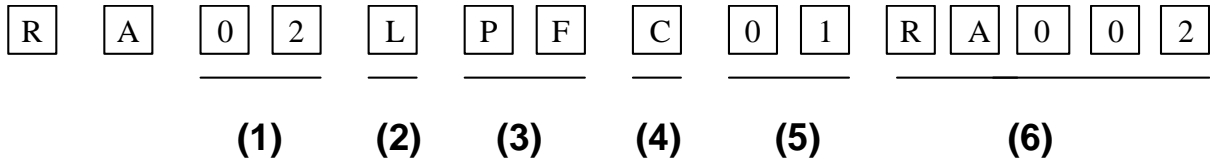


ISM Band 915/868MHz Chip Antenna

1. Explanation of Product Number



✂ The direction of white dot forwards to feed point

Product Code:

- (1) Dimensions:
02: 12.5x2.5x0.9(mm)
- (2) Polarization:
L: linear polarization
- (3) Product categories:
PF: polymer substrate
- (4) Working frequency:
C: 915/868MHz
- (5) Applications::
01: ISM band system
- (6) Antenna series:
RA002: serial number

Tolerances (Unless otherwise specified) X : ± 1 X.X : ± 0.1 X.XX : ± 0.01 Angle : ± Hole Dia. : ±		RIFO Technologies Corporation Website: www.rifo.com.tw		
Scale :	Unit : mm	THIS SPECIFICATION IS THE PROPERTY OF RIFO TECHNOLOGIES CORPORATION AND SHALL NOT BE REPRODUCED OR USED IN ALL CIRCUMSTANCES WITHOUT WRITTEN PERMISSION		
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Designed By : Jason	Approved By : Allen			
TITLE : ISM Band 915/868MHz Chip Antenna		DOCUMENT NO.	RA02LPFC01RA002	REV. A

2. Features

- *Stable and reliable in performances
- *Compact size
- *RoHS compliance
- *Low temperature coefficient of frequency
- *SMD type

3. Applications

- *ISM Band system

4. Description

RIFO's chip antenna series are specially designed for 915/868MHz band application. Based on RIFO's proprietary designs and processes, this chip antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

5. Electrical Specifications

No	Item	SPEC.	Unit
1	Dimensions (LxWxH)	12.5*2.5*0.9	mm
2	Operating Frequency Range	915/868	MHz
3	VSWR	2 max.	
4	Impedance	50	Ω
5	Polarization	Linear	
6	Peak gain	0.5	dBi
7	Bandwidth(typ.)	17	MHz
8	Pattern	Omni-directional	

*The antenna performance is measured on 93*55mm test Board.

*Center frequency will be offset to operating frequency according to the conditions of user's ground plane and radome.

