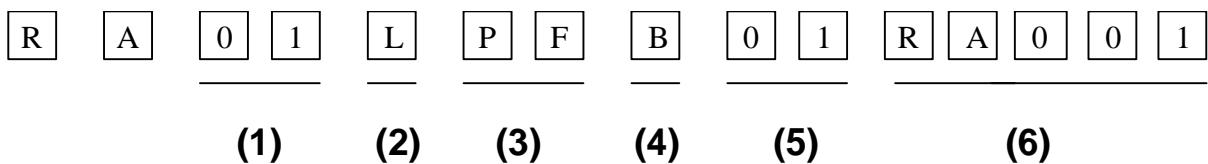


ISM Band 434/315MHz Chip Antenna

1. Explanation of Product Number



※ The direction of white dot forwards to feed point

Product Code:

(1) Dimensions:

01: 16x5.1x0.8(mm)

(2) Polarization:

L: linear polarization

(3) Product categories:

PF: polymer substrate

(4) Working frequency:

B: 433.925/315MHz

(5) Applications::

01: ISM band system

(6) Antenna series:

RA001: serial number

Tolerances (Unless otherwise specified)

X : ± 1 X.X : ± 0.1 X.XX : ± 0.01

Angle : \pm Hole Dia. : \pm



RIFO Technologies Corporation
Website: www.rifo.com.tw

Scale :

Unit : mm

Prepared By : Helen

Checked By : Jeff

Designed By : Jason

Approved By : Allen

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TITLE : ISM Band 434/315MHz Chip Antenna

DOCUMENT
NO.

RA01LPFB01RA001

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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 433.925/315MHz 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)	16*5.1*0.8	mm
2	Operating Frequency Range	433.925/315	MHz
3	VSWR	2 max.	
4	Impedance	50	Ω
5	Polarization	Linear	
6	Peak gain	0.5	dBi
7	Bandwidth(typ.)	10	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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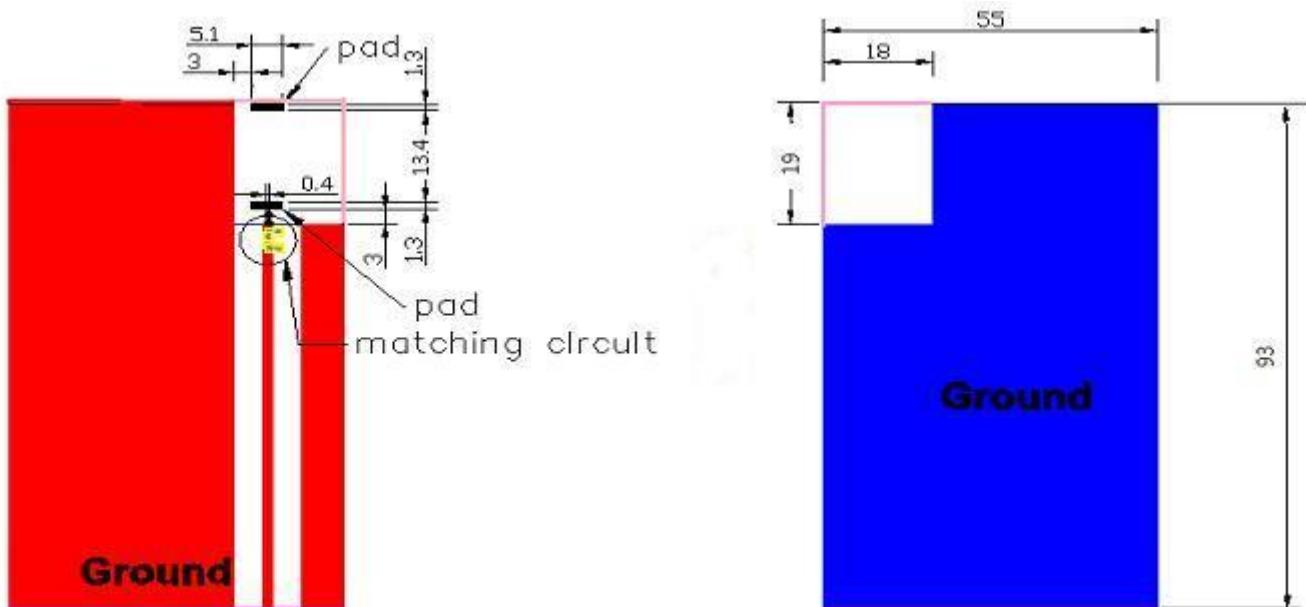
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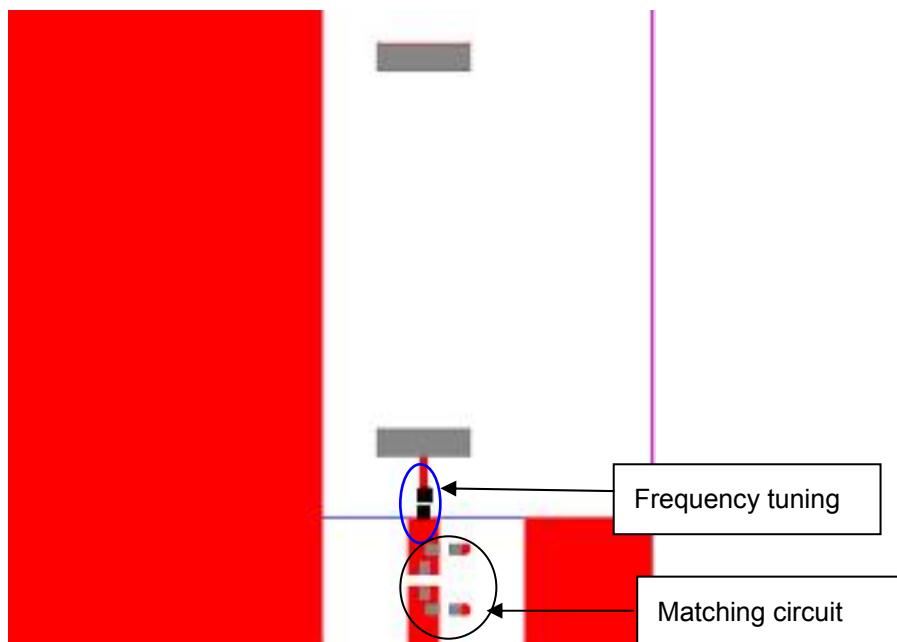
6. Layout Guide

