P/N:HLX160808D06

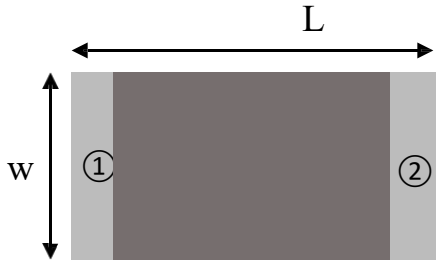
Features

1.Surface Mounted Devices with a small dimension of 1.6 x 0.8 x 0.8 mm meet futureminiaturization trend.
2,Embedded and LTCC(low temperature co-fired ceramic) technology is able to integrate with systemdesign as well as beatifying the housing of final product.
3. High stability and low tolerance.

Applications

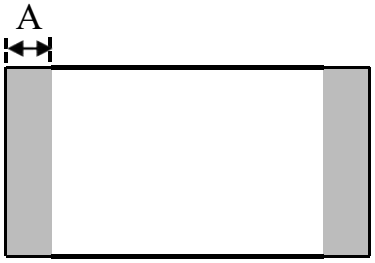
1. Bluetooth
2. Wireless LAN
3. ISM band 2.4GHz wireless applications

Dimensions（Unit：mm）



(Top View)

Number	Terminal Name
①	INPUT
②	NC



(Bottom View)

(Side View)

Symbols	L	W	T	A
Dimensions	1.60±0.20	0.80±0.20	0.80±0.20	0.30±0.10

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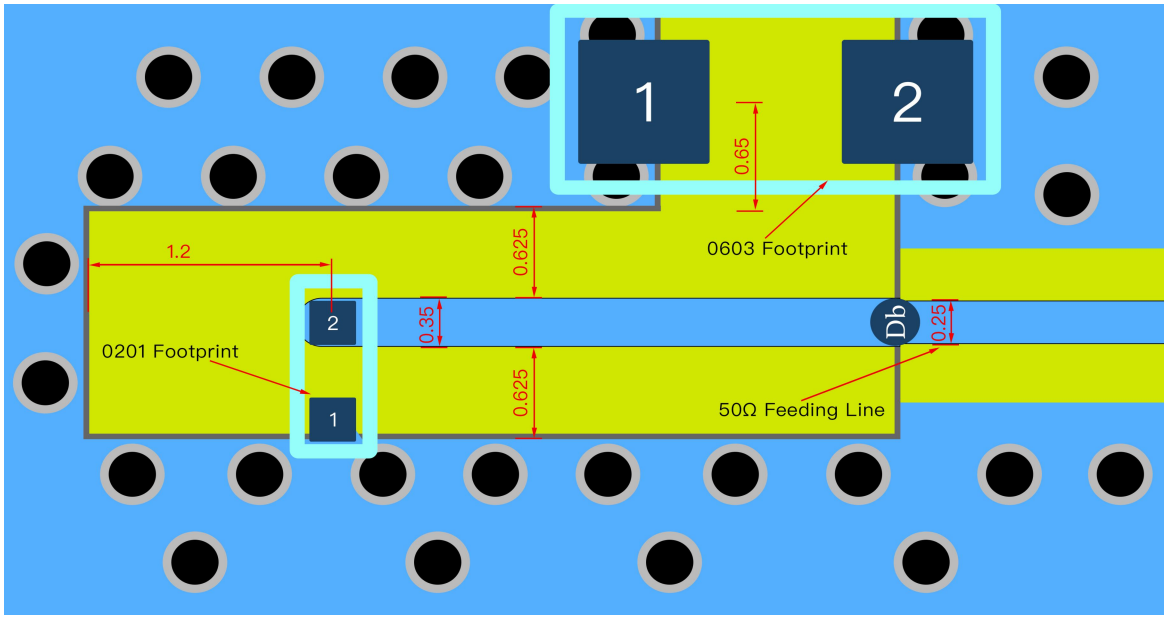
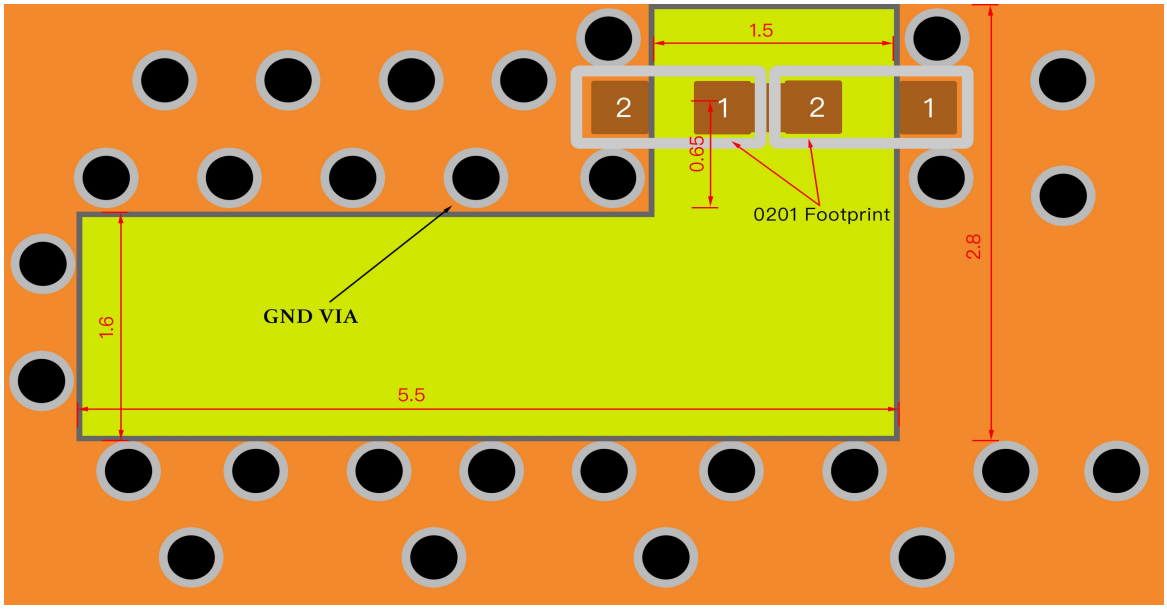
Evaluation Board and Matching Circuits





