Junction temperature | +150 | +150 | | | |
| T_{stg} | Storage temperature | -55 ~ +150 | | -55 ~ +150 | | |

ELECTRICAL CHARACTERISTICS (Ta=25)

| SYMBOL | PARAMETER | TEST CONDITION | LIMIT | | | UNIT |
|---------------|---------------------------|----------------------------------|-------|------|------|---------|
| | | | MIN | TYP | MAX | |
| $V_{(BR)CEO}$ | C to E break down voltage | $I_C = -100 \mu A, R_{BE} =$ | -50 | | | V |
| I_{CBO} | Collector cut off current | $V_{CB} = -50V, I_E = 0$ | | | -0.1 | μA |
| h_{FE} | DC forward current gain | $V_{CE} = -5V, I_C = -10mA$ | 20 | | | - |
| $V_{CE(sat)}$ | C to E saturation voltage | $I_C = -10mA, I_B = -0.5mA$ | | -0.1 | -0.3 | V |
| $V_{I(ON)}$ | Input on voltage | $V_{CE} = -0.2V, I_C = -5mA$ | | -1.4 | -2.3 | V |
| $V_{I(OFF)}$ | Input off voltage | $V_{CE} = -5V, I_C = -100 \mu A$ | -0.8 | -1.1 | | V |
| R_1 | Input resistance | | 3.3 | 4.7 | 6.1 | k |
| R_2 / R_1 | Resistance ratio | | 0.8 | 1.0 | 1.2 | |
| f_T | Gain band width product | $V_{CE} = -6V, I_E = 10mA$ | | 150 | | MHz |

TYPICAL CHARACTERISTICS





Marketing division, Marketing planning department

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