6.1 Test Board Dimension



※ Test Board size is 93*55mm

6.2 PCB Design Guide



Tolerances (Unless otherwise specified)

X : ± 1 X.X : ± 0.1 X.XX : ± 0.01

Angle : \pm Hole Dia. : \pm



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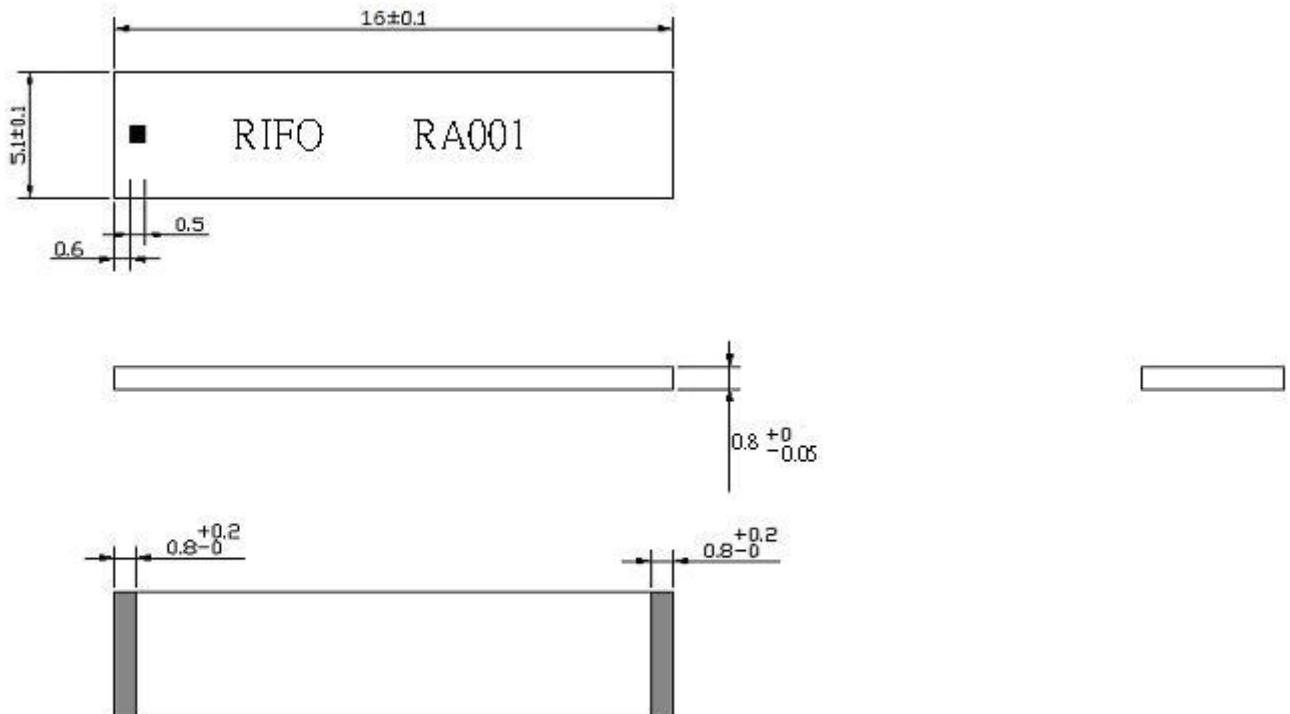
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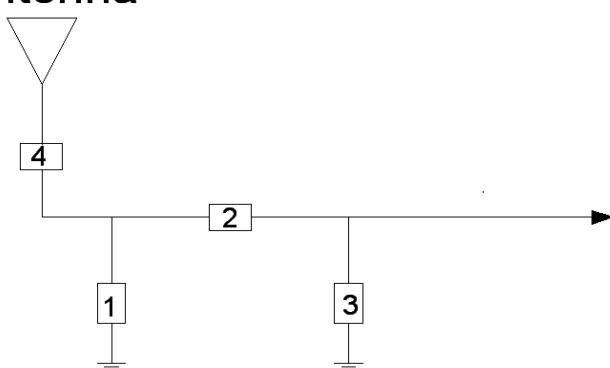
7. Antenna Dimensions (unit: mm)



