

Silicon PNP Epitaxial Planar Transistor (Complement to type 2SC2922)

Application : Audio and General Purpose

## ■Absolute maximum ratings (Ta=25°C)

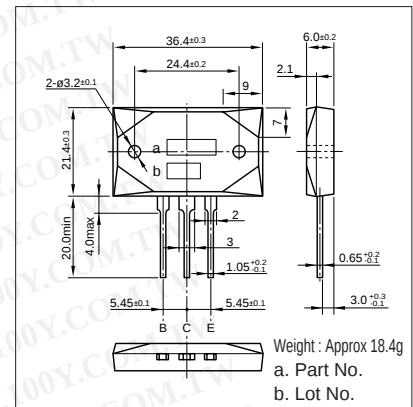
| Symbol           | Ratings                   | Unit |
|------------------|---------------------------|------|
| V <sub>CB0</sub> | -180                      | V    |
| V <sub>CE0</sub> | -180                      | V    |
| V <sub>EB0</sub> | -5                        | V    |
| I <sub>C</sub>   | -17                       | A    |
| I <sub>B</sub>   | -5                        | A    |
| P <sub>C</sub>   | 200(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                                 | Ratings | Unit |
|----------------------|--------------------------------------------|---------|------|
| V <sub>CB0</sub>     | V <sub>CB</sub> =-180V                     | -100max | μA   |
| I <sub>EB0</sub>     | V <sub>EB</sub> =-5V                       | -100max | μA   |
| V <sub>(BR)CEO</sub> | I <sub>C</sub> =-25mA                      | -180min | V    |
| h <sub>FE</sub>      | V <sub>CE</sub> =-4V, I <sub>C</sub> =-8A  | 30min*  |      |
| V <sub>CE(sat)</sub> | I <sub>C</sub> =-8A, I <sub>B</sub> =-0.8A | -2.0max | V    |
| f <sub>T</sub>       | V <sub>CE</sub> =-12V, I <sub>E</sub> =2A  | 40typ   | MHz  |
| COB                  | V <sub>CB</sub> =-10V, f=1MHz              | 500typ  | pF   |

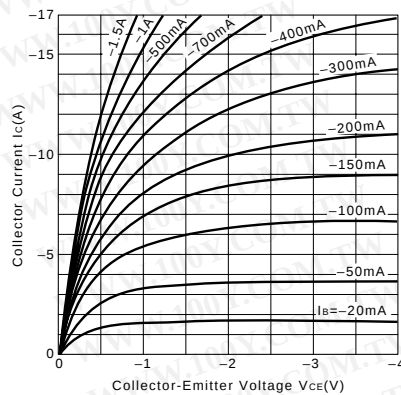
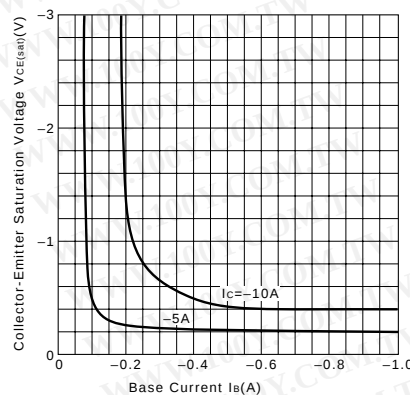
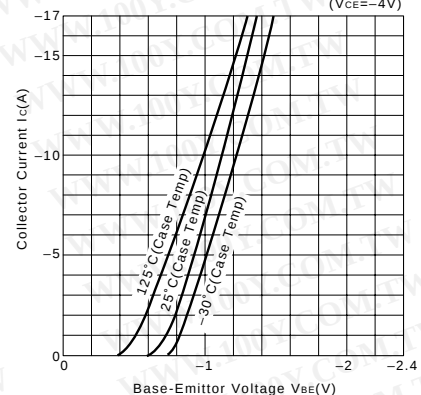
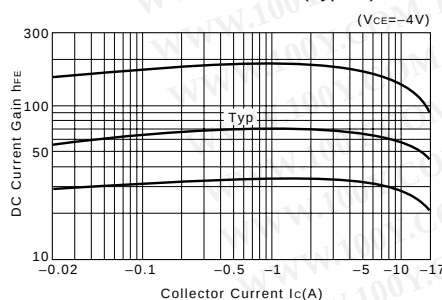
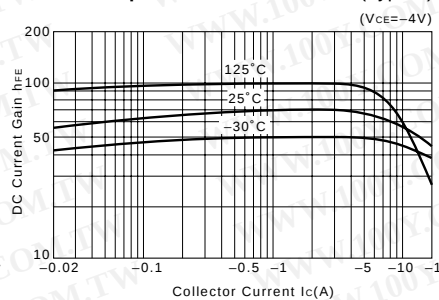
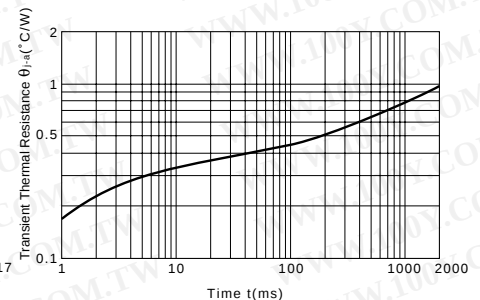
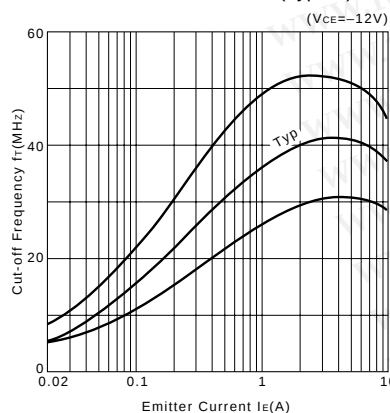
\*h<sub>FE</sub> Rank O(30to60), Y(50to100), P(70to140), G(90to180)