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S11-Parameter

Frequency(MHz)	2400	2450	2480	2500
VSWR	1.56	1.16	1.48	1.79

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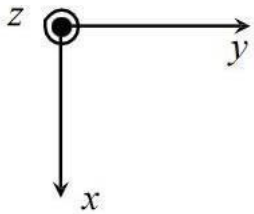
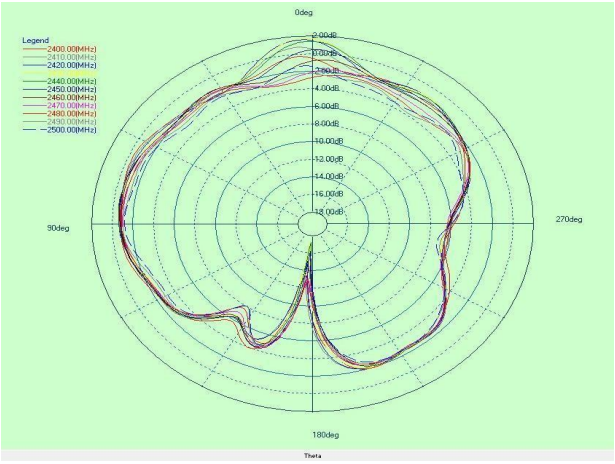
Radiation Pattern

