

# BC807

Rev.F Apr.-2017

## / Descriptions

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

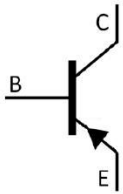
## / Features

$I_C$           BC817  
High  $I_C$ , complementary pair with BC817.

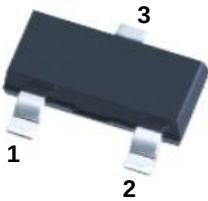
## / Applications

General power amplifier and switching applications

## / 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                            | H5A     | H5B     | H5C     |

## / 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   |
| Peak Collector Current - Continuous | $I_{CM}$  | -1.0    | A    |
| Power Dissipation                   | $P_C$     | 250     | mW   |
| Junction Temperature                | $T_j$     | 150     |      |
| Storage Temperature Range           | $T_{stg}$ | -55~150 |      |

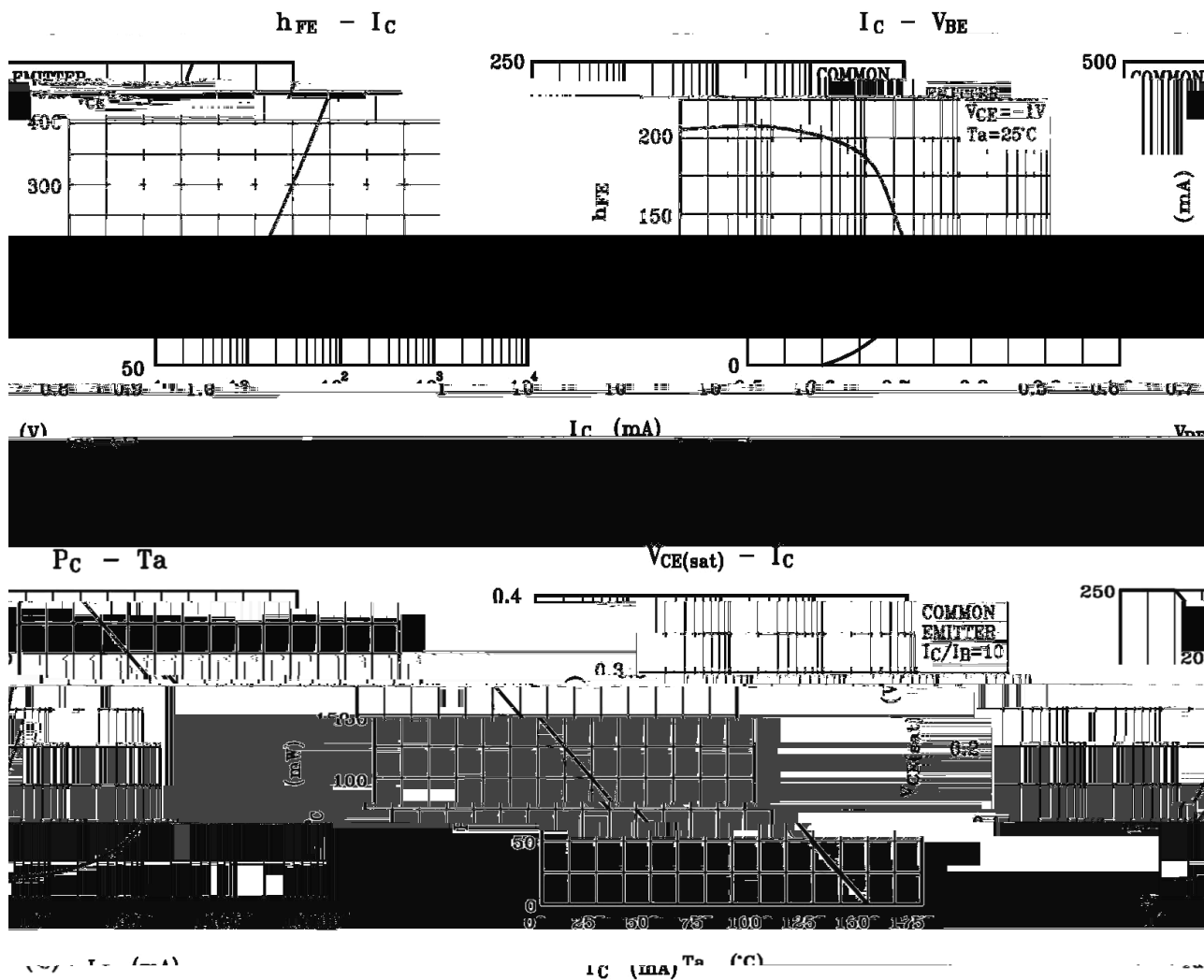
## / Electrical Characteristics(Ta=25 )

