

Silicon PNP Epitaxial Planar Transistor (Complement to type 2SC3284)

Application : Audio and General Purpose

## Absolute maximum ratings (Ta=25°C)

| Symbol           | 2SA1303                   | Unit |
|------------------|---------------------------|------|
| V <sub>CB0</sub> | -150                      | V    |
| V <sub>CE0</sub> | -150                      | V    |
| V <sub>EB0</sub> | -5                        | V    |
| I <sub>C</sub>   | -14                       | A    |
| I <sub>B</sub>   | -3                        | A    |
| P <sub>C</sub>   | 125(T <sub>C</sub> =25°C) | W    |
| T <sub>J</sub>   | 150                       | °C   |
| T <sub>stg</sub> | -55 to +150               | °C   |

## Electrical Characteristics (Ta=25°C)

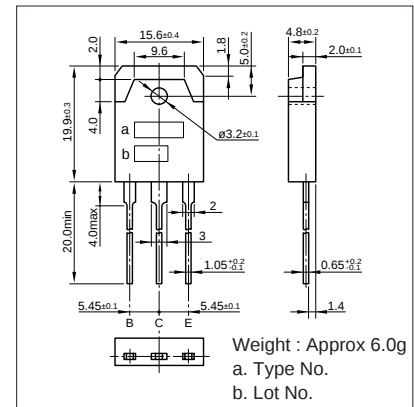
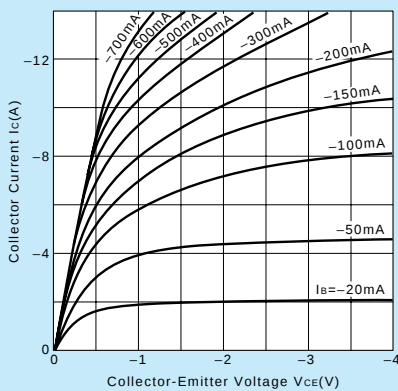
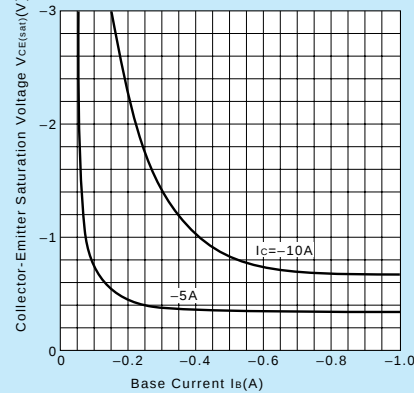
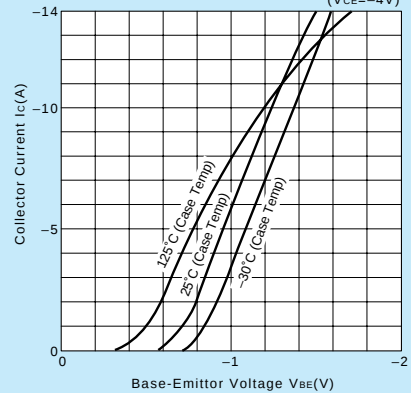
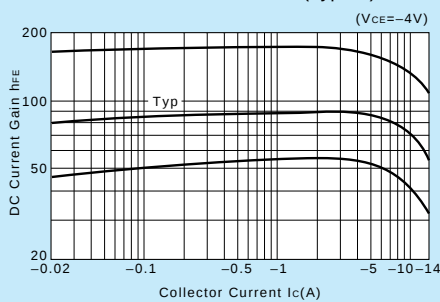
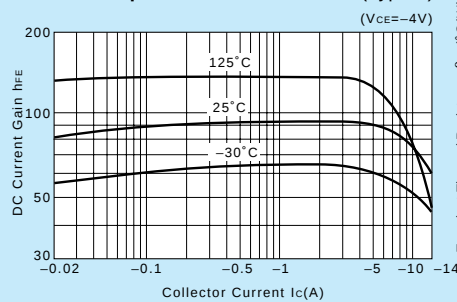
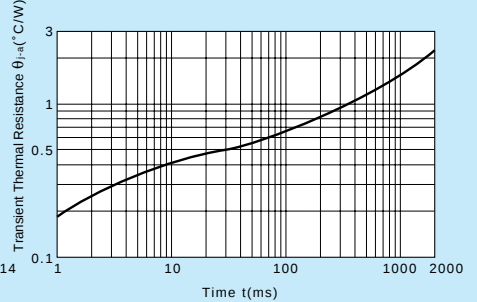
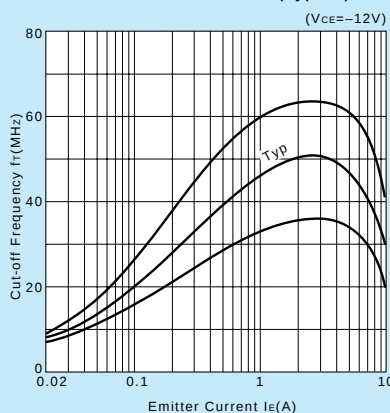
| Symbol               | Conditions                                 | 2SA1303 | Unit |
|----------------------|--------------------------------------------|---------|------|
| I <sub>CB0</sub>     | V <sub>CB</sub> =-150V                     | -100max | μA   |
| I <sub>EB0</sub>     | V <sub>EB</sub> =-5V                       | -100max | μA   |
| V <sub>(BR)CEO</sub> | I <sub>C</sub> =-25mA                      | -150min | V    |
| h <sub>FE</sub>      | V <sub>CE</sub> =-4V, I <sub>C</sub> =-5A  | 50min   |      |
| V <sub>CE(sat)</sub> | I <sub>C</sub> =-5A, I <sub>B</sub> =-0.5A | -2.0max | V    |
| f <sub>r</sub>       | V <sub>CE</sub> =-12V, I <sub>E</sub> =2A  | 50typ   | MHz  |
| C <sub>OB</sub>      | V <sub>CB</sub> =-10V, f=1MHz              | 400typ  | pF   |

