

## / Descriptions

SOT-89

NPN

Silicon NPN transistor in a SOT-89 Plastic Package.

## / Features

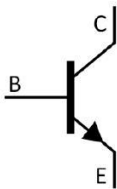
, BC869

Low voltage, high current, Complementary to BC869.

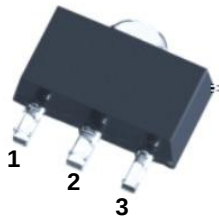
## / Applications

General purpose switching and amplification, such as audio output stages.

### / Equivalent Circuit



## / Pinning



|      |      |       |           |       |         |
|------|------|-------|-----------|-------|---------|
| PIN1 | Base | PIN 2 | Collector | PIN 3 | Emitter |
|------|------|-------|-----------|-------|---------|

## / Marking

|         |      |
|---------|------|
| Marking | HCAC |
|---------|------|

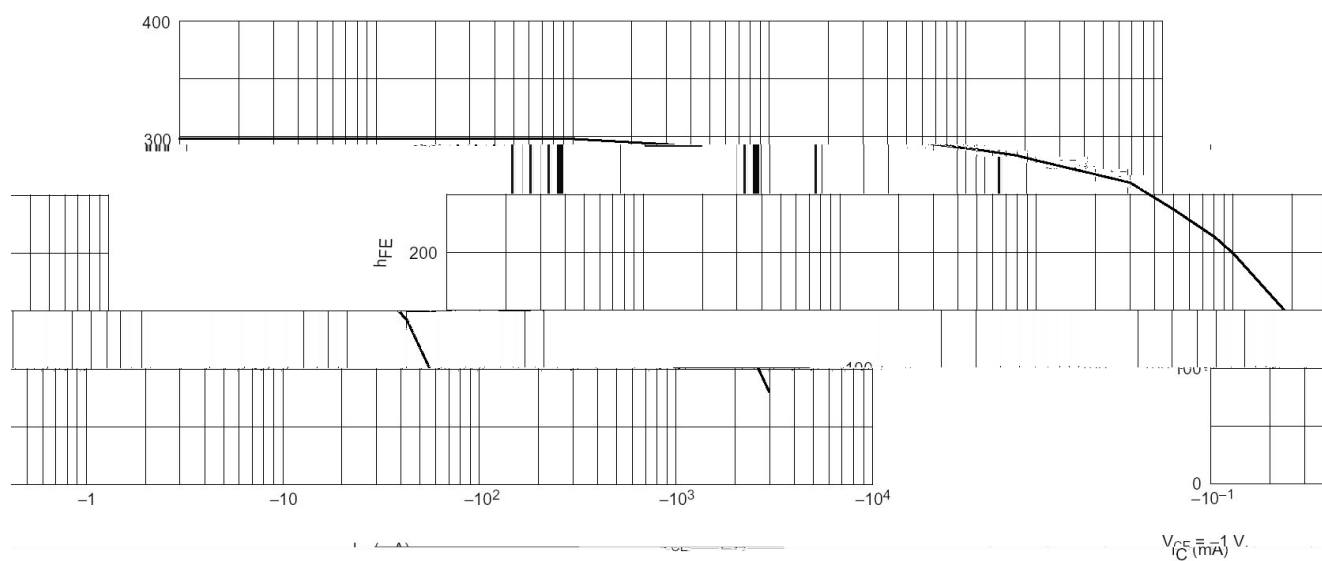
**/ Absolute Maximum Ratings(Ta=25 )**

| Parameter                    | Symbol    | Rating  | Unit |
|------------------------------|-----------|---------|------|
| Collector to Base Voltage    | $V_{CBO}$ | 32      | V    |
| Collector to Emitter Voltage | $V_{CEO}$ | 20      | V    |
| Emitter to Base Voltage      | $V_{EBO}$ | 5.0     | V    |
| Collector Current-Continuous | $I_C$     | 1.0     | A    |
| Peak Collector Current       | $I_{CM}$  | 2.0     | A    |
| Peak Base Current            | $I_{BM}$  | 200     | mA   |
| Collector Power Dissipation  | $P_C$     | 1.35    | W    |
| 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 Cut-Off Current               | $I_{CBO}$     | $V_{CB}=25V$ $I_E=0$                |     |     | 0.1 | $\mu A$ |
| Emitter Base Cut-Off Current            | $I_{EBO}$     | $V_{EB}=5.0V$ $I_C=0$               |     |     | 0.1 | $\mu A$ |
| DC Current Gain                         | $h_{FE(1)}$   | $V_{CE}=1.0V$ $I_C=500mA$           | 85  |     | 375 |         |
|                                         | $h_{FE(2)}$   | $V_{CE}=10V$ $I_C=5.0mA$            | 50  |     |     |         |
|                                         | $h_{FE(3)}$   | $V_{CE}=1.0V$ $I_C=1.0A$            | 60  |     |     |         |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=1.0A$ $I_B=100mA$              |     |     | 500 | mV      |
| Base to Emitter Voltage                 | $V_{BE(1)}$   | $V_{CE}=10V$ $I_C=5.0mA$            |     | 620 |     | mV      |
|                                         | $V_{BE(2)}$   | $V_{CE}=1.0V$ $I_C=1.0A$            |     |     | 1.0 | V       |
| Transition Frequency                    | $f_T$         | $V_{CE}=5.0V$ $I_C=10mA$ $f=100MHz$ | 40  |     |     | MHz     |

