# RECOMMENDED SOLDERING CONDITIONS 推薦焊接條件

## ☐ For Chip Type 適用於貼片式

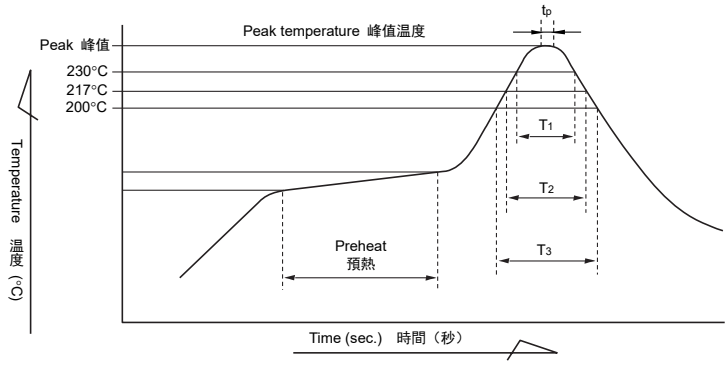
### ■ Recommended Soldering Heat Conditions 推薦焊接溫度條件

**Soldering method**
Reflow soldering condition:
The following temperature profile condition should be observed for soldering.
Product temperature will rise slower as the product size gets bigger. It is not necessary to adjust the reflow furnace temperature setting according to the product size, for example, ∅4 and ∅10 products can be mixed on one PCB for reflowing.

**Soldering precautions**
1) Elements related to the reflow soldering temperature:
Product size: The temperature rises slower as the size gets bigger.
Product location: The center part of the PCB tends to have a lower temperature than the PCB edges.
PCB size: The PCB temperature rises slower as the area and/or thickness of the PCB gets greater.
2) Repeated reflowing:
Avoid reflowing twice if possible.
If repeated reflowing is unavoidable, contact us after measuring the first and the second reflow profiles and reflow interval at your side.
Do not attempt to reflow three times.

**焊錫方法**
回流焊條件：
焊接時應遵守使用的溫度條件，如使用較高的溫度時，請量測並告知電容溫度及回流焊條件。
製品尺寸越大其溫度的上升速度會變慢，無需根據製品尺寸調整回流焊錫爐的溫度。
例如：∅4 與∅10 的製品，可以一起在一個 PC 板上過錫爐。

**焊錫注意事項**
1) 回流焊接溫度的相關因素：
製品尺寸：製品尺寸越大，其溫度上升越慢。
製品安裝位置：PC 板中心的溫度較 PC 板邊緣溫度低。
PC 板尺寸：PC 板的面積或/和厚度較大，PC 板的溫度上升越慢。
2) 反復回流焊：
如果可以，避免回流焊 2 次。
如果反復回流不可避免，請量測並告知第一次與第二次的回流溫度，以及回流焊的時間。
請勿 3 次回流焊。




T1: Duration for over +230°C at capacitor surface.
T2: Duration for over +217°C at capacitor surface.
T3: Duration for over +200°C at capacitor surface.

The temperature measuring point is at the case top.

T1: 電容器表面溫度持續超過 +230°C 的時間。
T2: 電容器表面溫度持續超過 +217°C 的時間。
T3: 電容器表面溫度持續超過 +200°C 的時間。