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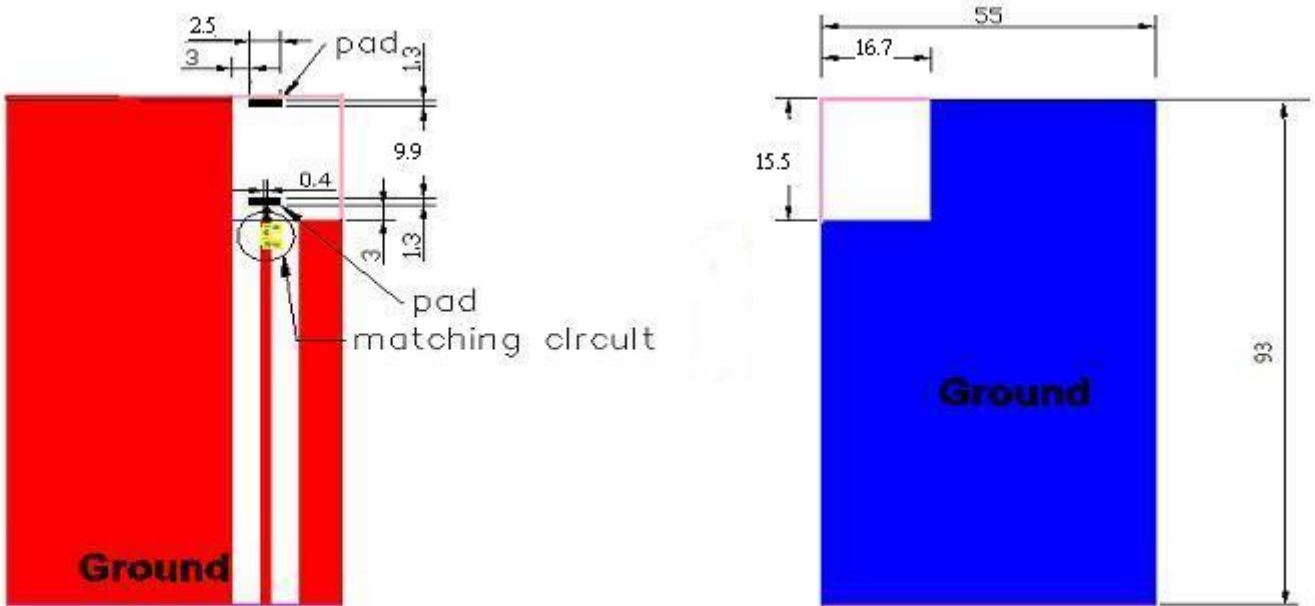
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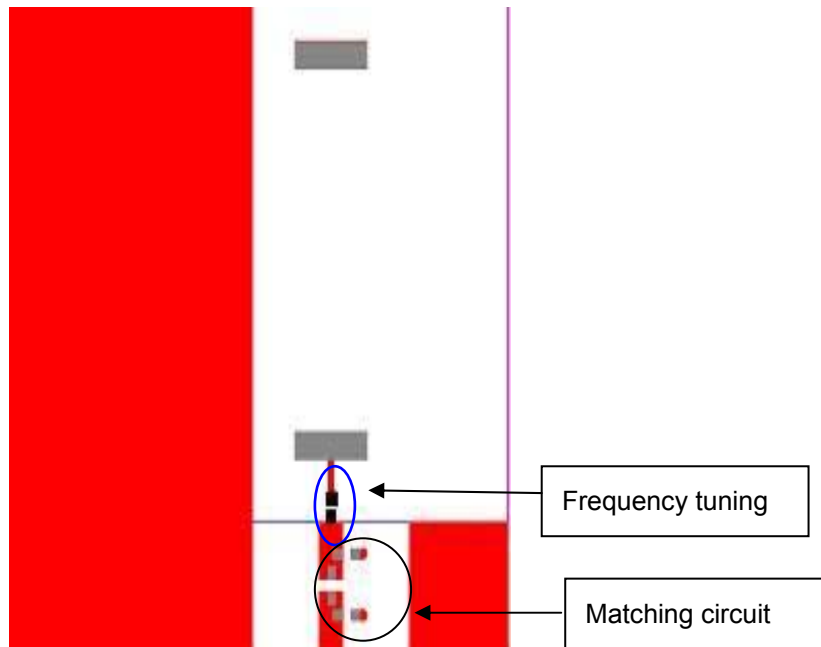
6. Layout Guide

6.1 Test Board Dimension



※ Test Board size is 93*55mm

6.2 PCB Design Guide



Tolerances (Unless otherwise specified)

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Angle : \pm Hole Dia. : \pm

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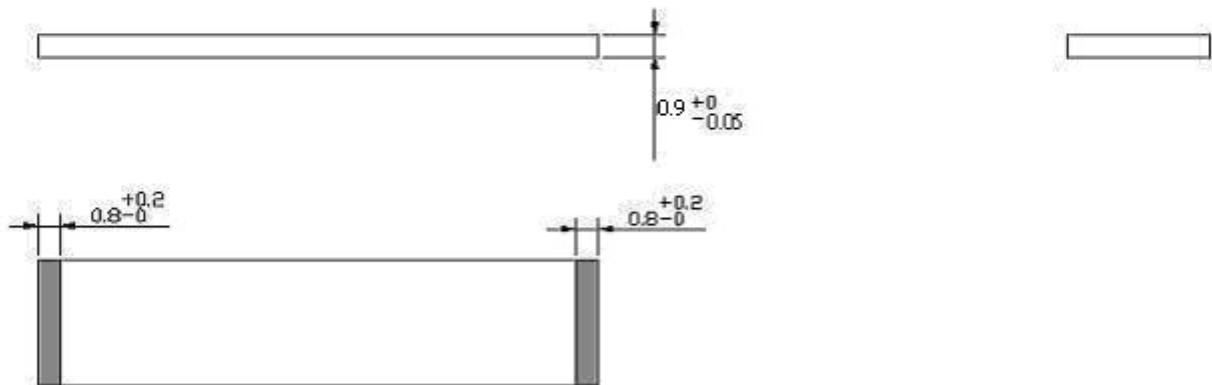
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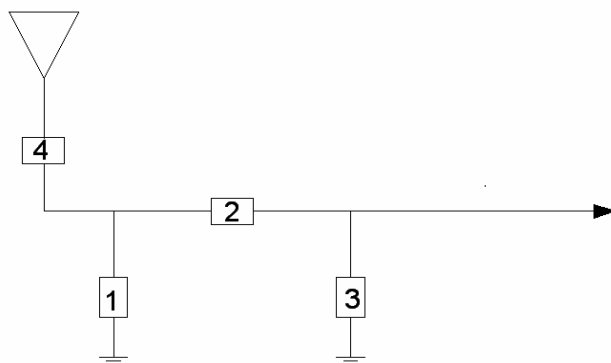
7. Antenna Dimensions (unit: mm)