## External Dimensions MT-200

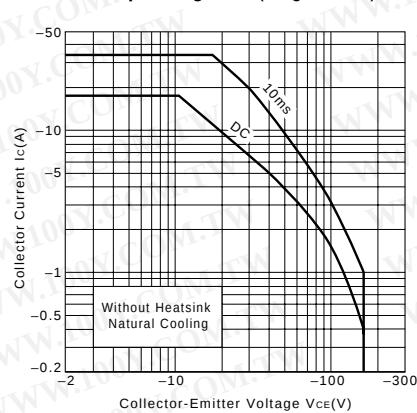
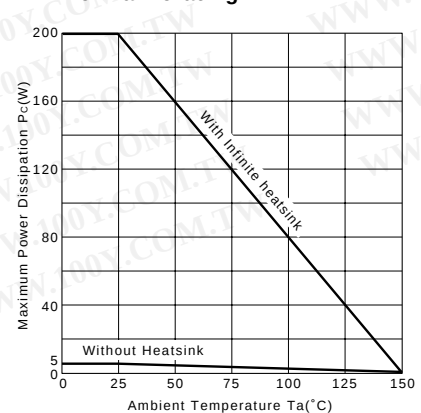


## ■Typical Switching Characteristics (Common Emitter)

| V <sub>CC</sub><br>(V) | R <sub>L</sub><br>(Ω) | I <sub>C</sub><br>(A) | V <sub>B2</sub><br>(V) | I <sub>B1</sub><br>(A) | I <sub>B2</sub><br>(A) | t <sub>on</sub><br>(μs) | t <sub>stg</sub><br>(μs) | t <sub>f</sub><br>(μs) |
|------------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|-------------------------|--------------------------|------------------------|
| -40                    | 4                     | -10                   | 5                      | -1                     | 1                      | 0.3typ                  | 0.7typ                   | 0.2typ                 |

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>J-a</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

Silicon NPN Epitaxial Planar Transistor (Complement to type 2SA1216)

Application : Audio and General Purpose

## ■Absolute maximum ratings (Ta=25°C)

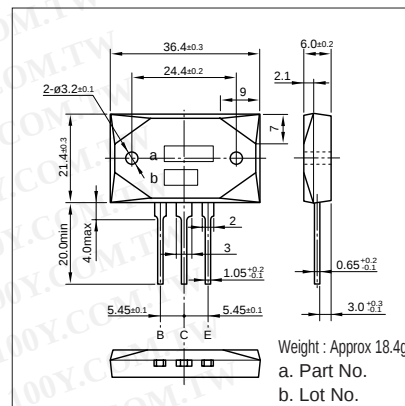
| Symbol           | Ratings                   | Unit |
|------------------|---------------------------|------|
| V <sub>CB0</sub> | 180                       | V    |
| V <sub>CEO</sub> | 180                       | V    |
| V <sub>EB0</sub> | 5                         | V    |
| I <sub>C</sub>   | 17                        | A    |
| I <sub>B</sub>   | 5                         | A    |
| P <sub>C</sub>   | 200(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                                | Ratings | Unit |
|----------------------|-------------------------------------------|---------|------|
| I <sub>CB0</sub>     | V <sub>CB</sub> =180V                     | 100max  | μA   |
| I <sub>EB0</sub>     | V <sub>EB</sub> =5V                       | 100max  | μA   |
| V <sub>(BR)CEO</sub> | I <sub>C</sub> =25mA                      | 180min  | V    |
| h <sub>FE</sub>      | V <sub>CE</sub> =4V, I <sub>C</sub> =8V   | 30min*  |      |
| V <sub>CE(sat)</sub> | I <sub>C</sub> =8A, I <sub>B</sub> =0.8A  | 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              | 250typ  | pF   |

