〈SMALL-SIGNAL TRANSISTOR〉

# ISA1989AU1

FOR LOW FREQUENCY AMPLIFY APPLICATION
SILICON PNP EPITAXIAL TYPE(ULTRA SUPER MINI TYPE)

## DESCRIPTION

ISA1989AU1 is a ultra super mini package resin sealed silicon PNP epitaxial transistor,

It is designed for low frequency voltage application.

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## FEATURE

●Small collector to emitter saturation voltage.

VCE(sat)=−0.3V max(@ $I_C$=−30mA ,$I_B$=−1.5mA)

●Excellent linearity of DC forward gain.

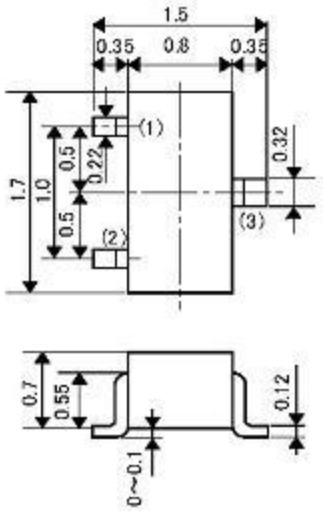
●Super mini package for easy mounting

## APPLICATION

For Hybrid IC,small type machine low frequency voltage Amplify application.

## OUTLINE DRAWING

Unit:mm




JEITA:SC-75A

TERMINAL CONNECTER

①:BASE

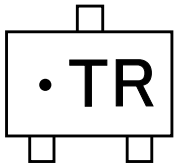
②:EMITTER

③:COLLECTOR

## MAXIMUM RATINGS(Ta=25℃)

| Symbol | Parameter | Ratings | Unit |
|---|---|---|---|
| $V_{CBO}$ | Collector to Base voltage | −50 | V |
| $V_{CEO}$ | Collector to Emitter voltage | −50 | V |
| $V_{EBO}$ | Emitter to Base voltage | −6 | V |
| $I_O$ | Collector current | −100 | mA |
| $P_c$ | Collector dissipation | 150 | mW |
| $T_j$ | Junction temperature | +150 | ℃ |
| $T_{stg}$ | Storage temperature | −55～+150 | ℃ |

## MARKING




## ELECTRICAL CHARACTERISTICS(Ta=25℃)

| Parameter | Symbol | Test conditions | Limits | | | Unit |
|---|---|---|---|---|---|---|
| | | | Min | Typ | Max | |
| C to E break down voltage | $V(BR)_{CEO}$ | $I_C$=−100μA ,$R_{BE}$=∞ | −50 | − | − | V |
| Collector cut off current | ICBO | $V_{CB}$=−50V, $I_E$=0mA | − | − | −0.5 | μA |
| Emitter cut off current | IEBO | $V_{EB}$=−4V, $I_C$=0mA | − | − | −0.5 | μA |
| DC forward current gain | hFE | $V_{CE}$=−6V, $I_C$=−1mA ※ | 120 | − | 560 | |
| DC forward current gain | hFE | $V_{CE}$=−6V, $I_C$=−0.1mA | 70 | − | − | |
| C to E Saturation Vlotage | VCE(sat) | $I_C$=−30mA ,$I_B$=−1.5mA | − | − | −0.3 | V |
| Gain bandwidth product | fT | $V_{CE}$=−6V, $I_E$=10mA | − | 200 | − | MHz |
| Collector output capacitance | Cob | $V_{CE}$=−6V, $I_E$=0,f=1MHz | − | 2.5 | − | pF |

※) It shows hFE classification in below table.

| Item | Q | R | S |
|---|---|---|---|
| hFE item | 120～270 | 180～390 | 270～560 |

