

# INC2001AX SERIES

FOR MUTING APPLICATION  
SILICON NPN EPITAXIAL TYPE

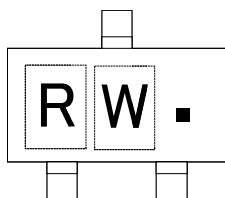
## FEATURE

- Small package for easy mounting.
- High reverse hFE
- Small collector to emitter saturation voltage.  
 $V_{CE(sat)}=40\text{mV(TYP.)}(@I_C=50\text{mA}/I_B=2.5\text{mA})$
- Low on Resistance  
 $R_{on}=0.65\Omega\text{(TYP.)}(@I_B=5\text{mA})$

## APPLICATION

muting circuit , switching circuit

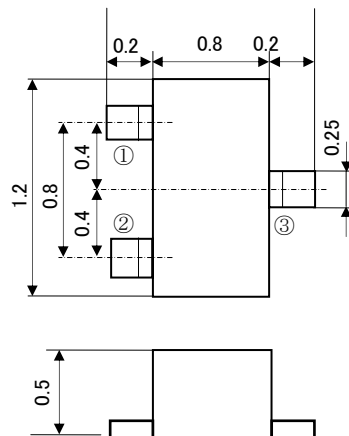
## MARKING



## OUTLINE DRAWING

Unit : mm

INC2001AT2 (PRELIMINARY)

