

# BC846

Rev.F Apr.-2017

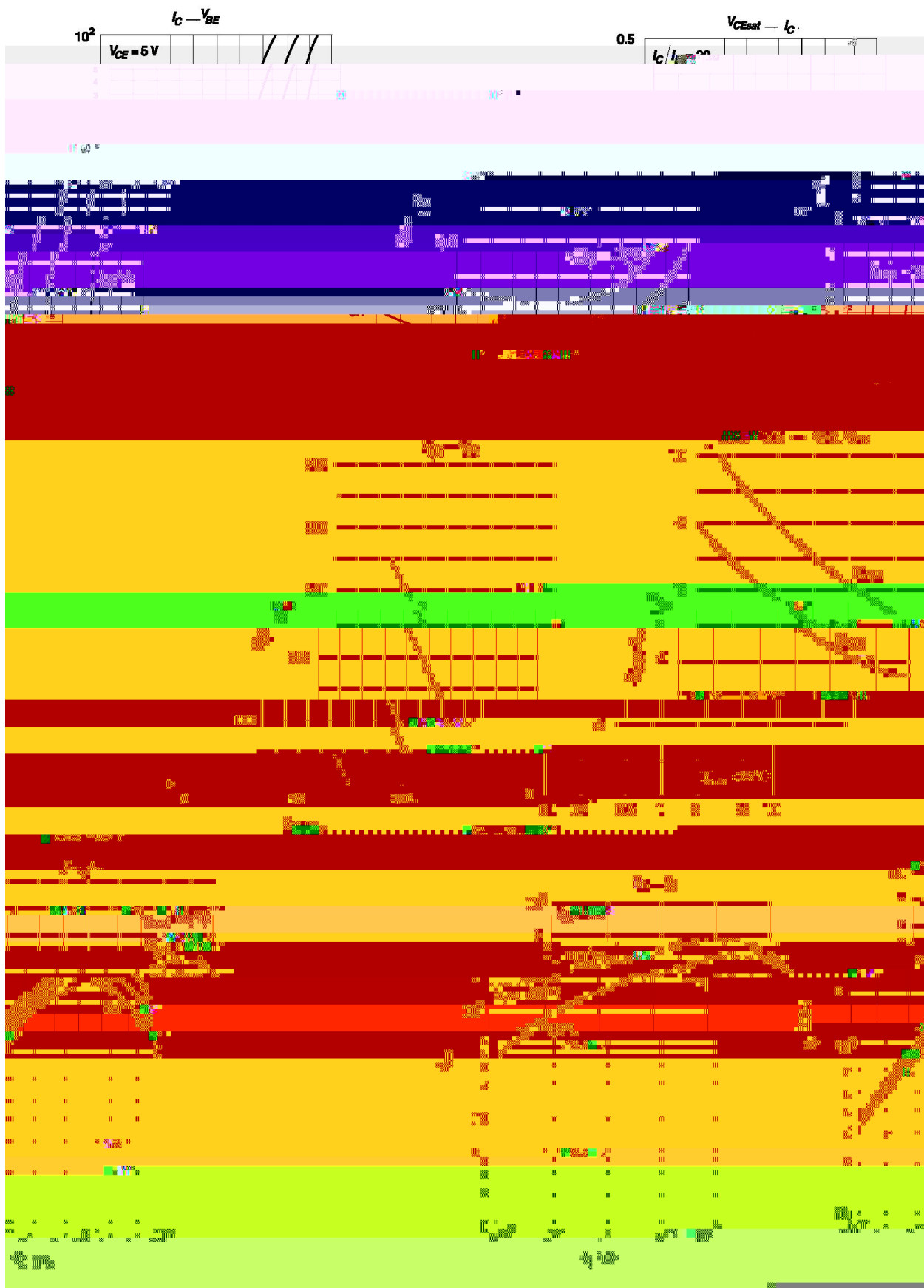
SOT-23

NPN

| Parameter                      | Symbol    | Rating  | Unit |
|--------------------------------|-----------|---------|------|
| Collector to Base Voltage      | $V_{CBO}$ | 80      | V    |
| Collector to Emitter Voltage   | $V_{CEO}$ | 65      | V    |
| Emitter to Base Voltage        | $V_{EBO}$ | 6.0     | V    |
| Collector Current - Continuous | $I_C$     | 100     | mA   |
| Collector Power Dissipation    | $P_C$     | 350     | mW   |
| Junction Temperature           | $T_j$     | 150     |      |
| Storage Temperature Range      | $T_{stg}$ | -55 150 |      |