\*h<sub>FE</sub> Rank O(50 to 100), P(70 to 140), Y(90 to 180)

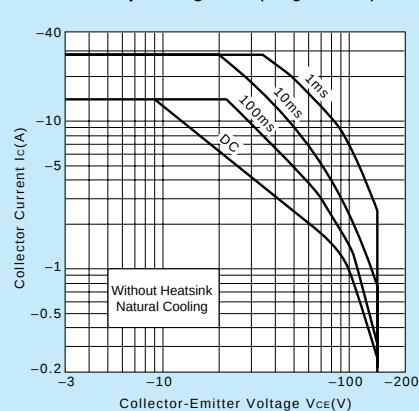
## Typical Switching Characteristics (Common Emitter)

| V <sub>CC</sub><br>(V) | R <sub>L</sub><br>(Ω) | I <sub>C</sub><br>(A) | V <sub>BB1</sub><br>(V) | V <sub>BB2</sub><br>(V) | I <sub>B1</sub><br>(mA) | I <sub>B2</sub><br>(mA) | t <sub>on</sub><br>(μs) | t <sub>stg</sub><br>(μs) | t <sub>f</sub><br>(μs) |
|------------------------|-----------------------|-----------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|------------------------|
| -60                    | 12                    | -5                    | -10                     | 5                       | -500                    | 500                     | 0.25typ                 | 0.85typ                  | 0.2typ                 |

## External Dimensions MT-100(TO3P)

I<sub>C</sub>-V<sub>CE</sub> Characteristics (Typical)V<sub>CE(sat)</sub>-I<sub>B</sub> Characteristics (Typical)I<sub>C</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)h<sub>FE</sub>-I<sub>C</sub> Characteristics (Typical)h<sub>FE</sub>-I<sub>C</sub> Temperature Characteristics (Typical)θ<sub>JA</sub>-t Characteristicsf<sub>T</sub>-I<sub>E</sub> Characteristics (Typical)

Safe Operating Area (Single Pulse)

P<sub>C</sub>-T<sub>a</sub> Derating