8. Measurement Result

8.1 Matching circuit for 915MHz

Antenna



System Matching Circuit Component		
Location	Description	Vendor
1	NA	(0402)
2	8.2pF	YAGEO(0402)
3	4.7nH	DARFON(0402)
4	0 ohm	(0402)

Tolerances (Unless otherwise specified)

X : ± 1 X.X : ± 0.1 X.XX : ± 0.01

Angle : \pm Hole Dia. : \pm



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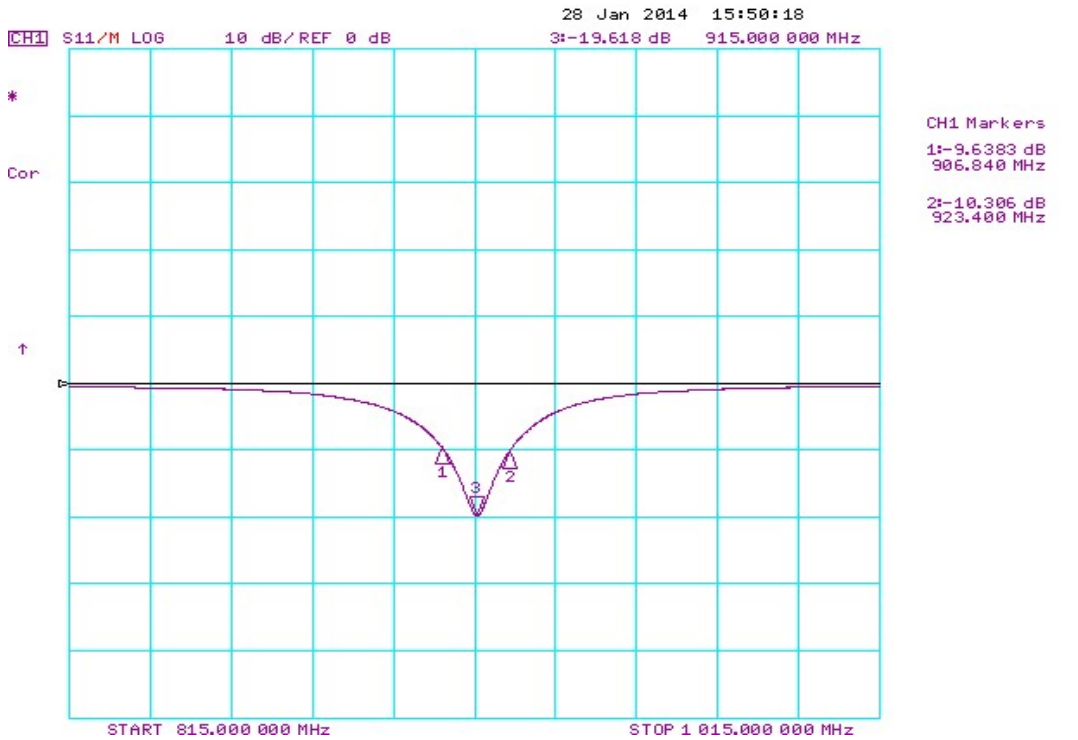
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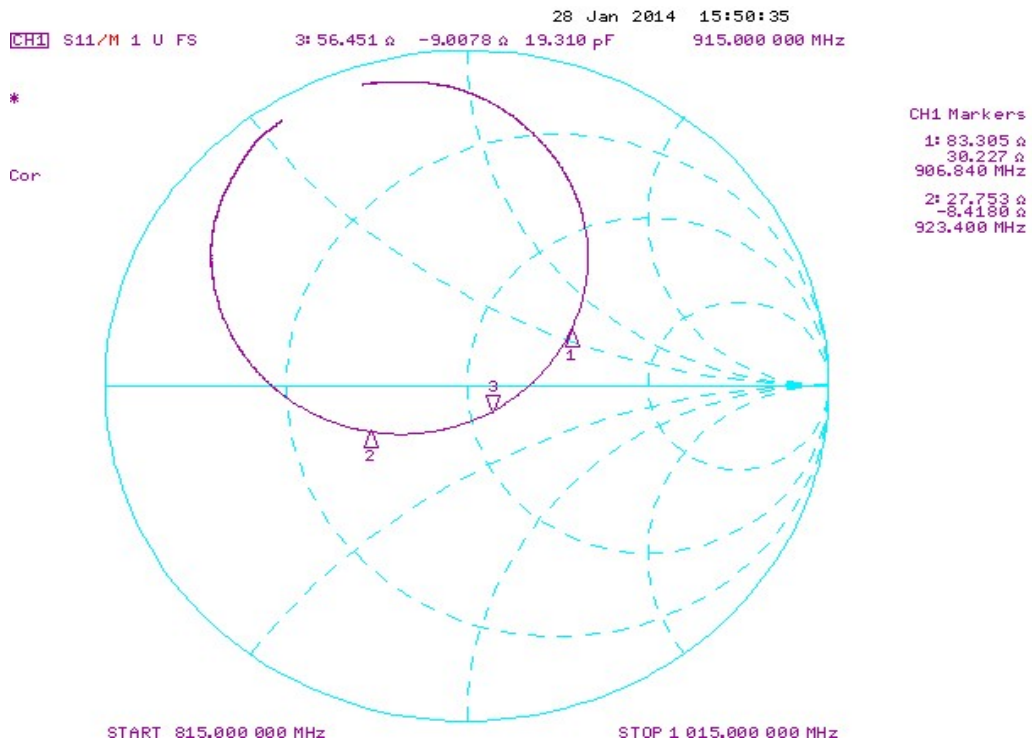
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(a) Return Loss (S11 / VSWR)