溫度測量點：鋁殼頂部

### ■ Classified at Temperature and Time 溫度和時間分類

| Type 製品別 | Size (mm) 製品尺寸 | Voltage range ($V_{dc}$) 電壓範圍 | Preheat 預熱 | Peak temperature 峰值溫度 | T1 Duration over 持續超過 230°C | T2 Duration over 持續超過 217°C | T3 Duration over 持續超過 200°C | tp Time 時間 | Reflow number 回流焊次數 |
|---|---|---|---|---|---|---|---|---|---|
| Chip Type Aluminum Electrolytic Capacitors 貼片式鋁電解電容器 | ∅4~∅6.3 | 4~50V | 150~180°C 120sec. Max. (120 秒以內) | 255°C Max. | 60sec. Max. | 90sec. Max. | — | 5sec. | ≤2 cycles 最多 2 次 |
| | ∅4~∅6.3 | ≥63V | | 250°C Max. | 60sec. Max. | 60sec. Max. | — | | |
| | ∅8~∅18 | 4~100V | | 250°C Max. | 60sec. Max. | 60sec. Max. | — | | |
| | ≥∅12.5 | ≥160V | | 240°C Max. | 40sec. Max. | 40sec. Max. | — | | |
| Chip Type Conductive Polymer Aluminum Solid Electrolytic Capacitors 貼片式導電性高分子固態鋁電解電容器 | ∅5~∅10 | — | 150~180°C 120sec. Max. (120 秒以內) | 250°C Max. | 40sec. Max. | — | 60sec. Max. | 5sec. | 2 cycles 2 次 |
| | | | | 260°C Max. | 40sec. Max. | — | 60sec. Max. | | 1 cycle 1 次 |
| Chip Type Conductive Polymer Hybrid Aluminum Electrolytic Capacitors 貼片式導電性高分子混合型鋁電解電容器 | ∅6.3 | — | 150~180°C 120sec. Max. (120 秒以內) | 260°C Max. | 30sec. Max. | 40sec. Max. | 70sec. Max. | 5sec. | 2 cycles 2 次 |
| | ∅8~∅10 | — | | 260°C Max. | 30sec. Max. | 40sec. Max. | 70sec. Max. | | 1 cycle 1 次 |
| | | | | 245°C Max. | 30sec. Max. | 40sec. Max. | 70sec. Max. | | 2 cycles 2 次 |

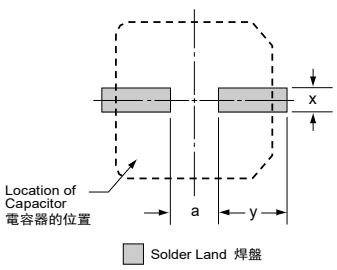
- Please ensure that the capacitor became cold enough to the room temperature (5~35°C) before the second reflow.
- Please contact us if your condition is over the maximum.
- 必須確保電容器的溫度已經完全冷卻至室溫（5~35°C）後方可進行第 2 次回流焊。
- 如使用條件超出最大值，請與我們聯繫。

## ☐ For Radial Lead & Snap-in Terminal Type 適用於引線式與導箔式

### ■ Recommended Soldering Heat Conditions 推薦焊接溫度條件

- Preheat: 150°C 120 seconds max. (Radial lead type).
- Flow: 260±5°C max. 10±1 seconds max. (or 380±10°C max. 3±0.5 seconds max.: hand soldering).
- 預熱：150°C，120 秒以內（引線式）。
- 波峰焊：260±5°C 以內，10±1 秒以內（或 380±10°C，3±0.5 秒以內：手工焊）。

### ■ Recommended Solder Land Size on PC Board 推薦焊盤尺寸 (Unit: mm)




| Size 製品尺寸 | a | y | x |
|---|---|---|---|
| ∅4 | 1.0 | 2.6 | 1.6 |
| ∅5 | 1.4 | 3.0 | 1.6 |
| ∅6.3 | 1.9 | 3.5 | 1.6 |
| ∅8 × 6.2 | 2.1 | 4.0 | 1.6 |
| ∅8 × 10.5 | 3.0 | 3.5 | 2.5 |
| ∅10 | 4.0 | 4.0 | 2.5 |
| ∅12.5 | 4.0 | 6.0 | 3.2 |
| ∅16 | 6.0 | 7.0 | 3.2 |
| ∅18 | 6.0 | 8.0 | 3.2 |

**Note:** All design and specifications are for reference only and is subject to change without prior notice. If any doubt about safety for your application, please contact us immediately for technical assistance before purchase.
**注：**以上所提供的設計及特性參數僅供參考，任何修改不作預先通知。如果在使用上有疑問，請在採購前與我們聯繫，以便提供技術上的協助。