8. Measurement Result

8.1 Matching circuit for 433.925MHz

Antenna



System Matching Circuit Component		
Location	Description	Vendor
1	22nH	DARFON(0402)-
2	3.3pF	YAGEO(0402)
3	3.3pF	YAGEO(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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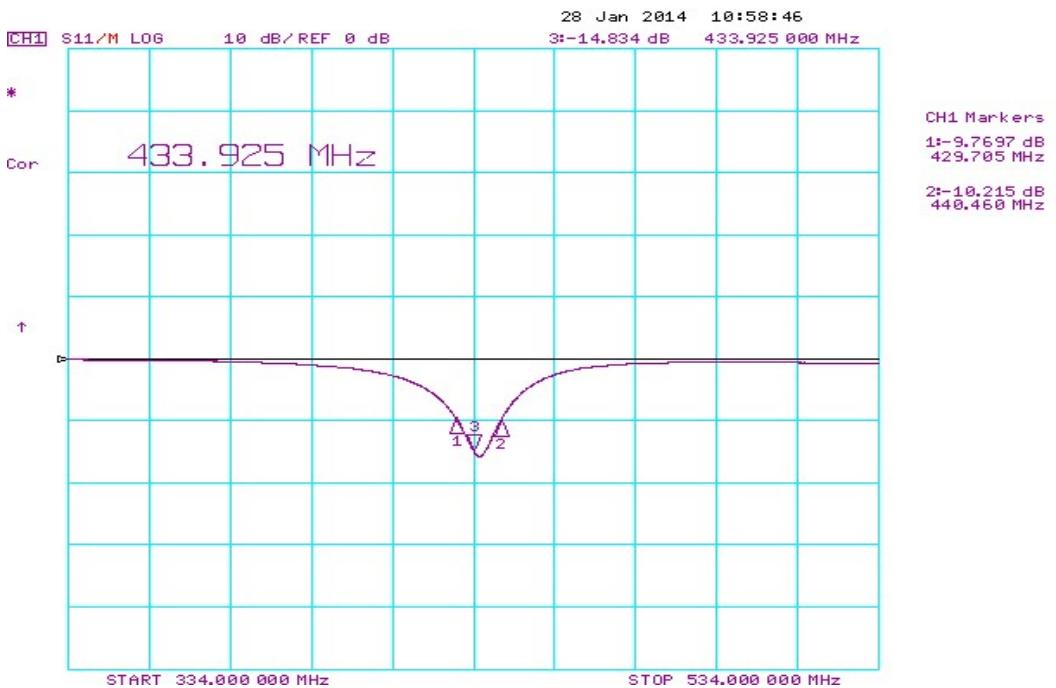
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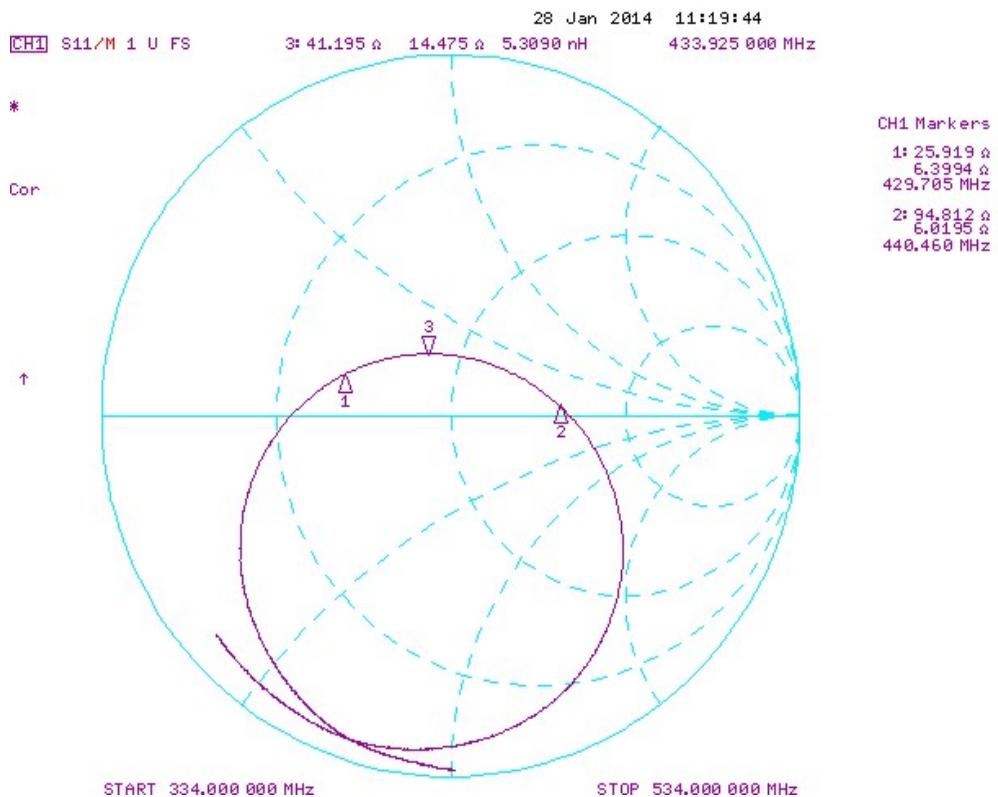
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(a) Return Loss (S11 / VSWR)



(b) Smith Chart Loss (S11 / VSWR)



Tolerances (Unless otherwise specified)