(b) Smith Chart Loss (S11 / VSWR)



Tolerances (Unless otherwise specified)	
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Angle : ±	Hole Dia. : ±
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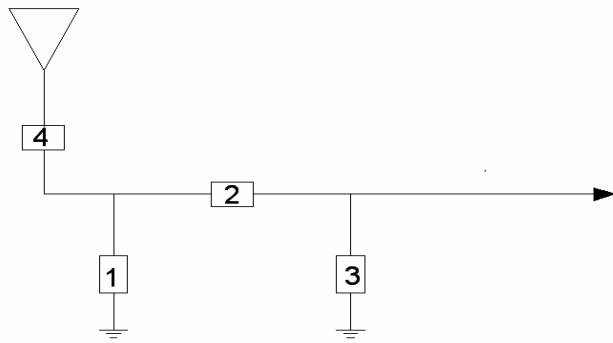
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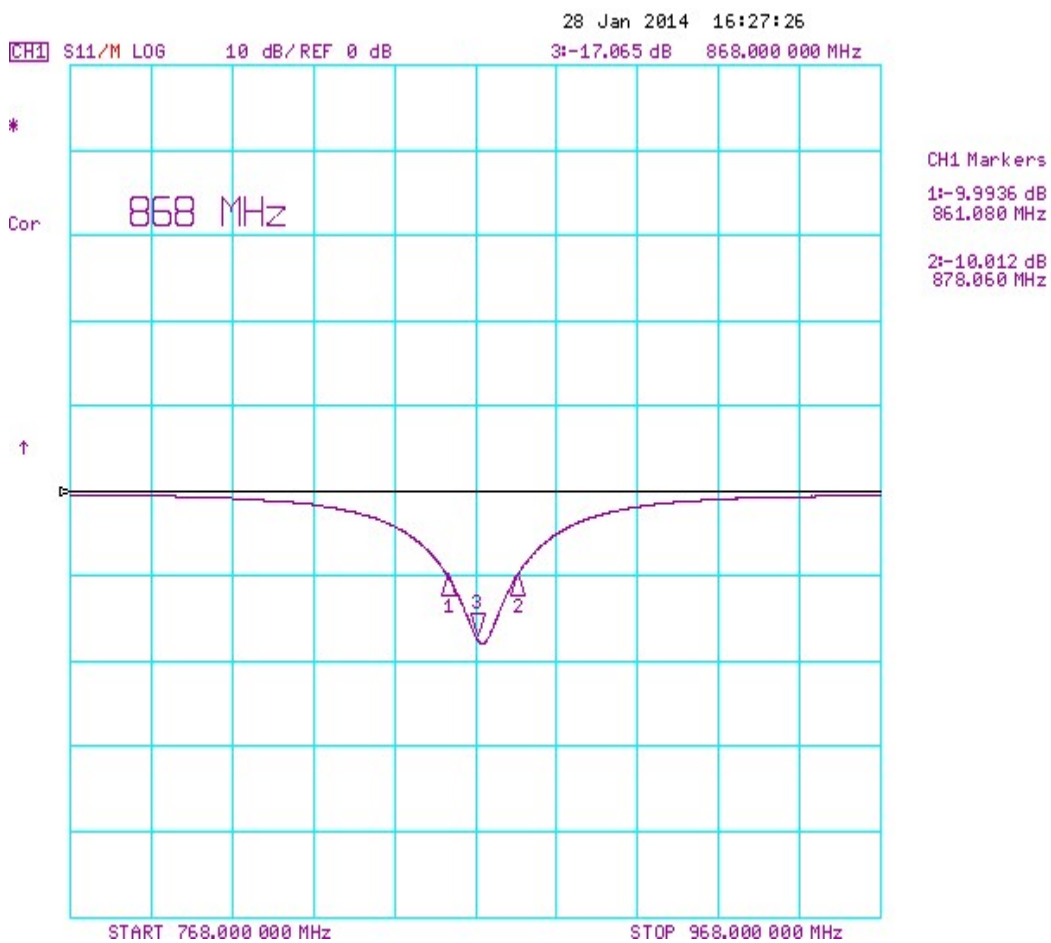
8.2 Matching circuit for 868MHz