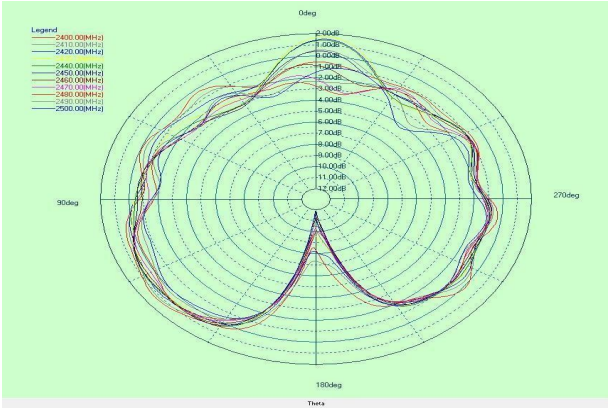
coordinates：



Y-Z Plane



X-Z Plane



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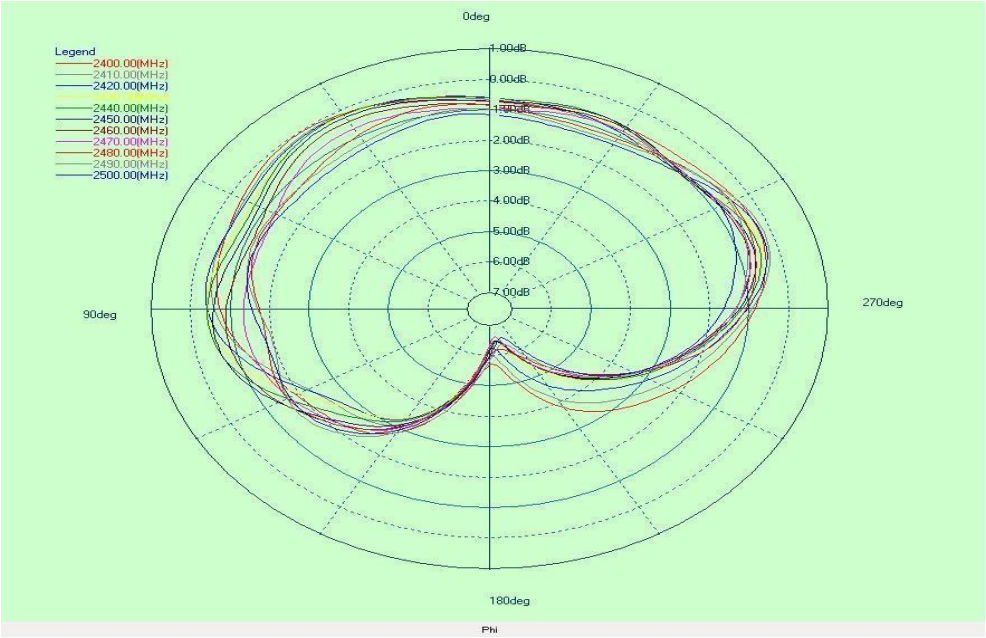
X-Y Plane



Frequency	2400MHz	2450MHz	2490MHz
Avg. gain	1.30	0.93	0.45
Peak gain	1.7	1.6	1.5
Efficiency	57%	54%	53%

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Dependability Test

	Test Temperature: 25℃±3℃
Operating Temperature	-25℃~+85℃
Temperature	5~40℃
Relative Humidity	20~70%

Moisture Proof

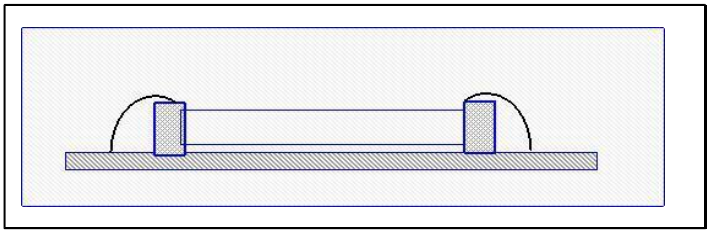
Temperature：40±2℃ Humidity：90~95%RH
Duration：500h
Recovery conditions：Room temperature Recovery Time：24h (Class1) or 48h (Class2)

Solderability

At least 95% of the terminal electrode is covered by new solder.Preheating conditions:80 to 120℃; 10~30s.
SolderTemperature:235± 5℃ Duration:2 ±0.5s , SolderTemperature:245±5℃ Duration:2±0.5s

