〈SMALL-SIGNAL TRANSISTOR〉

# INC6001AC1

FOR LOW FREQUENCY AMPLIFY APPLICATION
SILICON NPN EPITAXIAL TYPE

## DESCRIPTION

INC6001AC1 is a super mini package resin sealed silicon NPN epitaxial transistor,

It is designed for low frequency voltage application.

## FEATURE

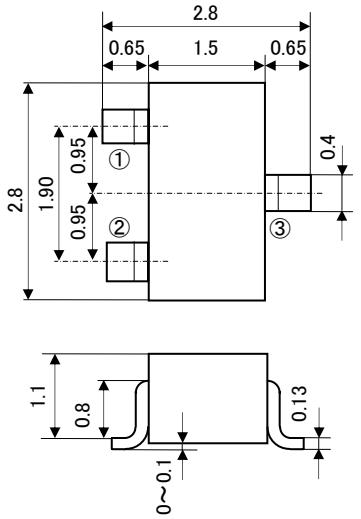
- Super mini package for easy mounting
- Low $V_{CE(sat)}$ $V_{CE(sat)}$=0.5$V_{max}$ (@$I_C$=500mA/$I_B$=50mA)
- High collector current $I_C$=1A
- High voltage $V_{CEO}$=100V

## APPLICATION

For DC/DC converter, power supply etc.

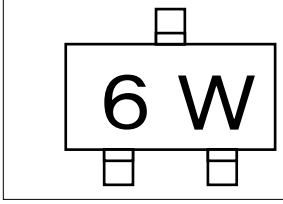
## OUTLINE DRAWING

Unit:mm




JEITA:SC-59
JEDEC:Similar to TO-236
TERMINAL CONNECTER
①:BASE
②:EMITTER
③:COLLECTOR

## MARKING




## MAXIMUM RATINGS(Ta=25℃)

| Symbol | Parameter | Ratings | Unit |
|---|---|---|---|
| $V_{CBO}$ | Collector to Base voltage | 120 | V |
| $V_{EBO}$ | Emitter to Base voltage | 6 | V |
| $V_{CEO}$ | Collector to Emitter voltage | 100 | V |
| $I_C$ | Collector current | 1 | A |
| $I_{CM}$ | Peak collector current | 2 | |
| $P_C$ | Collector dissipation | 200 | mW |
| | | 350(*) | |
| $T_j$ | Junction temperature | +150 | ℃ |
| $T_{stg}$ | Storage temperature | −55～+150 | ℃ |

(*) Mounted on glass epoxy board(19mm×9mm×t1mm)

## ELECTRICAL CHARACTERISTICS(Ta=25℃)

| Symbol | Parameter | Test conditions | Limits | | | Unit |
|---|---|---|---|---|---|---|
| | | | Min | Typ | Max | |
| $V_{(BR)CBO}$ | C to B breakdown voltage | $I_C$=10μA, $I_E$=0 | 120 | − | − | V |
| $V_{(BR)EBO}$ | E to B breakdown voltage | $I_E$=10μA, $I_C$=0 | 6 | − | − | V |
| $V_{(BR)CEO}$ | C to E breakdown voltage | $I_C$=1mA, $R_{BE}$=∞ | 100 | − | − | V |
| $I_{CBO}$ | Collector cut off current | $V_{CB}$=120V, $I_E$=0mA | − | − | 500 | nA |
| $I_{EBO}$ | Emitter cut off current | $V_{EB}$=6V, $I_C$=0mA | − | − | 500 | nA |
| $h_{FE}$ | DC forward current gain | $V_{CE}$=2V, $I_C$=150mA | 100 | − | 300 | − |
| $V_{CE(sat)}$ | C to E Saturation voltage | $I_C$=500mA, $I_B$=50mA | − | − | 0.5 | V |
| $f_T$ | Gain bandwidth product | $V_{CE}$=10V, $I_E$=−50mA | − | 270 | − | MHz |
| $C_{ob}$ | Collector output capacitance | $V_{CB}$=10V, $I_E$=0mA, f=1MHz | − | 5 | − | pF |