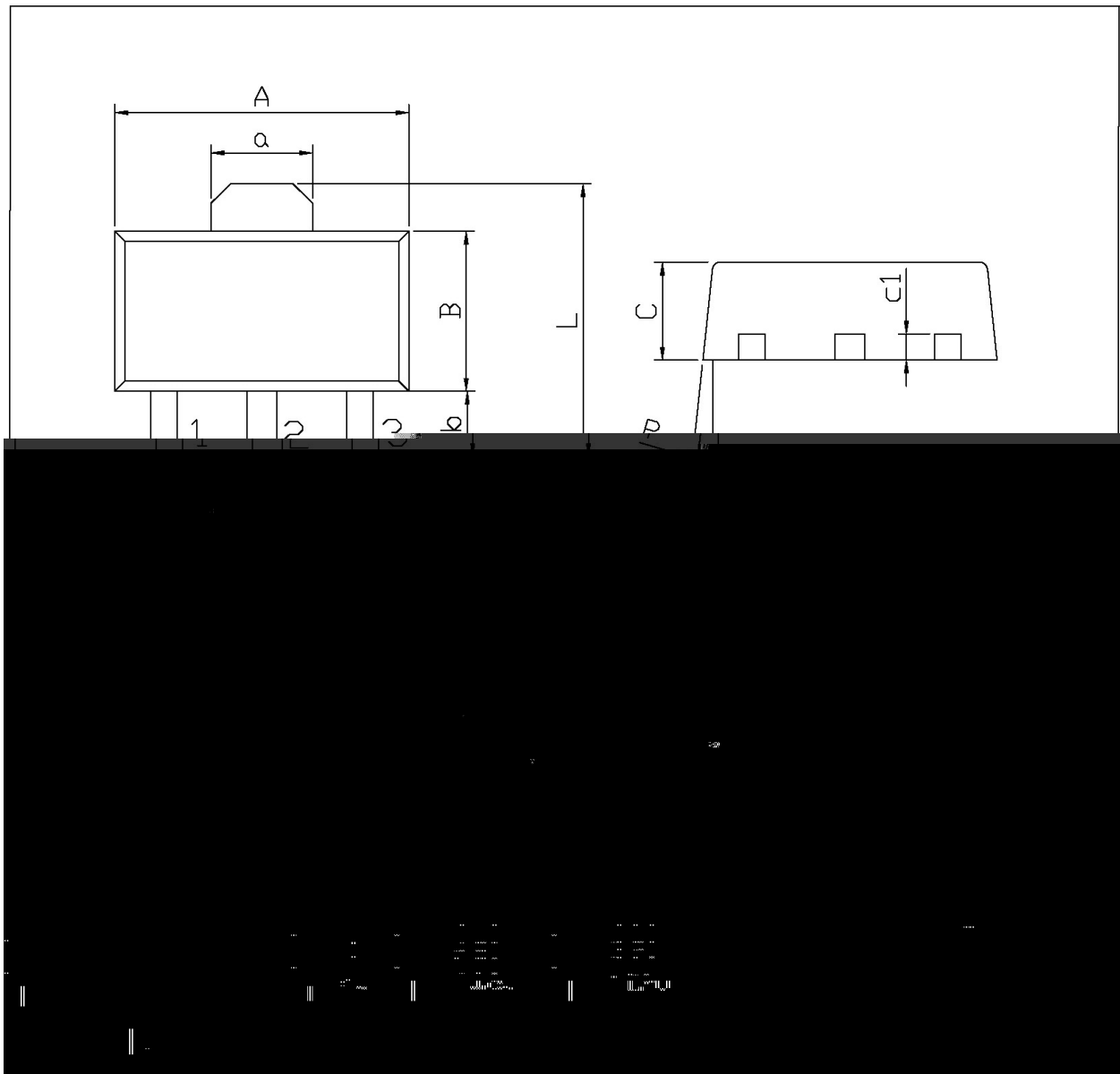
/ Electrical Characteristic Curve



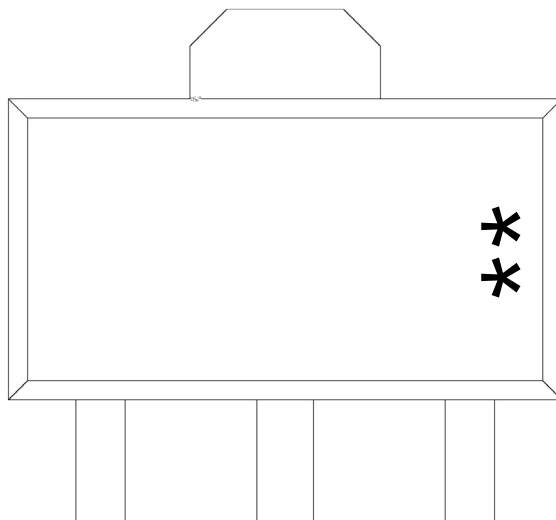
/ Package Dimensions

SOT-89

单位: mm



/ Marking Instructions



H

CAC

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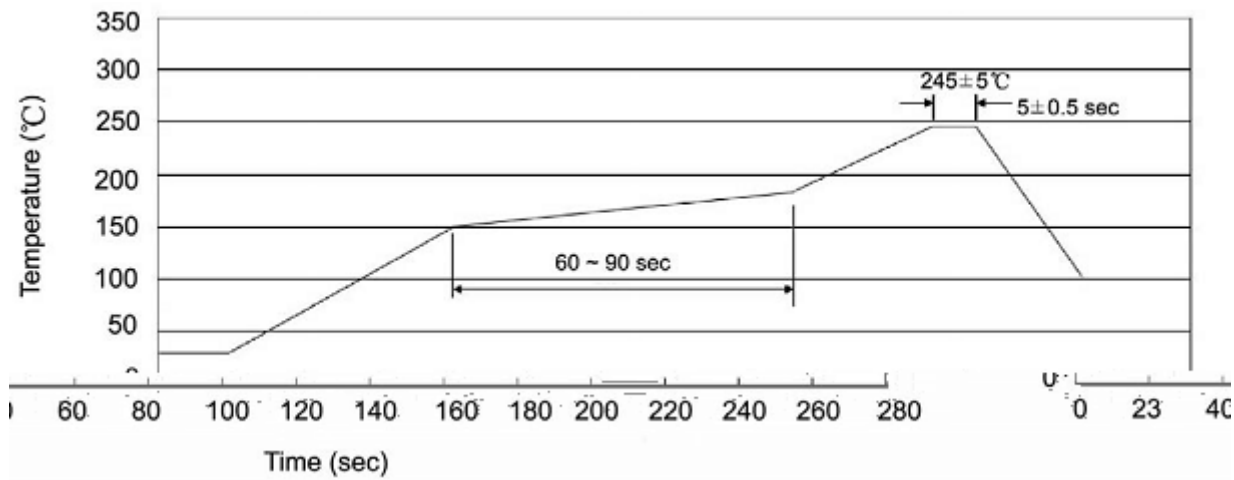
Note:

H: Company Code.

CAC: Product Type.

\*\*: Lot No. Code, code change with Lot No.

( ) /



Note:

- 1

25 150

60 90sec;
- 2

245±5

5±0.5sec;
- 3

2 10 /sec.
- 1.Preheating:25~150

, Time:60~90sec.
- 2.Peak Temp.:245±5

, Duration:5±0.5sec.
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-89               | 1,000              | 7                       | 7,000                  | 8                            | 56,000                 | 7 ×12                                   | 180×120×180 | 385×257×392 |

/ Notices