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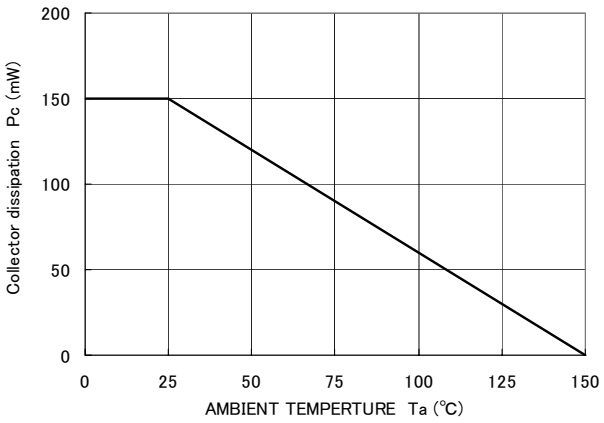
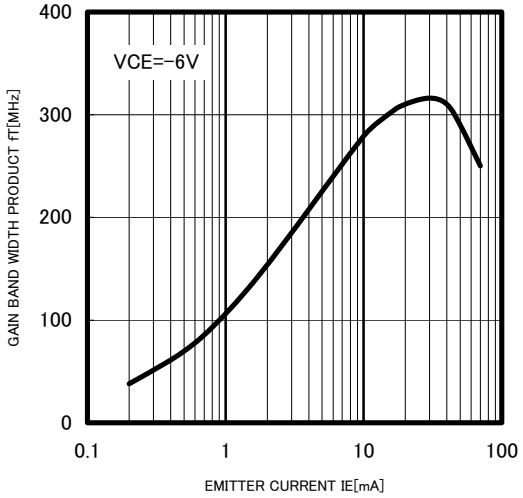
## TYPICAL CHARACTERISTICS

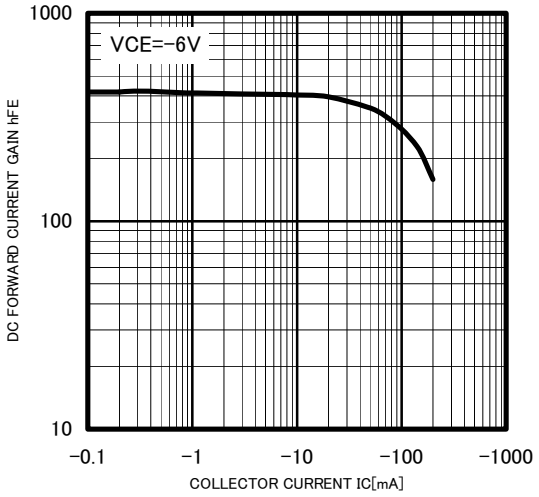
Collector dissipation－AMBIENT TEMPERTURE



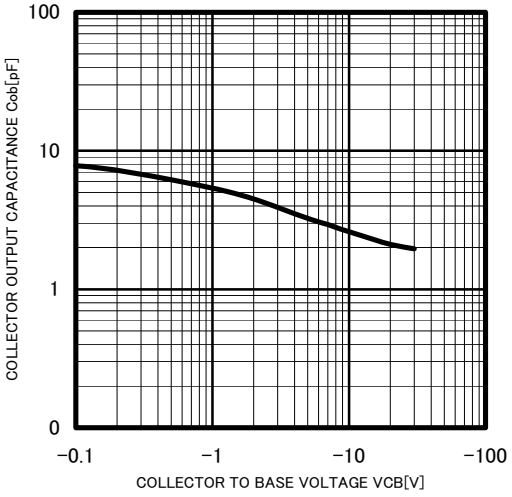

GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



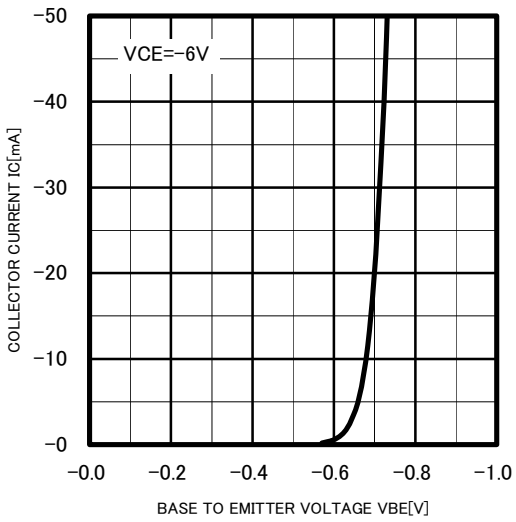

DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT




COLLECTOR OUTPUT CAPACITANCE
VS. COLLECTOR TO BASE VOLTAGE




COMMON EMITTER TRANSFER



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