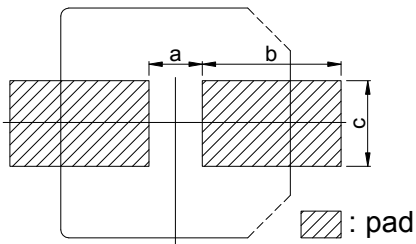


Soldering Profile of SMD Type

● Recommended Land Pattern and Size



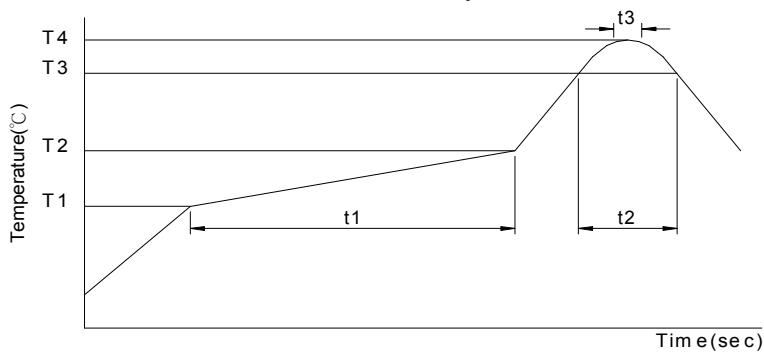
Unit: mm

Case size	Land size			Case size	Land size		
	a	b	c		a	b	c
4φ	1.0	2.6	1.6	10φ	4.0	4.0	2.5
5φ	1.4	3.0	1.6	12.5φ	4.0	6.0	3.2
6.3φ	1.9	3.5	1.6	16φ	6.0	7.0	3.2
8φ	3.0	3.5	2.5	18φ	6.0	8.0	3.2

● Recommended Soldering Methods

Method	Reflow soldering	Soldering iron	Flow soldering
Advisability	Recommended	Recommended	Not Recommended

● Reflow Profile for Pb-free Assembly



● Test Conditions

Type	SMD Type						
W. V. (V)	4 ~ 50		63 up		4 ~ 100		160 up
Case size (φ)	4 ~ 6.3		4 ~ 6.3		8 ~ 18		12.5 up
Preheat	Temp. (T1 ~ T2°C)	150 ~ 180					
	Time(t1) (Max, Sec)	100					
Duration	Temp. (T3, °C)	217	230	217	217	230	217
	Time(t2) (Max, Sec)	90	60	60	60	40	40
Peak	Temp (T4, °C)	260		250		240	
	Time (t3, Sec)	5					
Reflow cycles	2 or less						

- * Please contact our representative if your condition is higher.
- * Please ensure that the capacitor became cold enough to the room temperature (5 ~ 35°C) before the second reflow.
- * Consult with us when performing reflow profile in IPC / JEDEC (J-STD-020)

(1) Method is as follows.

Reflow soldering condition.
The following temperature profile condition should be observed for soldering. (For higher temperature, please contact us after measuring the capacitor's product temperature profile at your side.
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, φ4 and φ10 products can be mixed on one PCB for reflowing.

(2) Soldering precautions

- 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.
- 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.
- Soldering with soldering iron observe the following conditions.
 - * The iron tip temperature: 350 ± 5°C
 - * Soldering time: 3 +1 / -0 seconds.