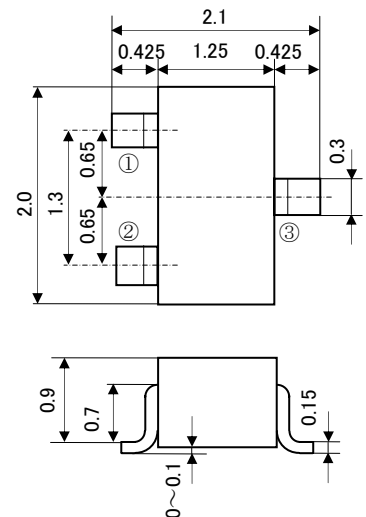


JEITA, JEDEC : —  
ISAHAYA : T-USM

TERMINAL CONNECTOR

- ① : BASE  
② : EMITTER  
③ : COLLECTOR

INC2001AM1

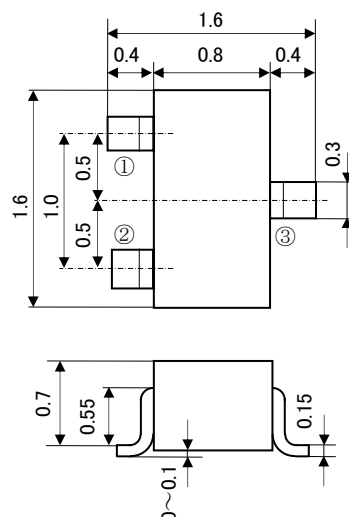


JEITA : SC-70  
JEDEC : —

TERMINAL CONNECTOR

- ① : BASE  
② : EMITTER  
③ : COLLECTOR

INC2001AU1

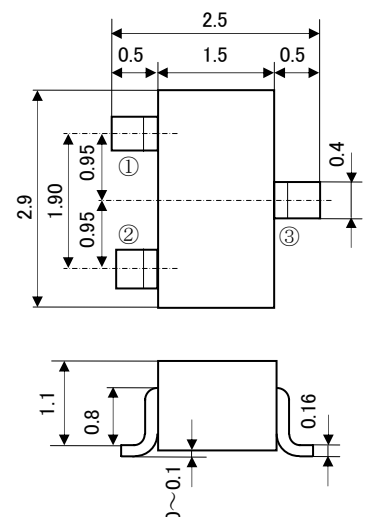


JEITA : SC-75A  
JEDEC : —

TERMINAL CONNECTOR

- ① : BASE  
② : EMITTER  
③ : COLLECTOR

INC2001AC1



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

TERMINAL CONNECTOR

- ① : BASE  
② : EMITTER  
③ : COLLECTOR

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FOR MUTING APPLICATION  
SILICON NPN EPITAXIAL TYPE

## MAXIMUM RATING (Ta=25°C)

| SYMBOL           | PARAMETER                     | RATING     |            |            |            | UNIT |
|------------------|-------------------------------|------------|------------|------------|------------|------|
|                  |                               | INC2001AT2 | INC2001AU1 | INC2001AM1 | INC2001AC1 |      |
| V <sub>CBO</sub> | Collector to Base voltage     | 40         |            |            |            | V    |
| V <sub>EBO</sub> | Emitter to Base voltage       | 40         |            |            |            | V    |
| V <sub>CEO</sub> | Collector to Emitter voltage  | 20         |            |            |            | V    |
| I <sub>C</sub>   | Collector current             | 600        |            |            |            | mA   |
| P <sub>C</sub>   | Collector dissipation(Ta=25℃) | 125(※)     | 150        | 200        |            | mW   |
| Tj               | Junction temperature          | +125       | +150       |            |            | ℃    |
| Tstg             | Storage temperature           | -55~+125   | -55~+150   |            |            | ℃    |

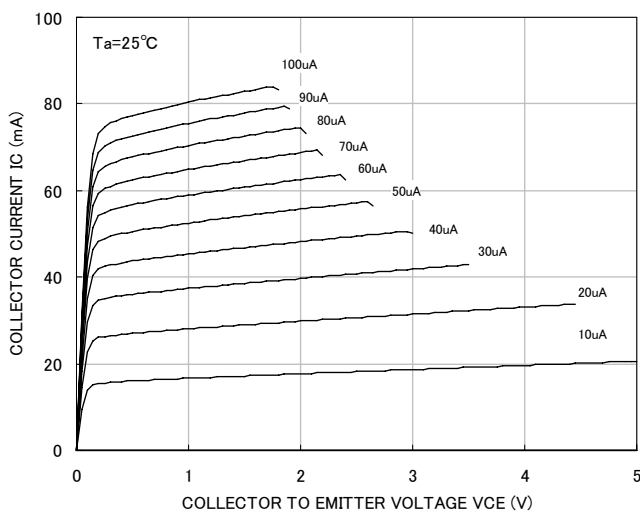
## ELECTRICAL CHARACTERISTICS (Ta=25°C)

※package mounted on 9mm×19mm×1mm glass-epoxy substrate.

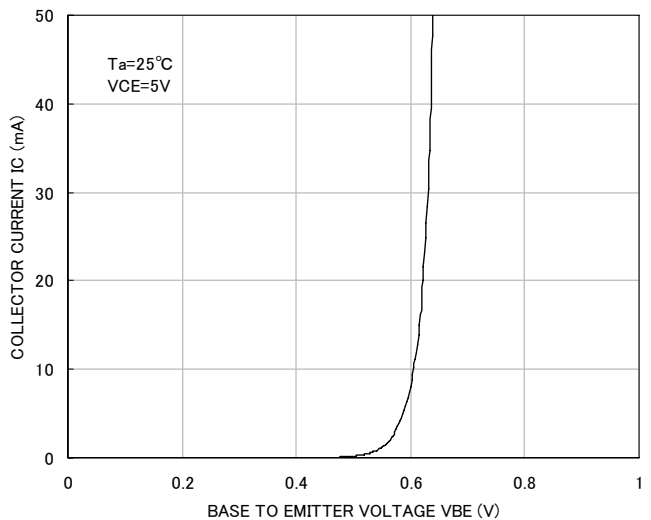
| SYMBOL        | PARAMETER                    | TEST CONDITION                    | LIMIT |      |      | UNIT     |
|---------------|------------------------------|-----------------------------------|-------|------|------|----------|
|               |                              |                                   | MIN   | TYP  | MAX  |          |
| $V_{(BR)CBO}$ | C to B break down voltage    | $I_C=50\mu A, I_E=0mA$            | 40    |      |      | V        |
| $V_{(BR)EBO}$ | E to B break down voltage    | $I_E=50\mu A, I_C=0mA$            | 40    |      |      | V        |
| $V_{(BR)CEO}$ | C to E break down voltage    | $I_C=1mA, R_{BE}=\infty$          | 20    |      |      | V        |
| $I_{CBO}$     | Collector cut off current    | $V_{CB}=40V, I_E=0mA$             |       |      | 0.5  | $\mu A$  |
| $I_{EBO}$     | Emitter cut off current      | $V_{EB}=40V, I_C=0mA$             |       |      | 0.5  | $\mu A$  |
| $h_{FE}$      | DC forward current gain      | $V_{CE}=5V, I_C=10mA$             | 820   |      | 2500 | —        |
| $V_{CE(sat)}$ | C to E saturation voltage    | $I_C=50mA, I_B=2.5mA$             |       | 40   | 150  | mV       |
| $f_T$         | Gain band width product      | $V_{CE}=10V, I_E=-10mA, f=100MHz$ |       | 50   |      | MHz      |
| $C_{ob}$      | Collector output capacitance | $V_{CB}=10V, I_E=0A, f=1MHz$      |       | 5.0  |      | pF       |
| $R_{ON}$      | Output "ON" resistance       | $I_B=5mA, R_L=1k\Omega$           |       | 0.65 |      | $\Omega$ |