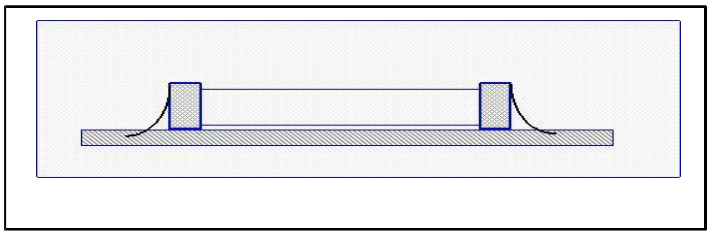
Optimum Solder Amount for ReflowSoldering

Too muchsolder



Cracks tend to occur dueto large stress.

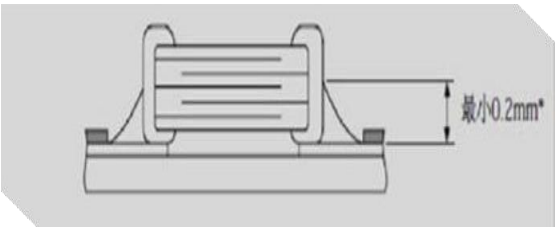
Not enoughsolder



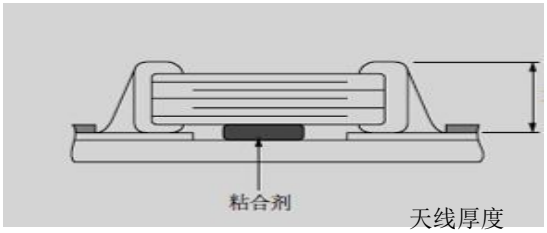
Weak holding force may cause bad connection betweenthe capacitor and PCB.

Recommended Soldering amounts

The optimal solder fillet amounts for re-flow soldering



The optimal solder fillet amounts for wave soldering



天线厚度以下

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Temperature Cycle Test

10±1S Applied Force: 5N Duration: 10±1S

Preheating conditions: up-category temperature, 1h

Recovery time: 24±1h

Initial Measurement

Cycling Times: 5 times, 1 cycle, 4 steps:

阶段	温度（℃）	时间（分钟）
第 1 步	下限温度(NPO/X7R/X7S/X6S/X5R:-55 Y5V:-25 Z5U:-10)	30
第 2 步	常温 (+20)	2～3
第 3 步	上限温度(NPO/X7R/X7S: +125 Y5V/Z5U/X5R:+85 X6S:+105)	30
第 4 步	常温 (+20)	2～3

Resistanceto SolderingHeat

Preheating80 to 120℃; 10~30s.SolderTemperature:235±5℃ Duration:2±0.5s，SolderTemperature:245±5℃ Duration:2±0.5s，Preheating100to200℃;10±2min.

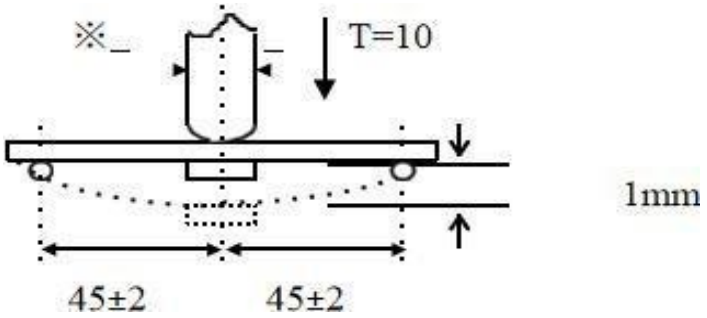
Solder Temperature: 265±5℃ Duration: 10±1s

Clean the capacitor with solvent and examine it with a 10X(min.) microscope.

Recovery Time: 24±2h

Recovery condition: Room temperature

Resistance to Flexure of Substrate



Test Board: Al_2O_3 or PCB Warp: 1mm Speed: 0.5mm/sec.

Unit: mm

The measurement should be made with the board in the bending position.