| Parameter                               | Symbol           | Test Conditions                     | Min  | Typ  | Max   | Unit    |
|-----------------------------------------|------------------|-------------------------------------|------|------|-------|---------|
| Collector Cut-Off Current               | $I_{CBO}$        | $V_{CB}=30V$ $I_E=0$                |      |      | 0.015 | $\mu A$ |
| DC Current Gain                         | $h_{FE}$         | $V_{CE}=5.0V$ $I_C=2.0mA$           | 110  |      | 450   |         |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)(1)}$ | $I_C=10mA$ $I_B=0.5mA$              |      | 0.09 | 0.25  | V       |
|                                         | $V_{CE(sat)(2)}$ | $I_C=100mA$ $I_B=5.0mA$             |      | 0.2  | 0.6   | V       |
| Base to Emitter Saturation Voltage      | $V_{BE(sat)(1)}$ | $I_C=10mA$ $I_B=0.5mA$              |      | 0.7  |       | V       |
|                                         | $V_{BE(sat)(2)}$ | $I_C=100mA$ $I_B=5.0mA$             |      | 0.9  |       | V       |
| Base to Emitter Voltage                 | $V_{BE(1)}$      | $V_{CE}=5.0V$ $I_C=2.0mA$           | 0.58 |      | 0.7   | V       |
|                                         | $V_{BE(2)}$      | $V_{CE}=5.0V$ $I_C=10mA$            |      |      | 0.75  | V       |
| Transition Frequency                    | $f_T$            | $V_{CE}=5.0V$ $f=100MHz$ $I_C=10mA$ |      | 300  |       | MHz     |
| Collector Output Capacitance            | $C_{ob}$         | $V_{CB}=10V$ $I_E=0$ $f=1.0MHz$     |      | 2.5  | 4.5   | pF      |