X : ± 1 X.X : ± 0.1 X.XX : ± 0.01

Angle : \pm Hole Dia. : \pm



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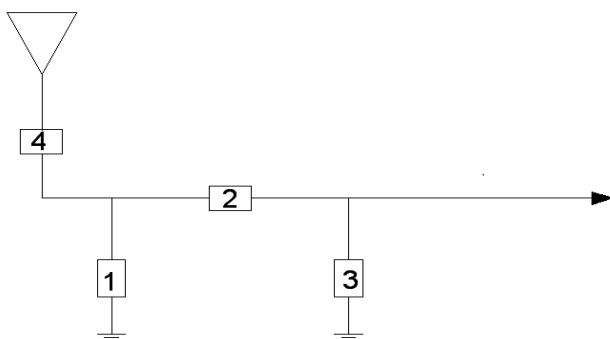
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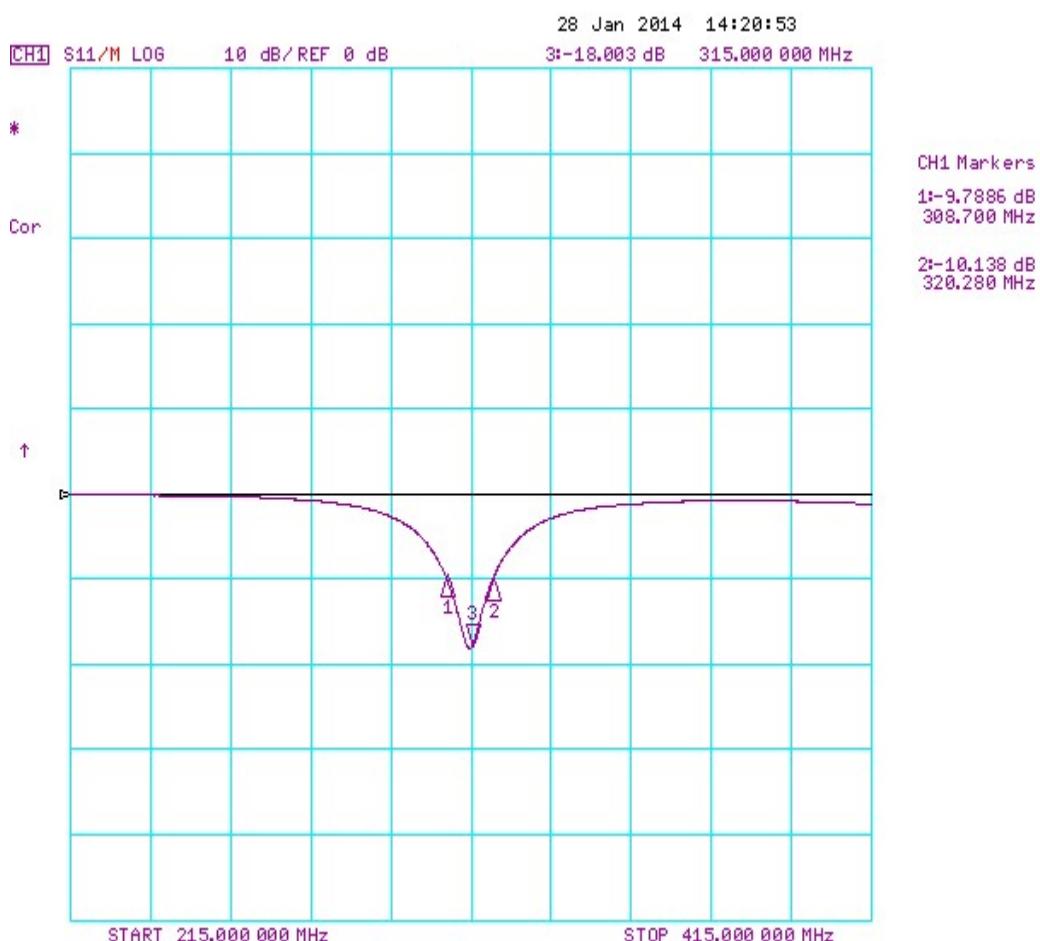
8.2 Matching circuit for 315MHz

Antenna



System Matching Circuit Component		