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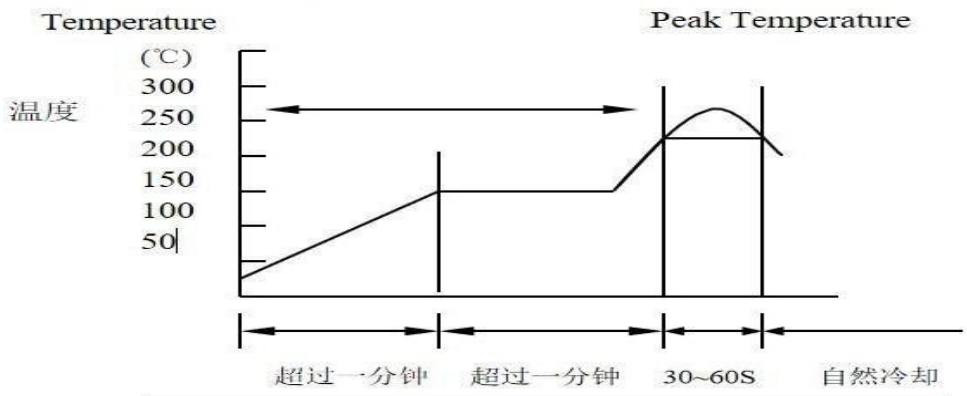
The temperature profile for soldering

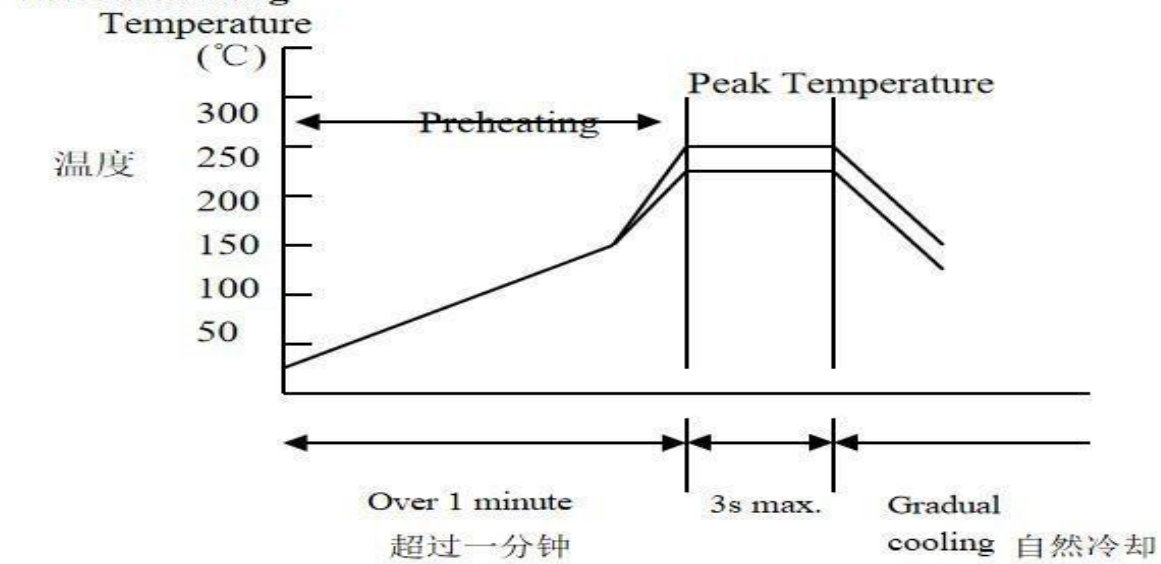
Re-flow soldering



	Pb-Sn 焊接 Pb-Sn soldering	无铅焊接 Lead-free soldering
尖峰温度 Peak temperature	230℃～250℃	240℃～260℃

While in preheating,please keep the temperature difference between soldering temperature and surface temperature of chips as: T≤150℃.