Antenna



System Matching Circuit Component		
Location	Description	Vendor
1	5.6nH	DARFON(0402)-
2	2.0pF	YAGEO (0402)
3	NA	(0402)
4	0 ohm	(0402)

(a) Return Loss (S11 / VSWR)



Tolerances (Unless otherwise specified)

X : ± 1 X.X : ± 0.1 X.XX : ± 0.01

Angle : ± Hole Dia. : ±

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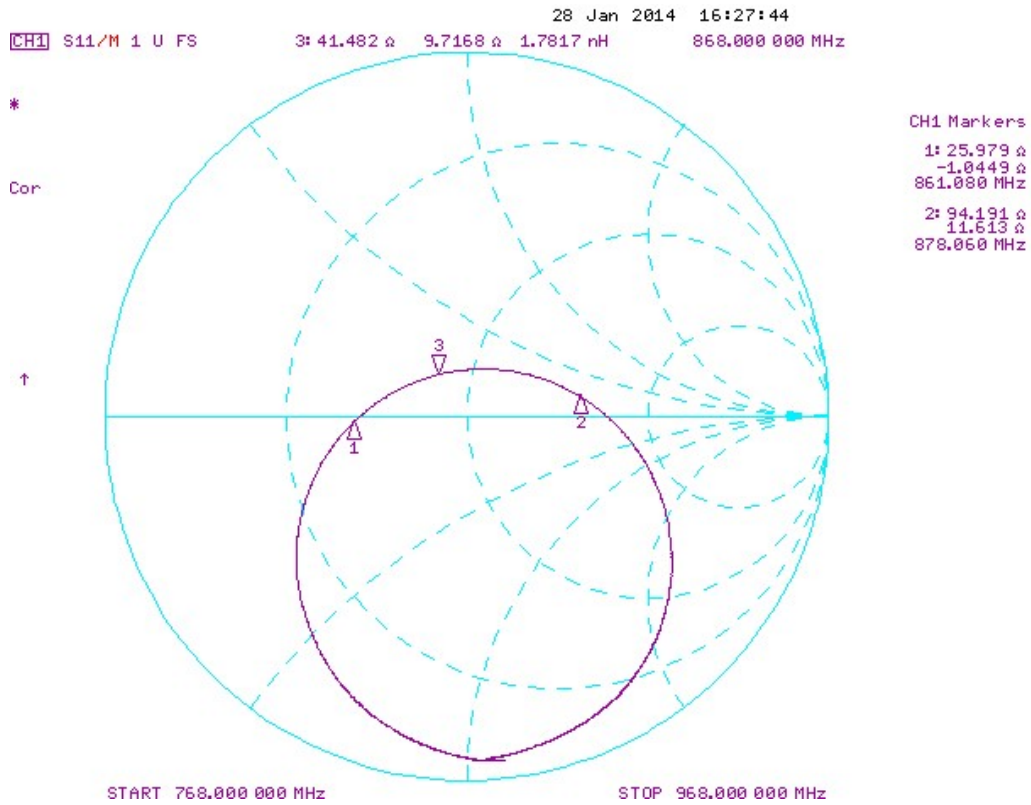
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(b) Smith Chart Loss (S11 / VSWR)



