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# LAPT 2SA1386/1386A

Silicon PNP Epitaxial Planar Transistor (Complement to type 2SC3519/A)

Application : Audio and General Purpose

■ Absolute maximum ratings (Ta=25°C)

| Symbol           | Ratings                   |          | Unit |
|------------------|---------------------------|----------|------|
|                  | 2SA1386                   | 2SA1386A |      |
| V <sub>CB0</sub> | -160                      | -180     | V    |
| V <sub>CE0</sub> | -160                      | -180     | V    |
| V <sub>EB0</sub> | -5                        |          | V    |
| I <sub>c</sub>   | -15                       |          | A    |
| I <sub>b</sub>   | -4                        |          | A    |
| P <sub>c</sub>   | 130(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)

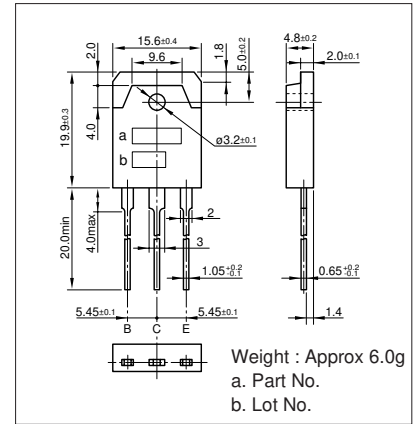
| Symbol               | Conditions                                 | Ratings |          | Unit |
|----------------------|--|---------|----------|------|
|                      |  | 2SA1386 | 2SA1386A |      |
| I <sub>cBO</sub>     | V <sub>CB</sub> =                          | -100max | -100max  | μA   |
| V <sub>EB0</sub>     | V <sub>EB</sub> =-5V                       | -160    | -180     | V    |
| I <sub>EB0</sub>     | V <sub>EB</sub> =-5V                       | -100max |          | μA   |
| V <sub>(BR)CEO</sub> | I <sub>c</sub> =-25mA                      | -160min | -180min  | 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>T</sub>       | V <sub>CE</sub> =-12V, I <sub>E</sub> =2A  | 40typ   |          | MHz  |
| C <sub>OB</sub>      | V <sub>CB</sub> =-10V, f=1MHz              | 500typ  |          | pF   |

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

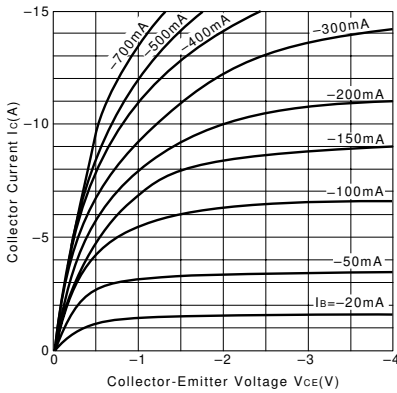
■ Typical Switching Characteristics (Common Emitter)

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

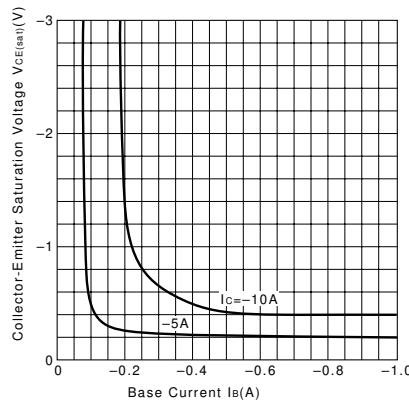
External Dimensions MT-100(TO3P)



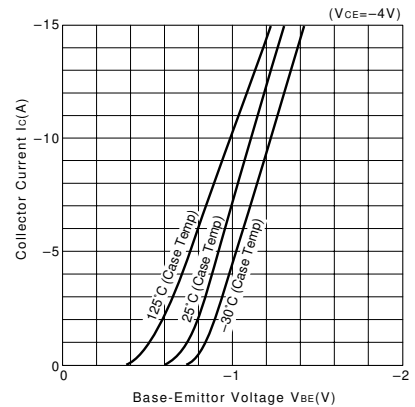
I<sub>c</sub>-V<sub>CE</sub> Characteristics (Typical)



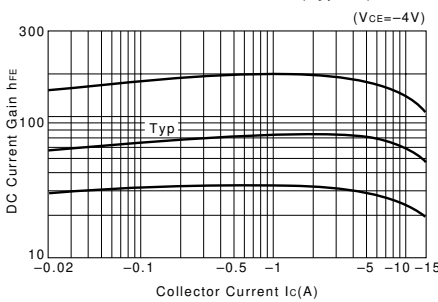
V<sub>CE(sat)</sub>-I<sub>b</sub> Characteristics (Typical)



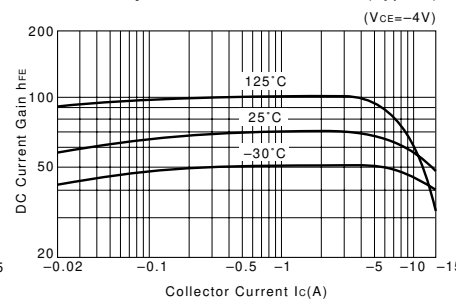
I<sub>c</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)



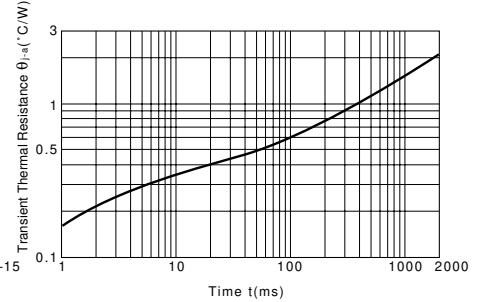
h<sub>FE</sub>-I<sub>c</sub> Characteristics (Typical)



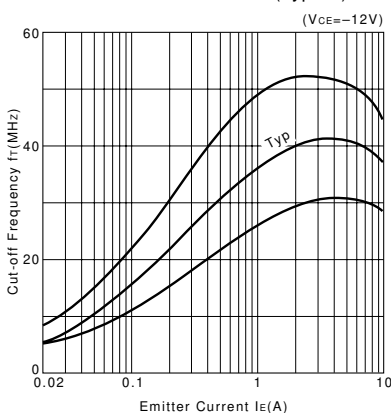
h<sub>FE</sub>-I<sub>c</sub> Temperature Characteristics (Typical)



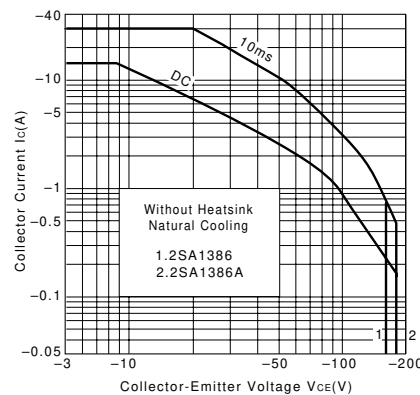
θ<sub>J-a</sub>-t Characteristics



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



Safe Operating Area (Single Pulse)



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

