

### / Descriptions

SOT-23                  NPN                  Silicon NPN transistor in a SOT-23 Plastic Package.

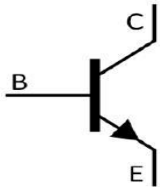
### / Features

$I_C$                   BC807  
 High  $I_C$  ,complementary pair with BC807.

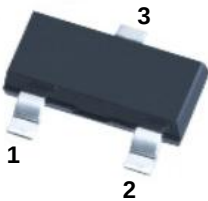
### / Applications

Purpose: General power amplifier and switching application.

### / Equivalent Circuit



### / Pinning



PIN1    Base                  PIN 2    Emitter                  PIN 3    Collector

### / $h_{FE}$ Classifications & Marking

|                                    |            |            |            |
|------------------------------------|------------|------------|------------|
| $h_{FE}$ Classifications<br>Symbol | 16         | 25         | 40         |
| $h_{FE}$ Range                     | 100    250 | 160    400 | 250    600 |
| Marking                            | H6A        | H6B        | H6C        |

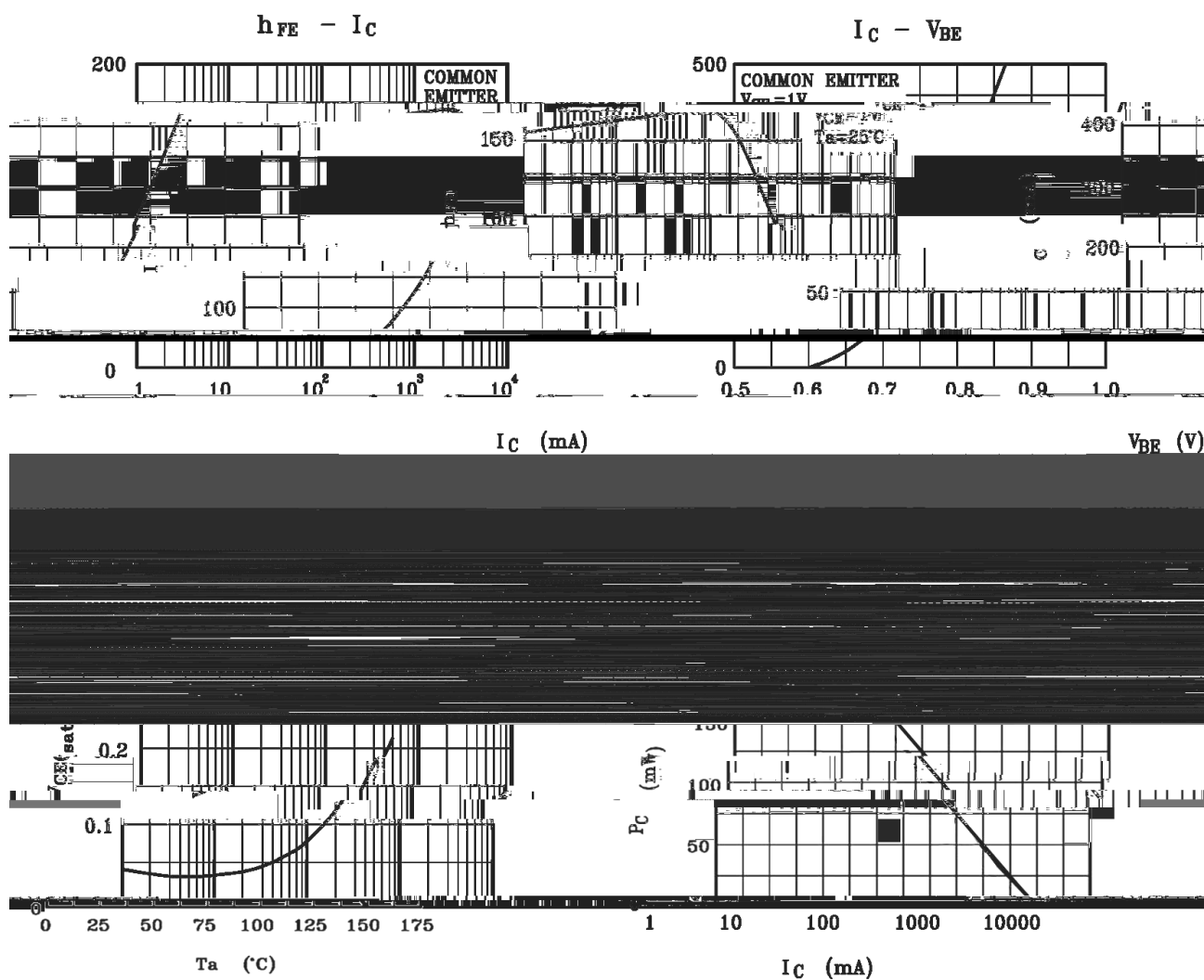
**/ Absolute Maximum Ratings(Ta=25 )**

| Parameter                                  | Symbol    | Rating  | Unit |
|--------------------------------------------|-----------|---------|------|
| Collector to Base Voltage                  | $V_{CBO}$ | 50      | V    |
| Collector to Emitter Voltage               | $V_{CEO}$ | 45      | V    |
| Emitter to Base Voltage                    | $V_{EBO}$ | 5.0     | V    |
| Collector Current - Continuous             | $I_C$     | 500     | mA   |
| Collector Current - peak collector current | $I_{CM}$  | 1.0     | A    |
| Collector Power Dissipation                | $P_C$     | 250     | mW   |
| Junction Temperature                       | $T_j$     | 150     |      |