## TYPICAL CHARACTERISTICS

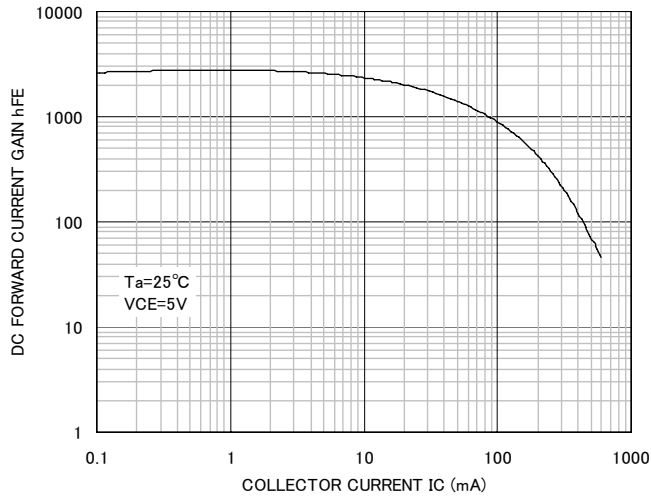
COMMON EMITTER OUTPUT



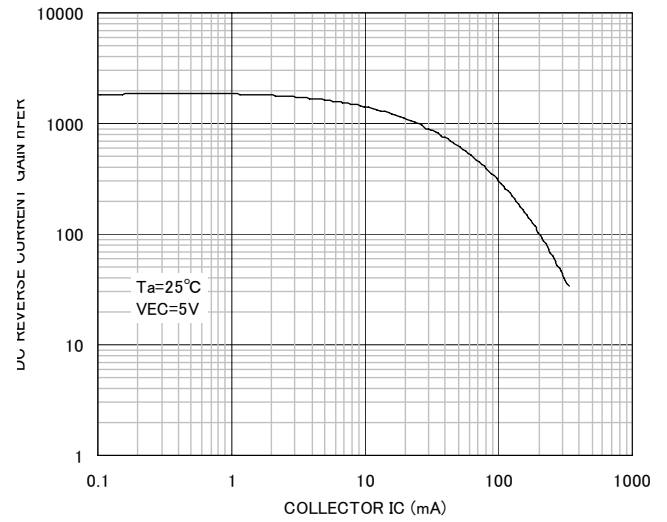
COMMON EMITTER TRANSFER



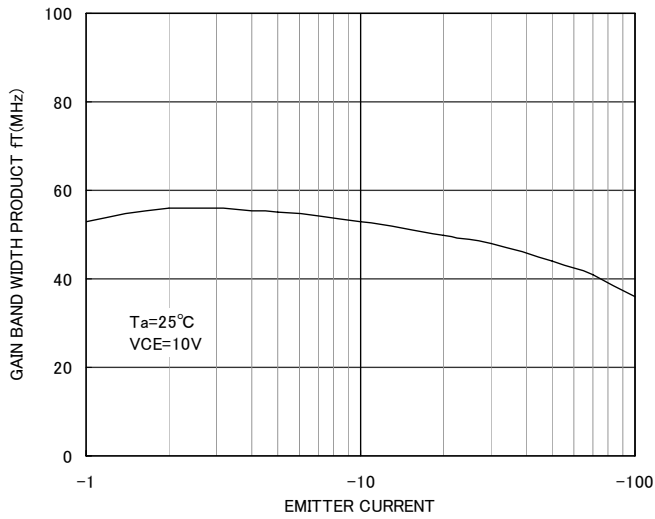
DC FORWARD CURRENT GAIN  
VS. COLLECTOR CURRENT