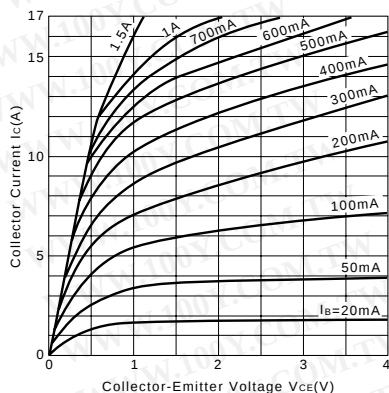
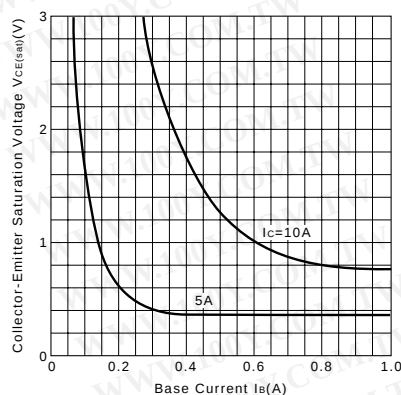
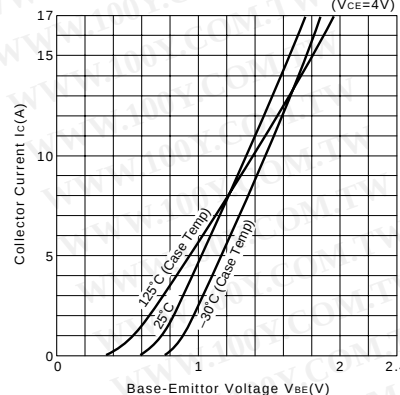
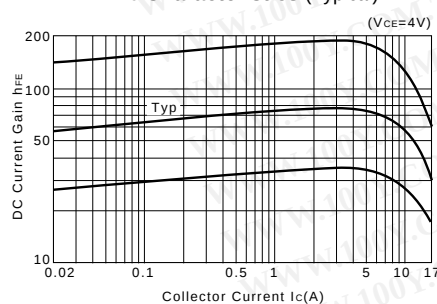
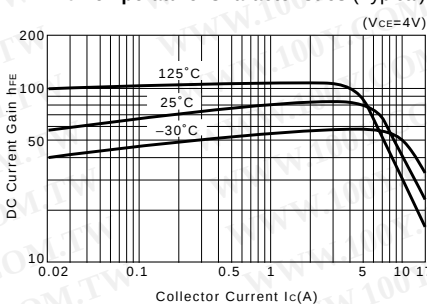
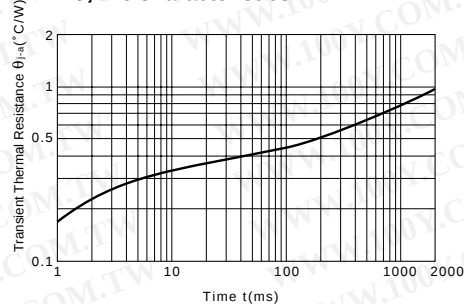
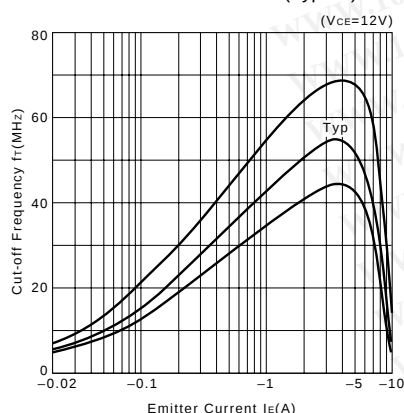
\*h<sub>FE</sub> Rank ○(30 to 60), Y(50 to 100), P(70 to 140), G(90 to 180)

## External Dimensions MT-200

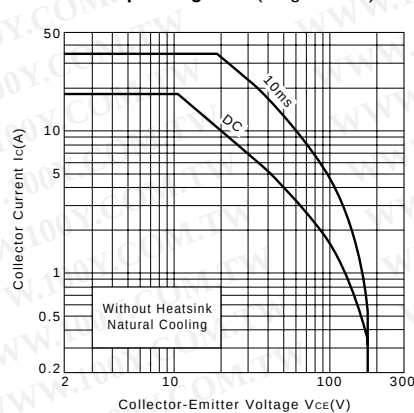


## ■Typical Switching Characteristics (Common Emitter)

| V <sub>CC</sub><br>(V) | R <sub>L</sub><br>(Ω) | I <sub>C</sub><br>(A) | V <sub>B2</sub><br>(V) | I <sub>B1</sub><br>(A) | I <sub>B2</sub><br>(A) | t <sub>on</sub><br>(μs) | t <sub>stg</sub><br>(μs) | t <sub>f</sub><br>(μs) |
|------------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|-------------------------|--------------------------|------------------------|
| 40                     | 4                     | 10                    | -5                     | 1                      | -1                     | 0.2typ                  | 1.3typ                   | 0.45typ                |

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>J-a</sub>-t Characteristicsf<sub>r</sub>-I<sub>E</sub> Characteristics (Typical)

Safe Operating Area (Single Pulse)

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