# ISA1603AM1

FOR LOW FREQUENCY AMPLIFY APPLICATION
SILICON PNP EPITAXIAL TYPE

## DESCRIPTION

ISA1603AM1 is a mini package resin sealed silicon PNP epitaxial transistor,

It is designed for low frequency voltage application.

## FEATURE

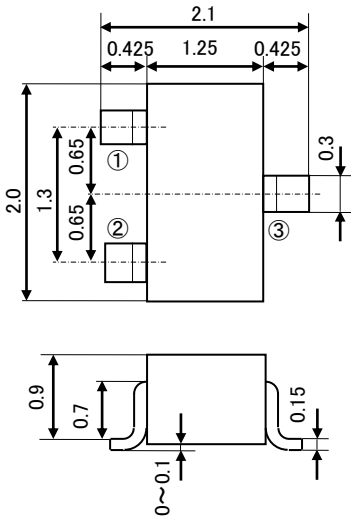
- Small collector to emitter saturation voltage.
  $V_{CE(sat)}$=−0.3V max(@$I_C$=−100mA/$I_B$=−10mA)
- Excellent linearity of DC forward current gain.
- Super mini package for easy mounting.

## APPLICATION

For small type machine low frequency voltage amplify application

## OUTLINE DRAWING

Unit:mm




TERMINAL CONNECTER

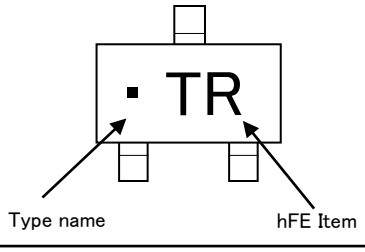
①:BASE
②:EMITTER
③:COLLECTOR

JEITA:SC-70
JEDEC:-

## MAXIMUM RATINGS(Ta=25℃)

| Parameter | Symbol | Ratings | Unit |
|---|---|---|---|
| Collector to Base voltage | $V_{CBO}$ | −60 | V |
| Emitter to Base voltage | $V_{EBO}$ | −6 | V |
| Collector to Emitter voltage | $V_{CEO}$ | −50 | V |
| Collector current | $I_C$ | −150 | mA |
| Collector dissipation | $P_C$ | 200 | mW |
| Junction temperature | Tj | +150 | ℃ |
| Storage temperature | Tstg | −55～+150 | ℃ |

## MARKING




## ELECTRICAL CHARACTERISTICS(Ta=25℃)

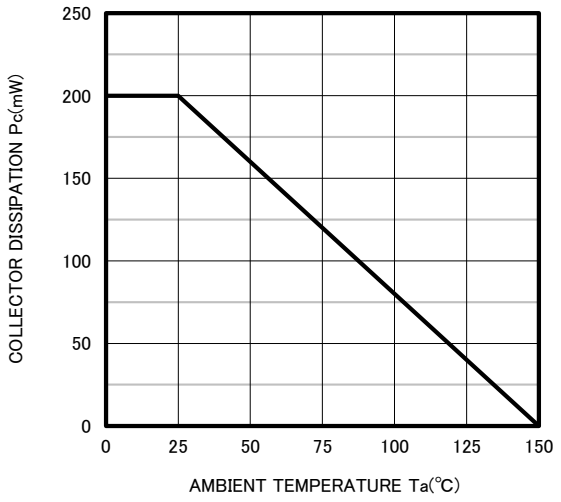
| Parameter | Symbol | Test conditions | Limits | | | Unit |
|---|---|---|---|---|---|---|
| | | | Min | Typ | Max | |
| C to E breakdown voltage | $V_{(BR)CEO}$ | $I_C$=−100μA, $R_{BE}$=∞ | −50 | − | − | V |
| Collector cut off current | $I_{CBO}$ | $V_{CB}$=−60V, $I_E$=0mA | − | − | −0.1 | μA |
| Emitter cut off current | $I_{EBO}$ | $V_{EB}$=−4V, $I_C$=0mA | − | − | −0.1 | μA |
| DC forward current gain ※ | $h_{FE}$ | $V_{CE}$=−6V, $I_C$=−1mA | 120 | − | 560 | − |
| DC forward current gain | $h_{FE}$ | $V_{CE}$=−6V, $I_C$=−0.1mA | 70 | − | − | − |
| C to E Saturation voltage | $V_{CE(sat)}$ | $I_C$=−100mA, $I_B$=−10mA | − | − | −0.3 | V |
| Gain bandwidth product | $f_T$ | $V_{CE}$=−6V, $I_E$=10mA | − | 200 | − | MHz |
| Collector output capacitance | Cob | $V_{CB}$=−6V, $I_E$=0, f=1MHz | − | 4.0 | − | pF |
| Noise figure | NF | $V_{CE}$=−6V, $I_E$=0.3mA, f=100Hz, RG=10kΩ | − | − | 20 | dB |

※) It shows hFE classification at right table.