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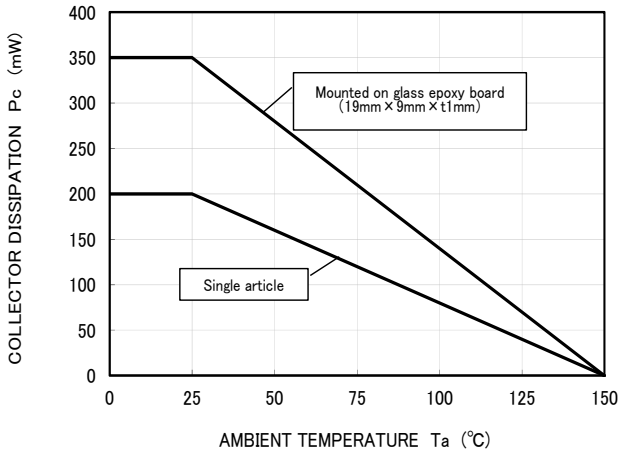
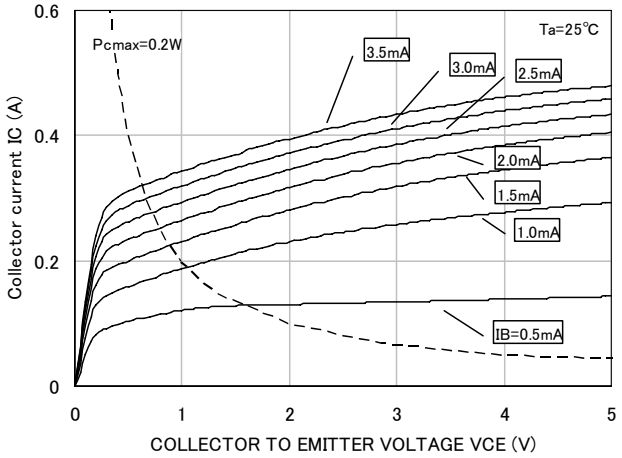
## TYPICAL CHARACTERISTICS