Tolerances (Unless otherwise specified)

X : ± 1 X.X : ± 0.1 X.XX : ± 0.01

Angle : \pm Hole Dia. : \pm

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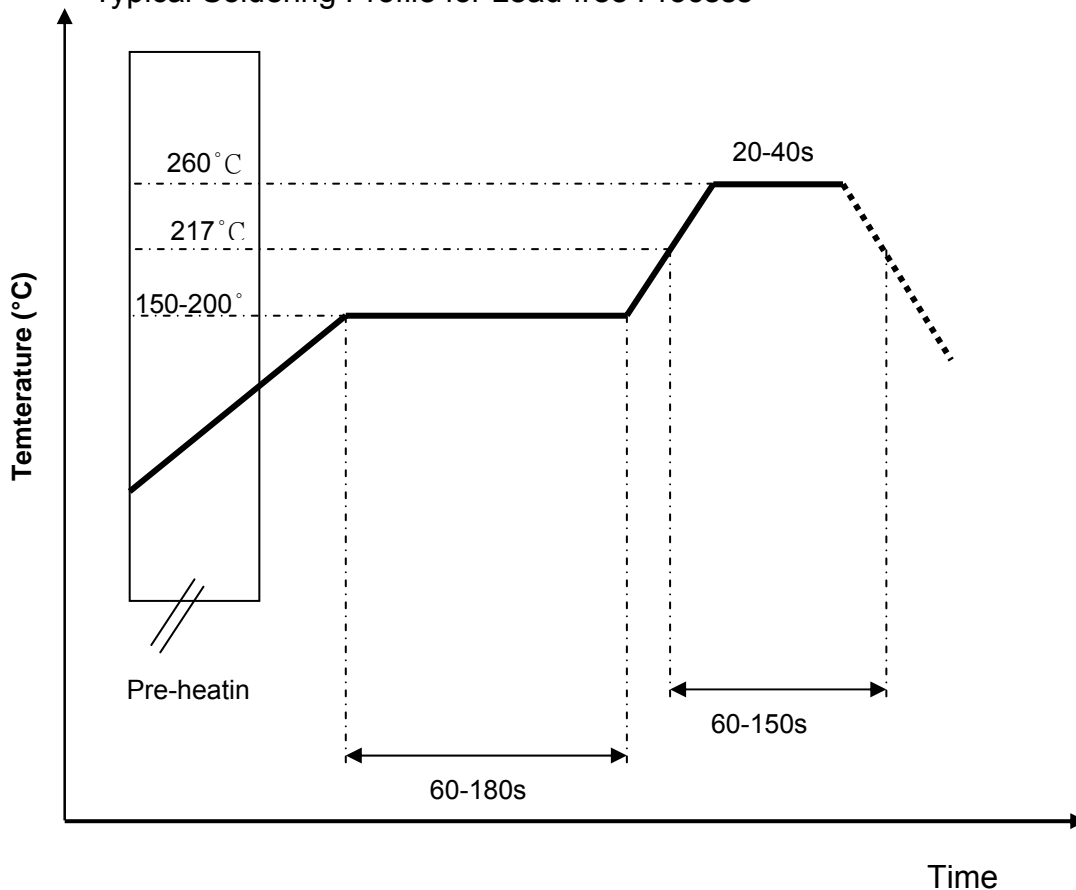
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9. Soldering Conditions:

Typical Soldering Profile for Lead-free Process



Tolerances (Unless otherwise specified)

X : ± 1 X.X : ± 0.1 X.XX : ± 0.01

Angle : \pm Hole Dia. : \pm



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