Location	Description	Vendor
1	47nH	DARFON(0402)-
2	2.7pF	YAGEO (0402)
3	1pF	YAGEO (0402)
4	100nH	DARFON(0402)

(a) Return 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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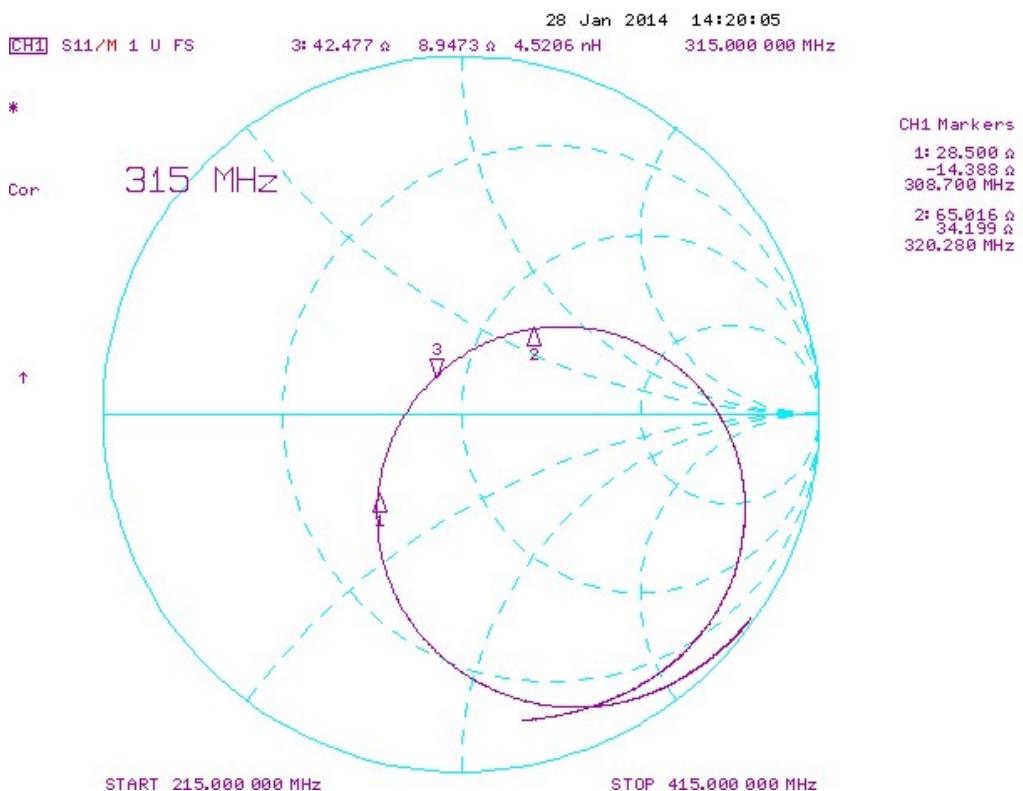
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(b) Smith Chart Loss (S11 / VSWR)