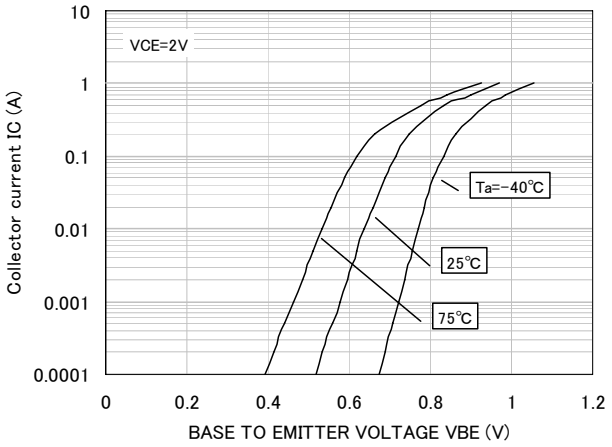
COLLECTOR DISSIPATION
VS AMBIENT TEMPERATURE



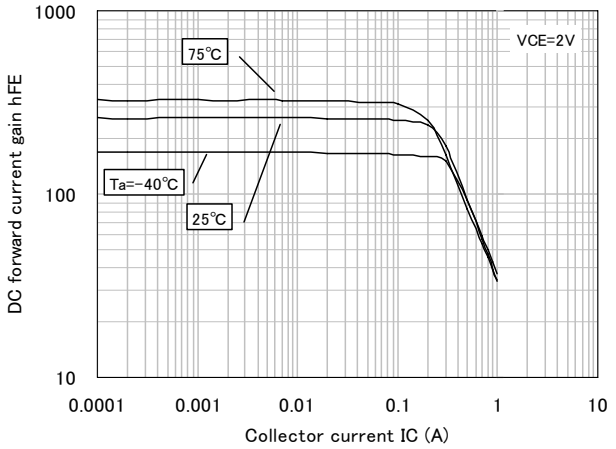

COMMON EMITTER OUTPUT



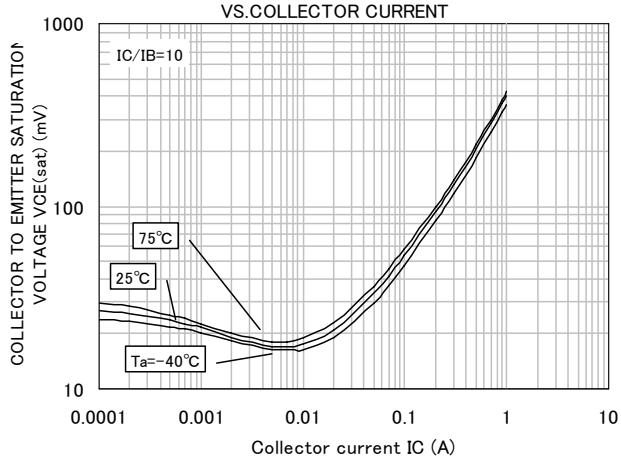

COMMON EMITTER TRANSFER



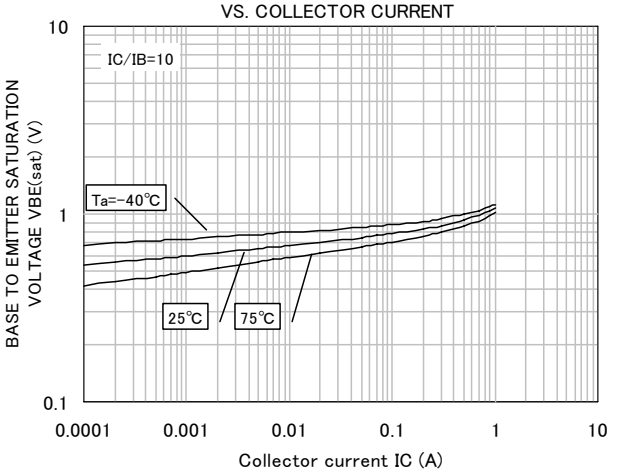

DC forward current gain VS. Collector current




COLLECTOR TO EMITTER SATURATION VOLTAGE
VS.COLLECTOR CURRENT




BASE TO EMITTER SATURATION VOLTAGE
VS. COLLECTOR CURRENT



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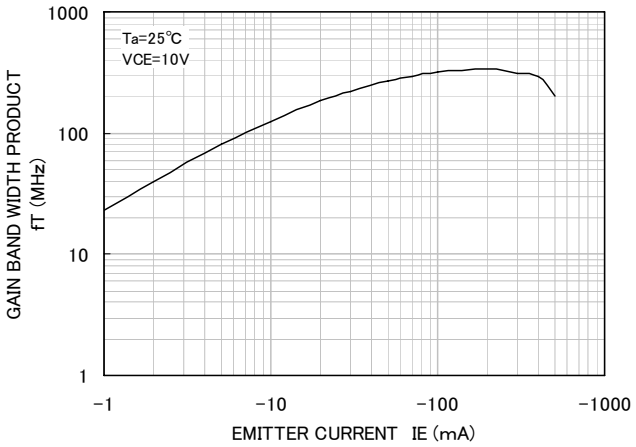
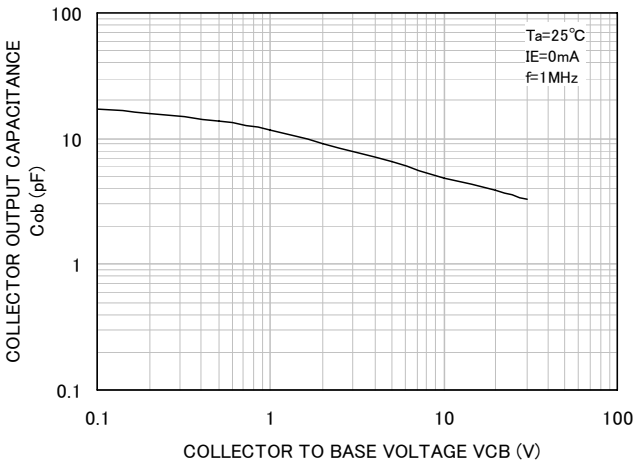
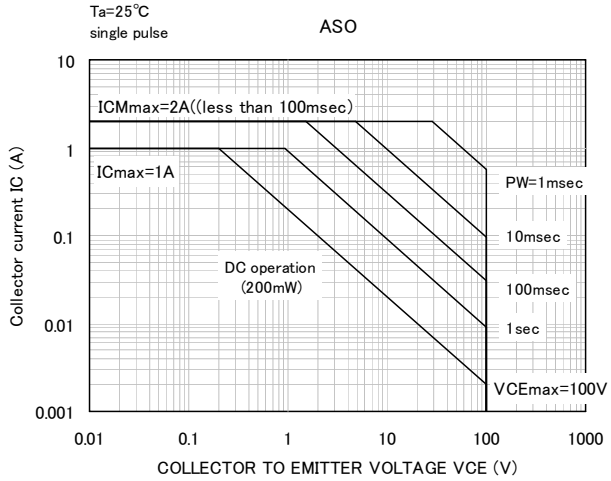
GAIN BAND WIDTH PRODUCT
VS. EMITTER CURRENT




COLLECTOR OUTPUT CAPACITANCE
VS. COLLECTOR TO BASE VOLTAGE




ASO



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