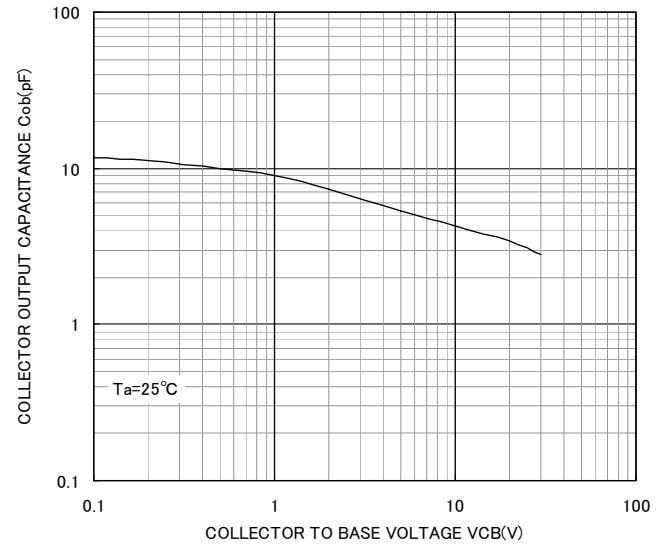
DC REVERSE CURRENT GAIN VS. COLLECTOR CURRENT



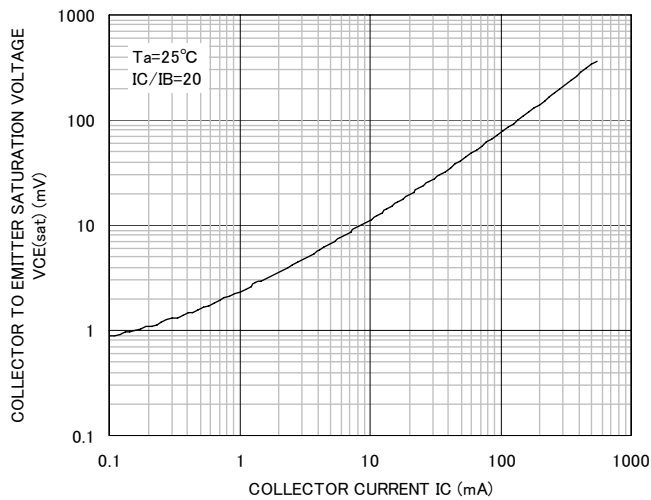
GAIN BAND WIDTH PRODUCT  
VS. EMITTER CURRENT



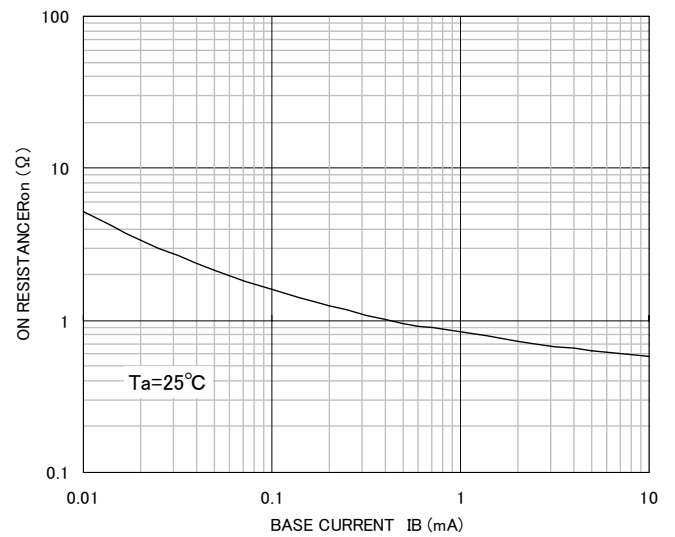
COLLECTOR OUTPUT CAPACITANCE  
VS. COLLECTOR TO BASE VOLTAGE



COLLECTOR TO EMITTER SATURATION VOLTAGE  
VS. COLLECTOR CURRENT



ON RESISTANCE VS. BASE CURRENT





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