| Storage Temperature Range                  | $T_{stg}$ | -55 150 |      |

**/ Electrical Characteristics(Ta=25 )**

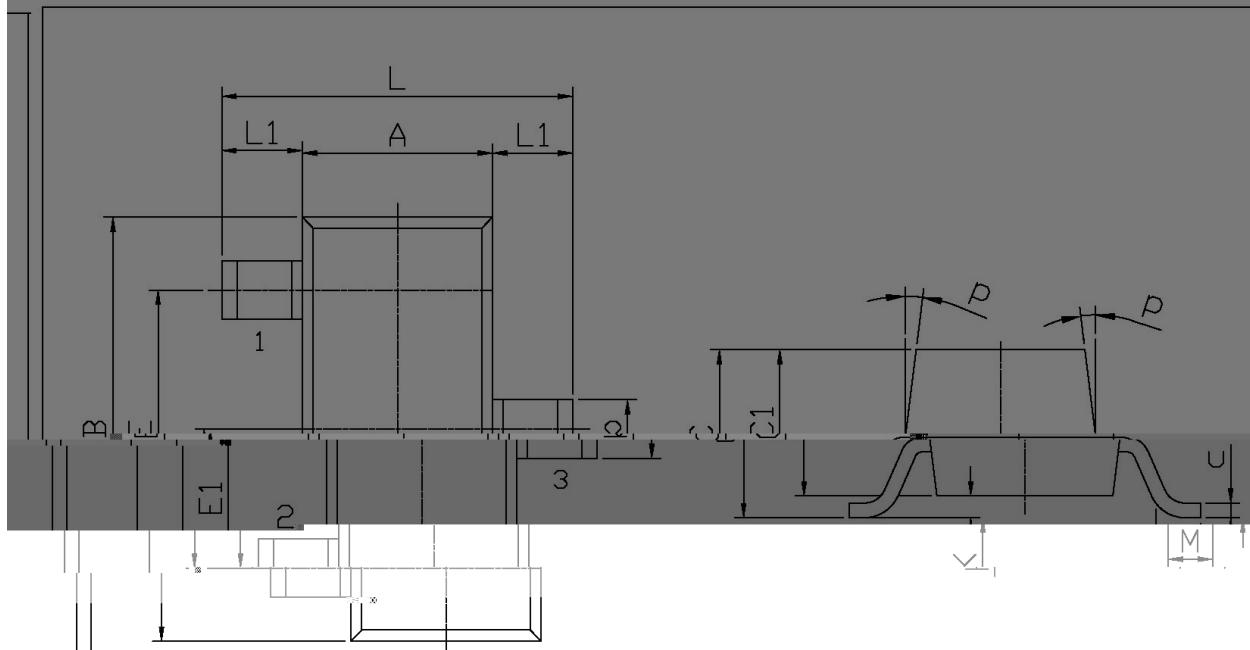
| Parameter                               | Symbol        | Test Conditions                 | Min | Typ | Max | Unit    |
|-----------------------------------------|---------------|---------------------------------|-----|-----|-----|---------|
| Collector to Base Breakdown Voltage     | $V_{CBO}$     | $I_C=10\mu A$ $I_E=0$           | 50  |     |     | V       |
| Collector to Emitter Breakdown Voltage  | $V_{CEO}$     | $I_C=10mA$ $I_B=0$              | 45  |     |     | V       |
| Emitter to Base Breakdown Voltage       | $V_{EBO}$     | $I_E=10\mu A$ $I_C=0$           | 5.0 |     |     | V       |
| Collector Cut-Off Current               | $I_{CBO}$     | $V_{CB}=20V$ $I_E=0$            |     |     | 0.1 | $\mu A$ |
| Emitter Cut-Off Current                 | $I_{EBO}$     | $V_{EB}=5.0V$ $I_E=0$           |     |     | 0.1 | $\mu A$ |
| DC Current Gain                         | $h_{FE(1)}$   | $V_{CE}=1.0V$ $I_C=100mA$       | 100 |     | 600 |         |
|                                         | $h_{FE(2)}$   | $V_{CE}=1.0V$ $I_C=500mA$       | 40  |     |     |         |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=500mA$ $I_B=50mA$          |     |     | 0.7 | V       |
| Base to Emitter Voltage                 | $V_{BE}$      | $V_{CE}=1.0V$ $I_C=500mA$       |     |     | 1.2 | V       |
| Transition Frequency                    | $f_T$         | $V_{CE}=5.0V$ $I_C=10mA$        | 100 |     |     | MHz     |
| Collector Output Capacitance            | $C_{ob}$      | $V_{CB}=10V$ $f=1.0MHz$ $I_E=0$ |     | 5.0 |     | pF      |