| 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                 | $I_{EBO}$     | $V_{EB} = -5.0V$ $I_C = 0$             |      |     | -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                    | $f_T$         | $V_{CE} = -5V$ $I_C = -10mA$           | 80   |     |      | MHz     |
| Collector Output Capacitance            | $C_{ob}$      | $V_{CB} = -10V$ $f = 1.0MHz$ $I_E = 0$ |      | 9.0 |      | pF      |

\*  $\leq 300\mu S$   $\leq 2.0\%$

\*pulse test: pulse width $\leq 300\mu S$ , duty cycle $\leq 2.0\%$ .

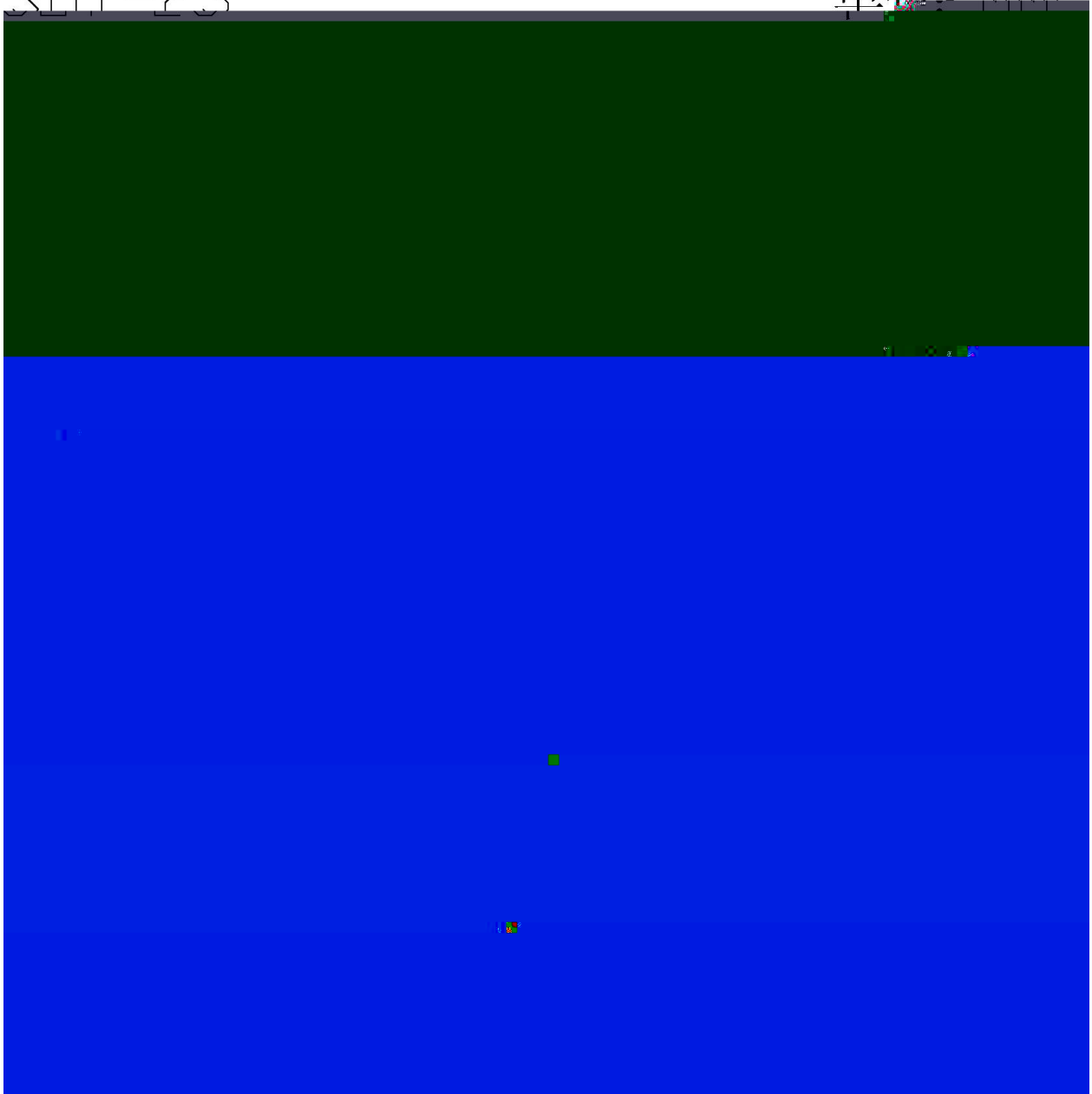
/ Electrical Characteristic Curve



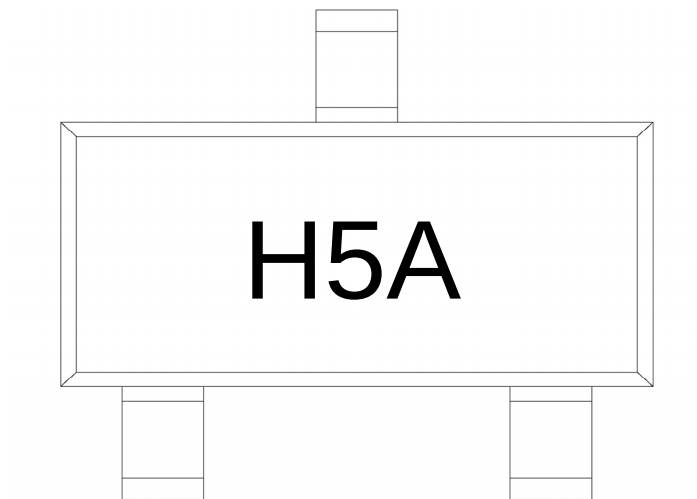
/ Package Dimensions

SOT-23

单位: mm



**/ Marking Instructions**



H

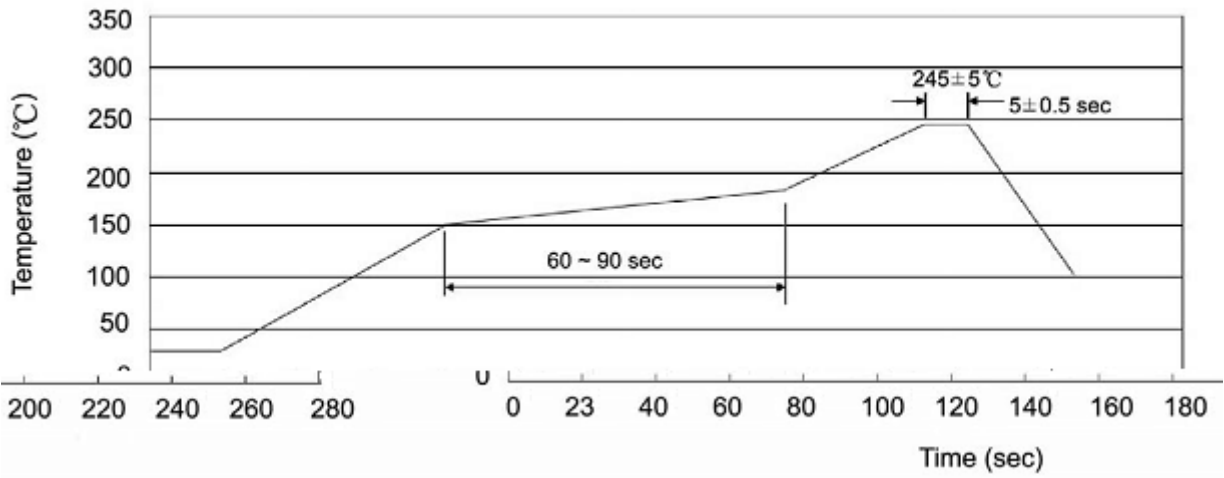
5A

Note:

H: Company Code.

5A: 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" x8                                   | 180×120×180 | 390×385×205 |

/ Notices