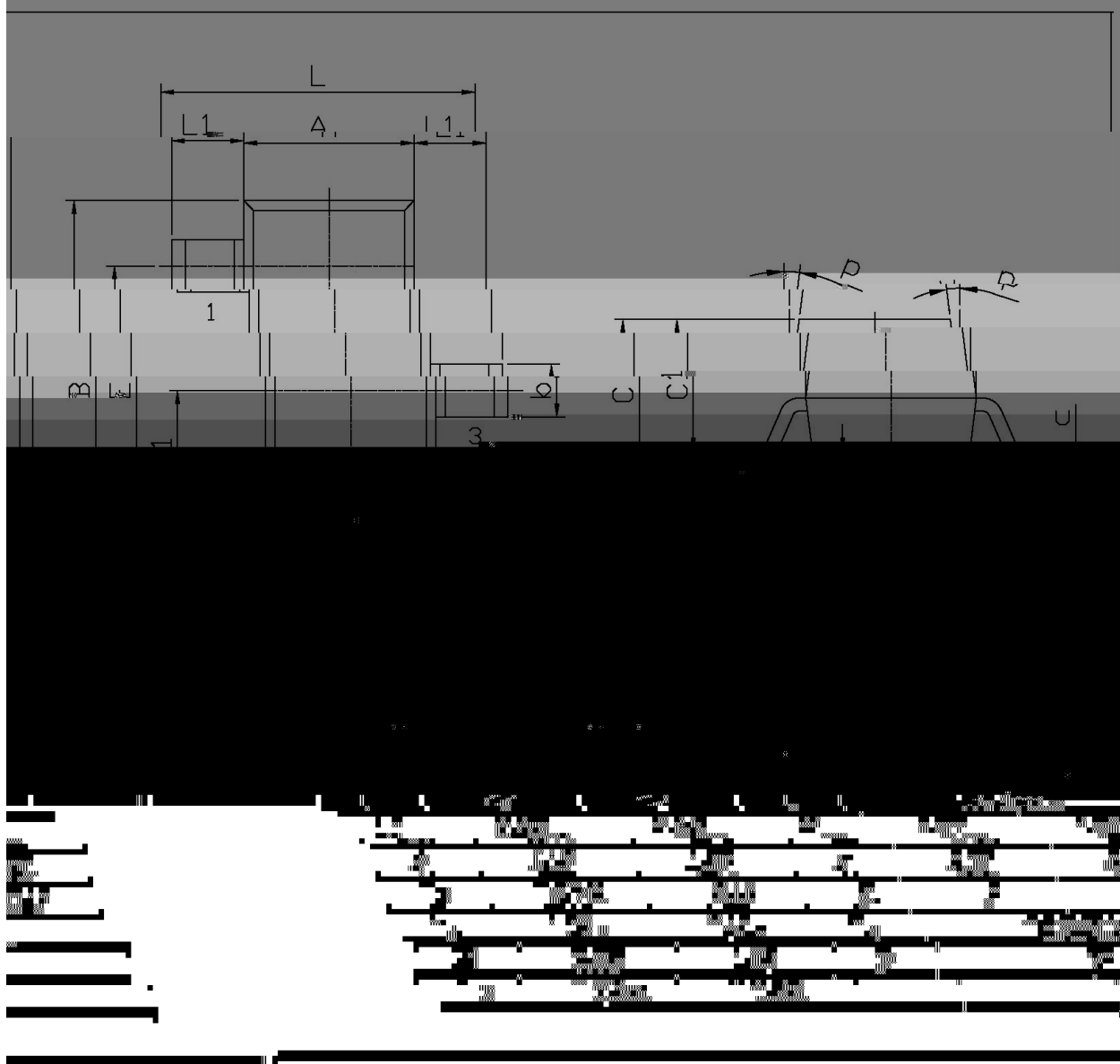
/ Electrical Characteristic Curve



/ Package Dimensions

SOT-23

单位: mm

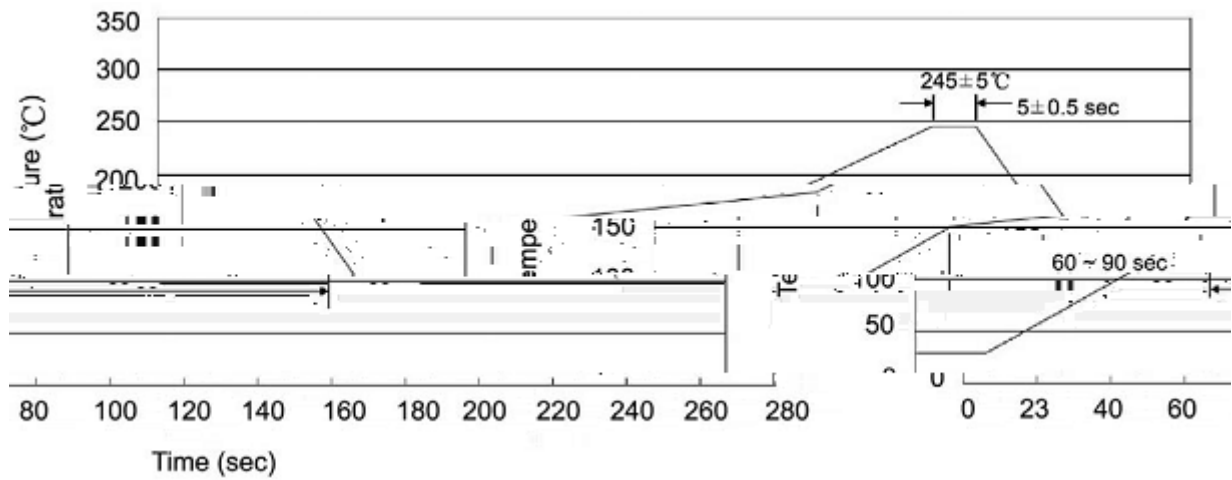


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**DATA SHEET**

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



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-23               | 3,000              | 10                      | 30,000                 | 6                            | 180,000                | 7 ρ ×8                                  | 180×120×180 | 390×385×205 |