/ Electrical Characteristic Curve



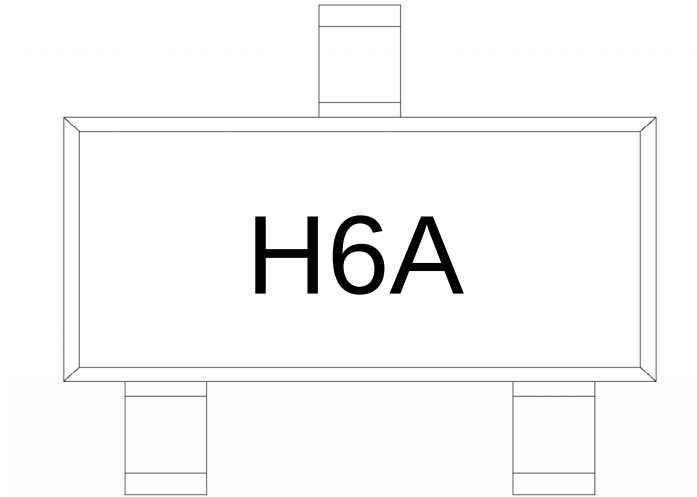
## SPT-23

单位: 



| Dimensions in Millimeters |     |     | Dimensions in Millimeters |      |     |
|---------------------------|-----|-----|---------------------------|------|-----|
| Symbol                    | Min | Max | Symbol                    | Min  | Max |
|                           | 2.2 | 2.7 | C                         | 1.30 | Max |

**/ Marking Instructions**



H

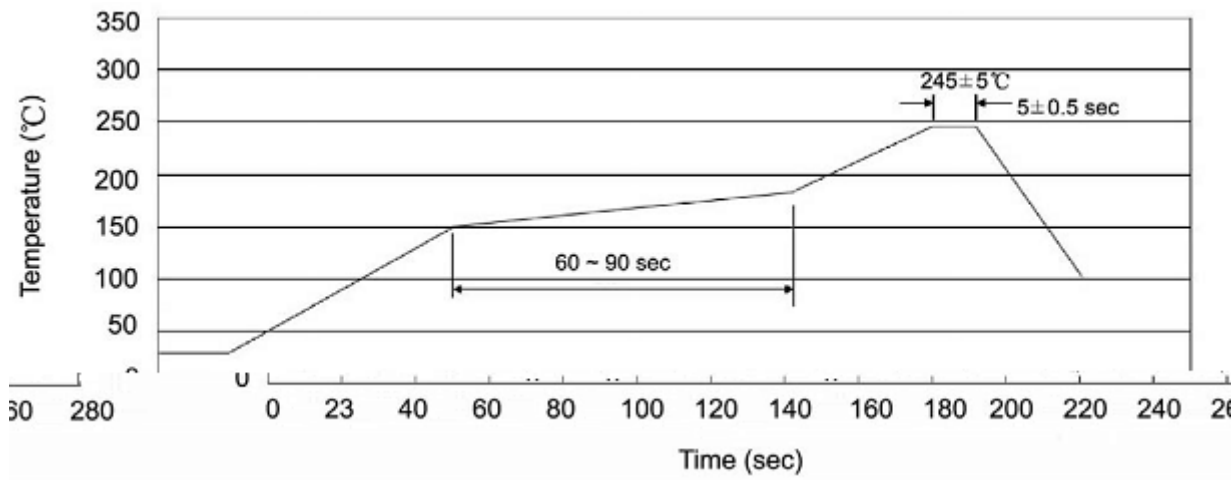
6A

Note:

H:           Company Code

6A:          Product Type Code

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1

25 150

60 90sec;

1.Preheating:25~150 , Time:60~90sec.
- 2

245±5

5±0.5sec;

2.Peak Temp.:245±5 , Duration:5±0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5                      10±1 sec.                      Temp.:260±5                      Time:10±1 sec

/ Packaging SPEC.

/ REEL

| Package Type<br>封装形式 | Units 包装数量         |                         |                        |                              |                        | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |             |             |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|-----------------------------------------|-------------|-------------|
|                      | Units/Reel<br>只/卷盘 | Reels/Inner Box<br>卷盘/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Reel                                    | Inner Box 盒 | Outer Box 箱 |
| SOT-23               | 3,000              | 10                      | 30,000                 | 6                            | 180,000                | 7 ×8                                    | 180×120×180 | 390×385×205 |

/ Notices