Tolerances (Unless otherwise specified)

X : ± 1 X.X : ± 0.1 X.XX : ± 0.01

Angle : \pm Hole Dia. : \pm



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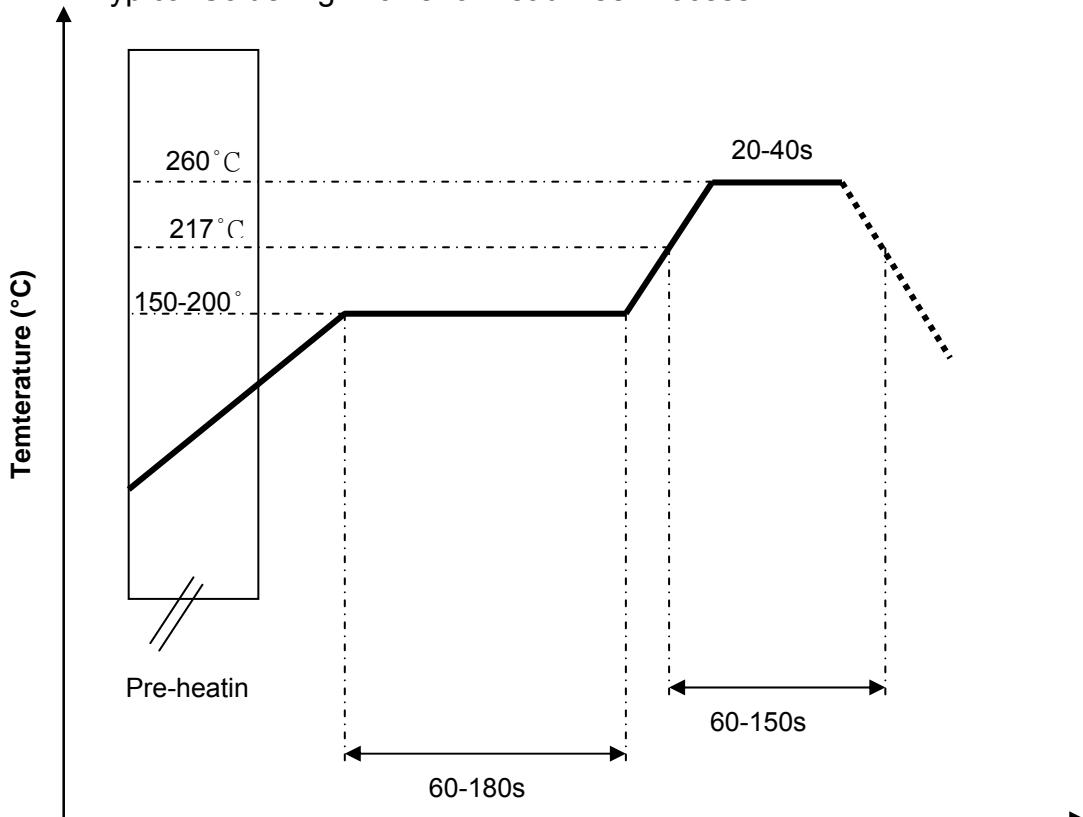
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9. Soldering Conditions:

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



Time
RIFO Technologies Corporation
Website: www.rifo.com.tw

Scale :

Unit : mm

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