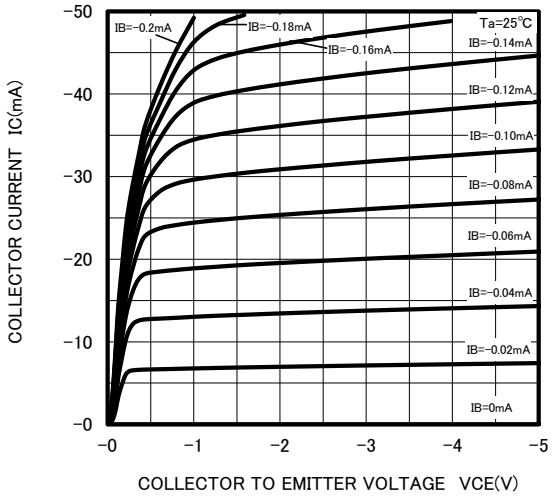
| Item | Q | R | S |
|---|---|---|---|
| hFE | 120～270 | 180～390 | 270～560 |

## TYPICAL CHARACTERISTICS

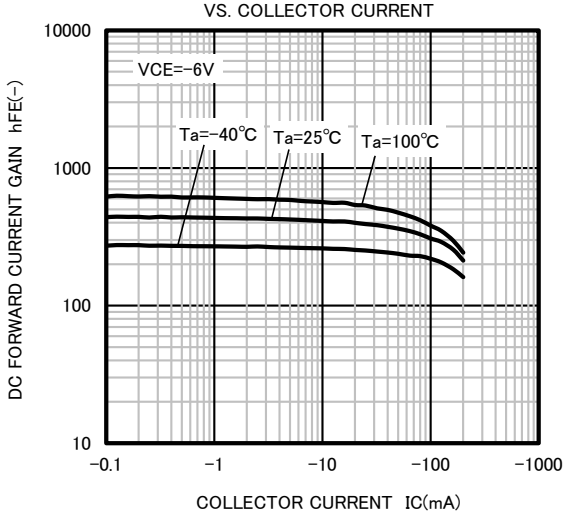
COLLECTOR DISSIPATION
VS. AMBIENT TEMPERATURE



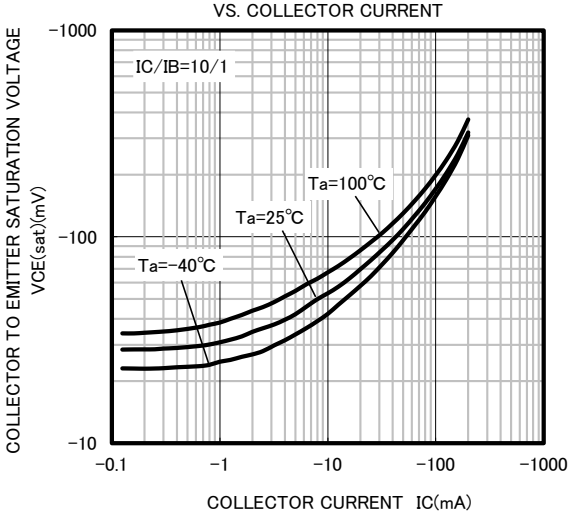

COMMON EMITTER OUTPUT



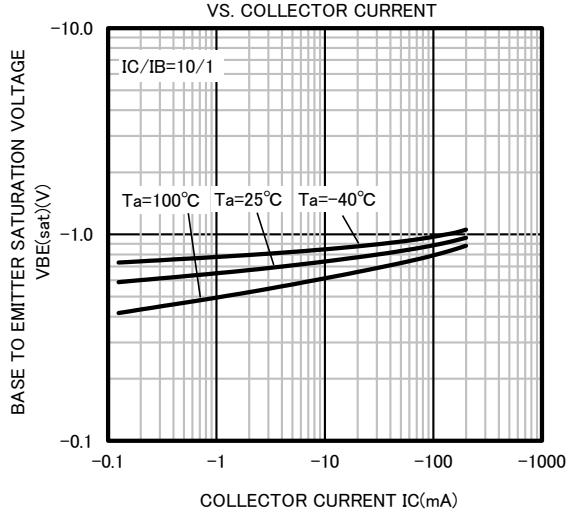

DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT



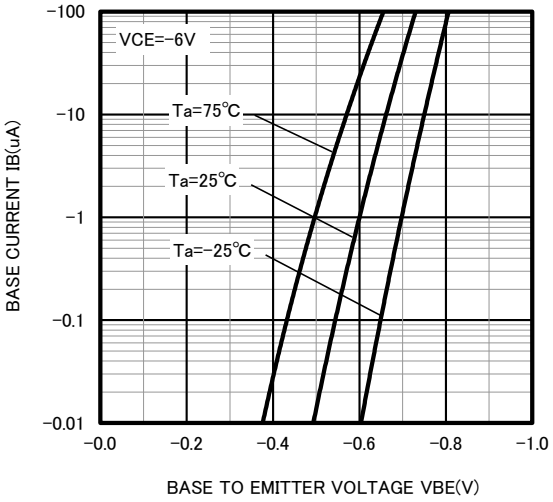

COLLECTOR TO EMITTER SATURATION VOLTAGE
VS. COLLECTOR CURRENT



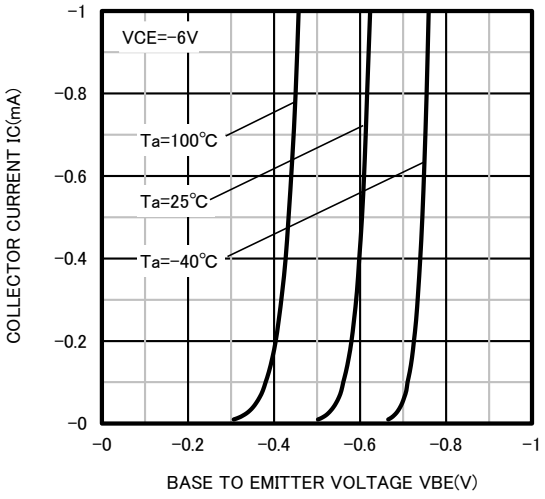

