

# 2SC4381/4382

Silicon NPN Triple Diffused Planar Transistor (Complement to type 2SA1667/1668) Application : TV Vertical Output, Audio Output Driver and General Purpose

■ Absolute maximum ratings (Ta=25°C)

| Symbol           | Ratings                  |         | Unit |
|------------------|--------------------------|---------|------|
|                  | 2SC4381                  | 2SC4382 |      |
| V <sub>CB0</sub> | 150                      | 200     | V    |
| V <sub>CE0</sub> | 150                      | 200     | V    |
| V <sub>EBO</sub> | 6                        |         | V    |
| I <sub>C</sub>   | 2                        |         | A    |
| I <sub>B</sub>   | 1                        |         | A    |
| P <sub>C</sub>   | 25(T <sub>C</sub> =25°C) |         | W    |
| T <sub>J</sub>   | 150                      |         | °C   |
| T <sub>stg</sub> | -55 to +150              |         | °C   |

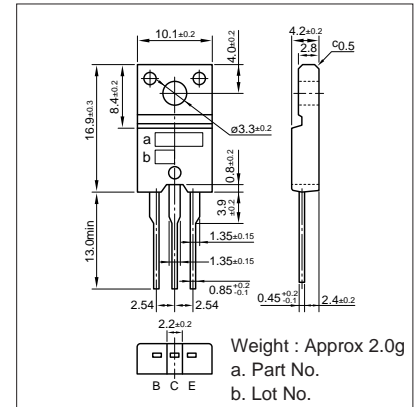
■ Electrical Characteristics (Ta=25°C)

| Symbol               | Conditions                                  | Ratings |         | Unit |
|----------------------|---|---------|---------|------|
|                      |   | 2SC4381 | 2SC4382 |      |
| I <sub>CB0</sub>     | V <sub>CB</sub> =                           | 150     | 200     | μA   |
| I <sub>EBO</sub>     | V <sub>EB</sub> =6V                         | 10max   |         | μA   |
| V <sub>(BR)CEO</sub> | I <sub>C</sub> =25mA                        | 150min  | 200min  | V    |
| h <sub>FE</sub>      | V <sub>CE</sub> =10V, I <sub>C</sub> =0.7A  | 60min   |         |      |
| V <sub>CE(sat)</sub> | I <sub>C</sub> =0.7A, I <sub>B</sub> =0.07A | 1.0max  |         | V    |
| f <sub>T</sub>       | V <sub>CE</sub> =12V, I <sub>E</sub> =-0.2A | 15typ   |         | MHz  |
| COB                  | V <sub>CB</sub> =10V, f=1MHz                | 35typ   |         | pF   |

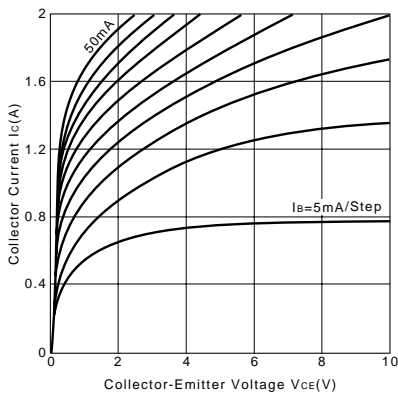
■ Typical Switching Characteristics (Common Emitter)

| V <sub>CC</sub> (V) | R <sub>L</sub> (Ω) | I <sub>C</sub> (A) | V <sub>BB1</sub> (V) | V <sub>BB2</sub> (V) | I <sub>B1</sub> (mA) | I <sub>B2</sub> (mA) | t <sub>on</sub> (μs) | t <sub>stg</sub> (μs) | t <sub>f</sub> (μs) |
|---------------------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|---------------------|
| 20                  | 20                 | 1                  | 10                   | -5                   | 100                  | -100                 | 1.0typ               | 3.0typ                | 1.5typ              |