Wave soldering



	Pb-Sn 焊接 Pb-Sn soldering	无铅焊接 Lead-free soldering
尖峰温度 Peak temperature	230℃～260℃	240℃～270℃

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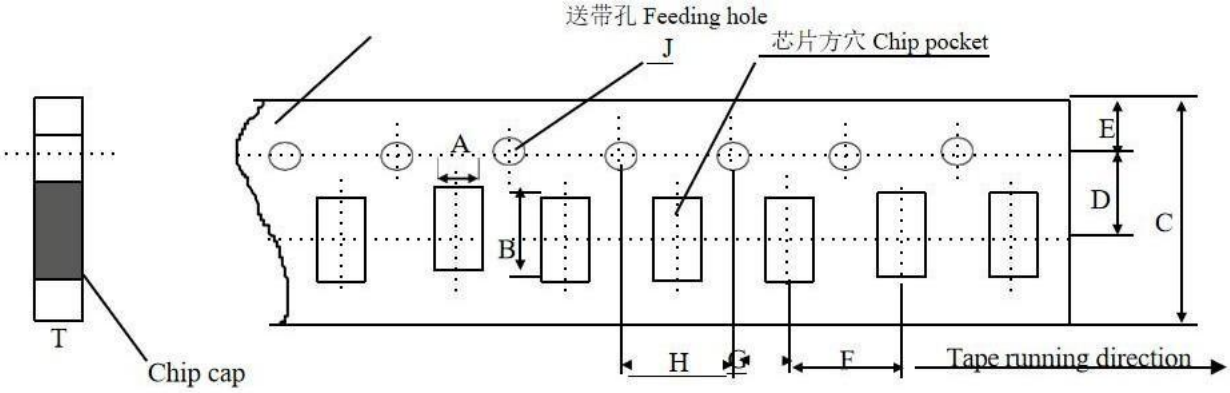
Dimensions of paper taping for 0603types

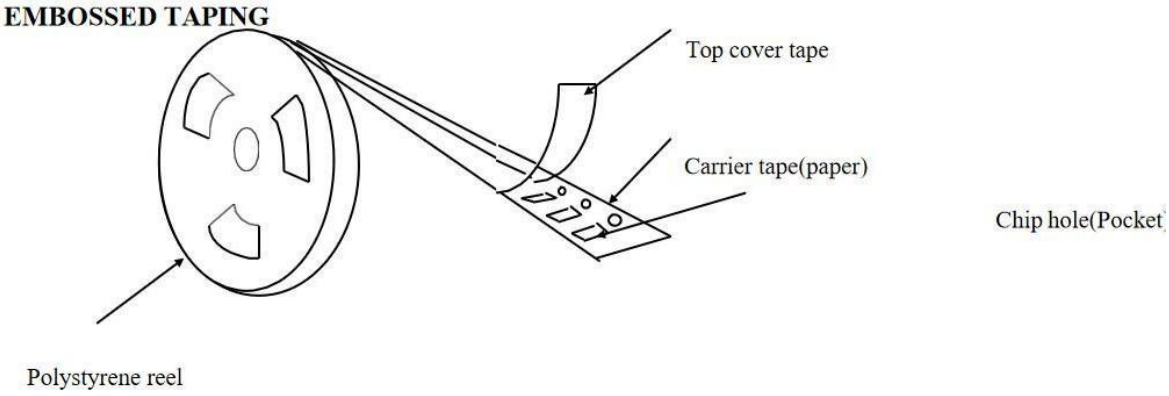


Unit：mm

代号Code / 纸带规格 papersize	A	B	C	D*	E	F	G*	H	J	T
0603	1.10 ±0.10	1.90 ±0.10	8.00 ±0.10	3.50 ±0.05	1.75 ±0.10	4.00 ±0.10	2.00 ±0.10	4.00 ±0.10	1.50 -0/+0.10	1.10 Max

Reel（4000 pcs/Reel）

Note: The place with means where needs exactly dimensions.



Storage Period

The guaranteed period for solderability is 6 months (Under deliver package condition).Temperature 5~40℃ /Relative Humidity20~70%

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