BASE TO EMITTER SATURATION VOLTAGE
VS. COLLECTOR CURRENT



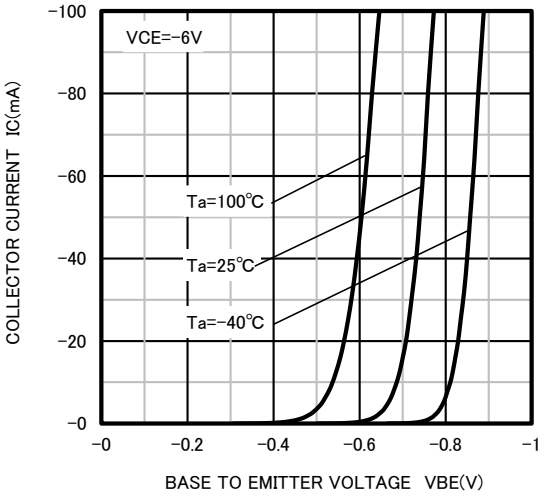

BASE CURRENT VS.
BASE TO EMITTER VOLTAGE



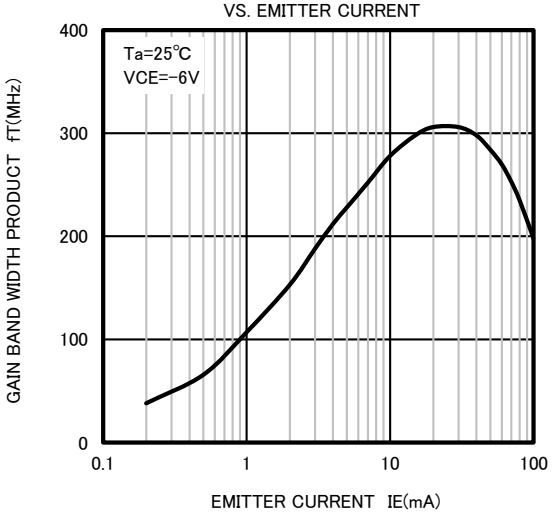
COMMON EMITTER TRANSFER



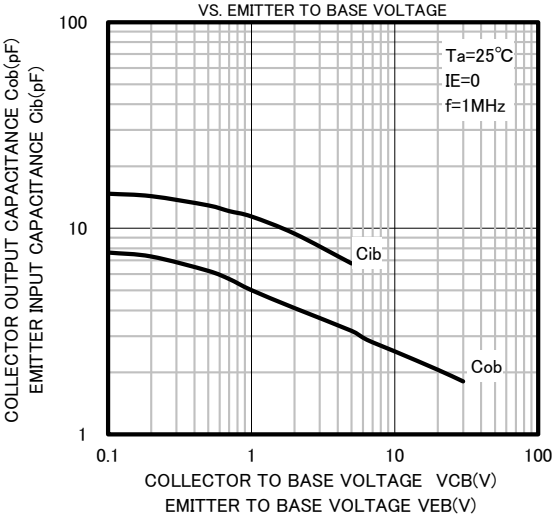

COMMON EMITTER TRANSFER



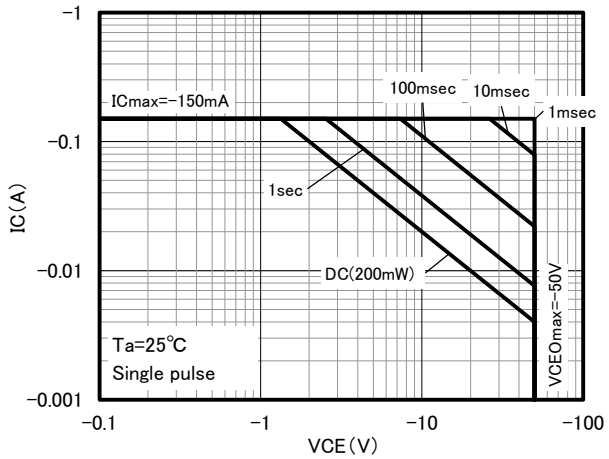

GAIN BAND WIDTH PRODUCT
VS. EMITTER CURRENT




COLLECTOR OUTPUT CAPACITANCE
VS. COLLECTOR TO BASE VOLTAGE
EMITTER INPUT CAPACITANCE
VS. EMITTER TO BASE VOLTAGE




ASO



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