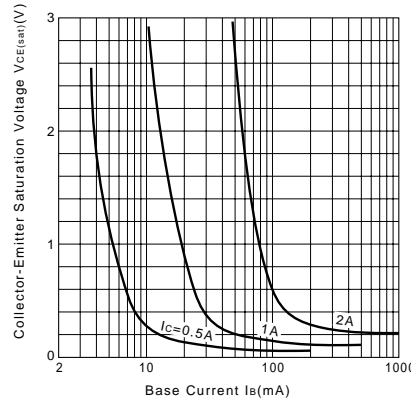
External Dimensions FM20(TO220F)



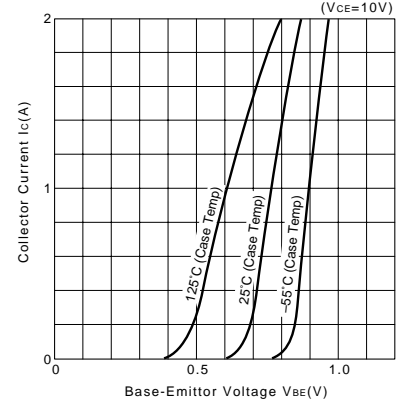
I<sub>C</sub>-V<sub>CE</sub> Characteristics (Typical)



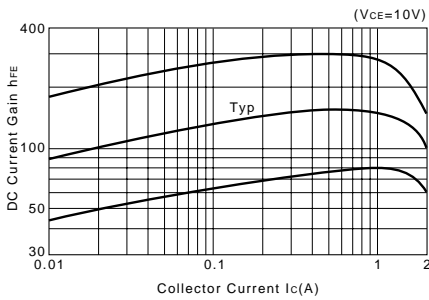
V<sub>CE(sat)</sub>-I<sub>B</sub> Characteristics (Typical)



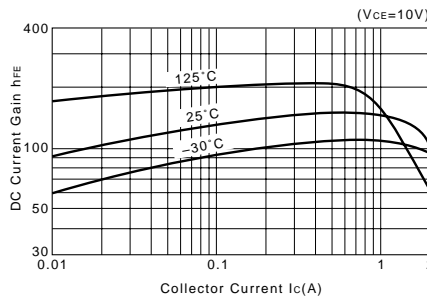
I<sub>C</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)



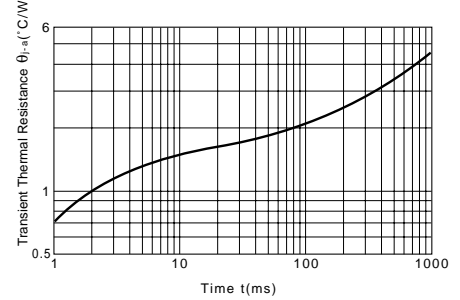
h<sub>FE</sub>-I<sub>C</sub> Characteristics (Typical)



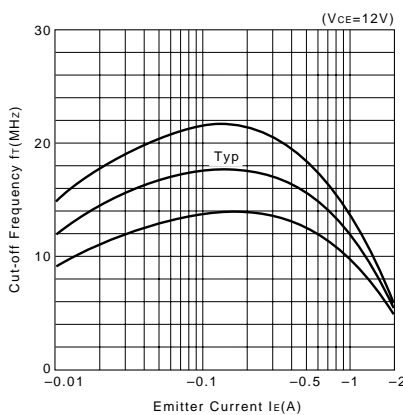
h<sub>FE</sub>-I<sub>C</sub> Temperature Characteristics (Typical)



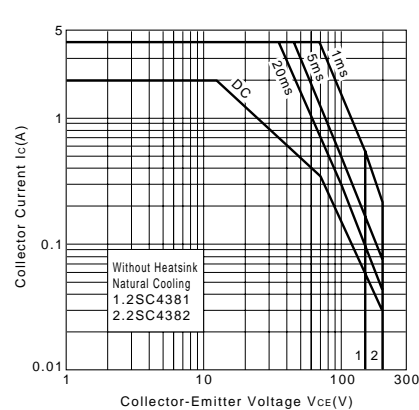
θ<sub>j-a</sub>-t Characteristics



f<sub>T</sub>-I<sub>E</sub> Characteristics (Typical)



Safe Operating Area (Single Pulse)



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

