



## P/N: HY160808 SRF07

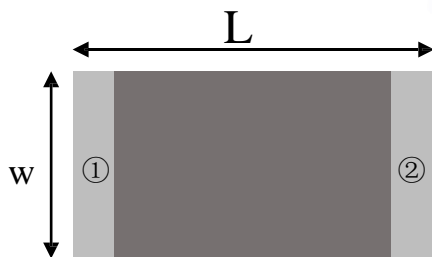
### Features

1. Surface mounted devices with a small dimension of  $1.6 \times 0.8 \times 0.8$  mm meet future miniaturization trend.
2. Embedded and LTCC (low temperature co-fired ceramic) technology is able to integrate with system design as well as beautifying the housing of final product.
3. High stability and low tolerance.

### Applications

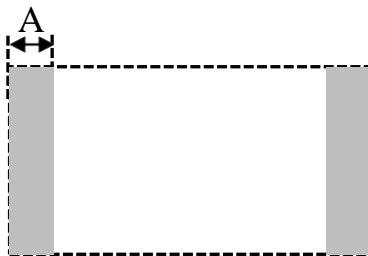
1. Bluetooth
2. Wireless LAN
3. ISM band 2.4GHz wireless applications

### Dimensions (Unit: mm)

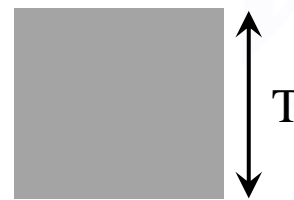


( Top View )

Number	Terminal Name
①	INPUT
②	NC



( Bottom View )



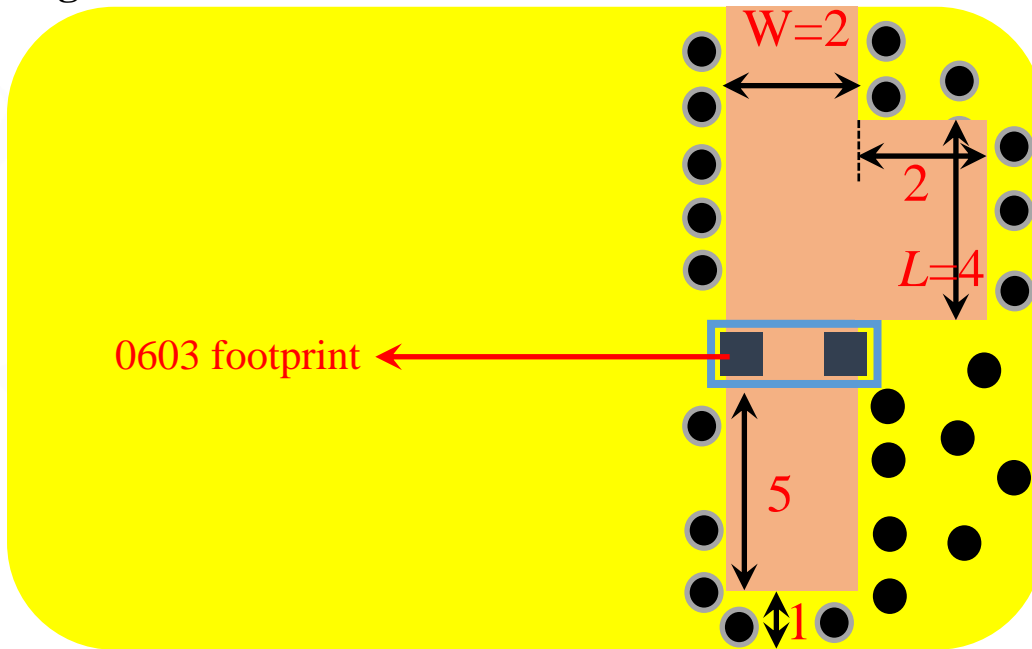
( Side View )

Symbols	L	W	T	A
Dimensions	$1.60 \pm 0.20$	$0.80 \pm 0.20$	$0.80 \pm 0.20$	$0.30 \pm 0.10$

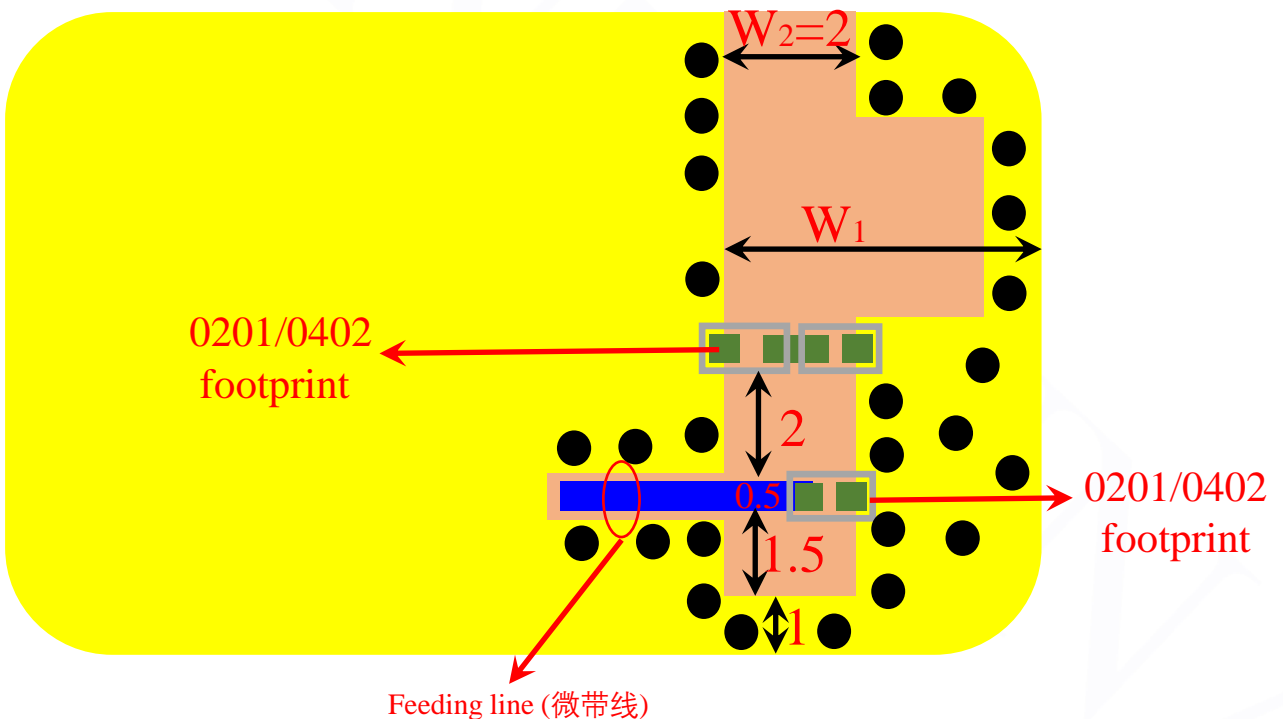


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Matching Circuits



Unit:mm



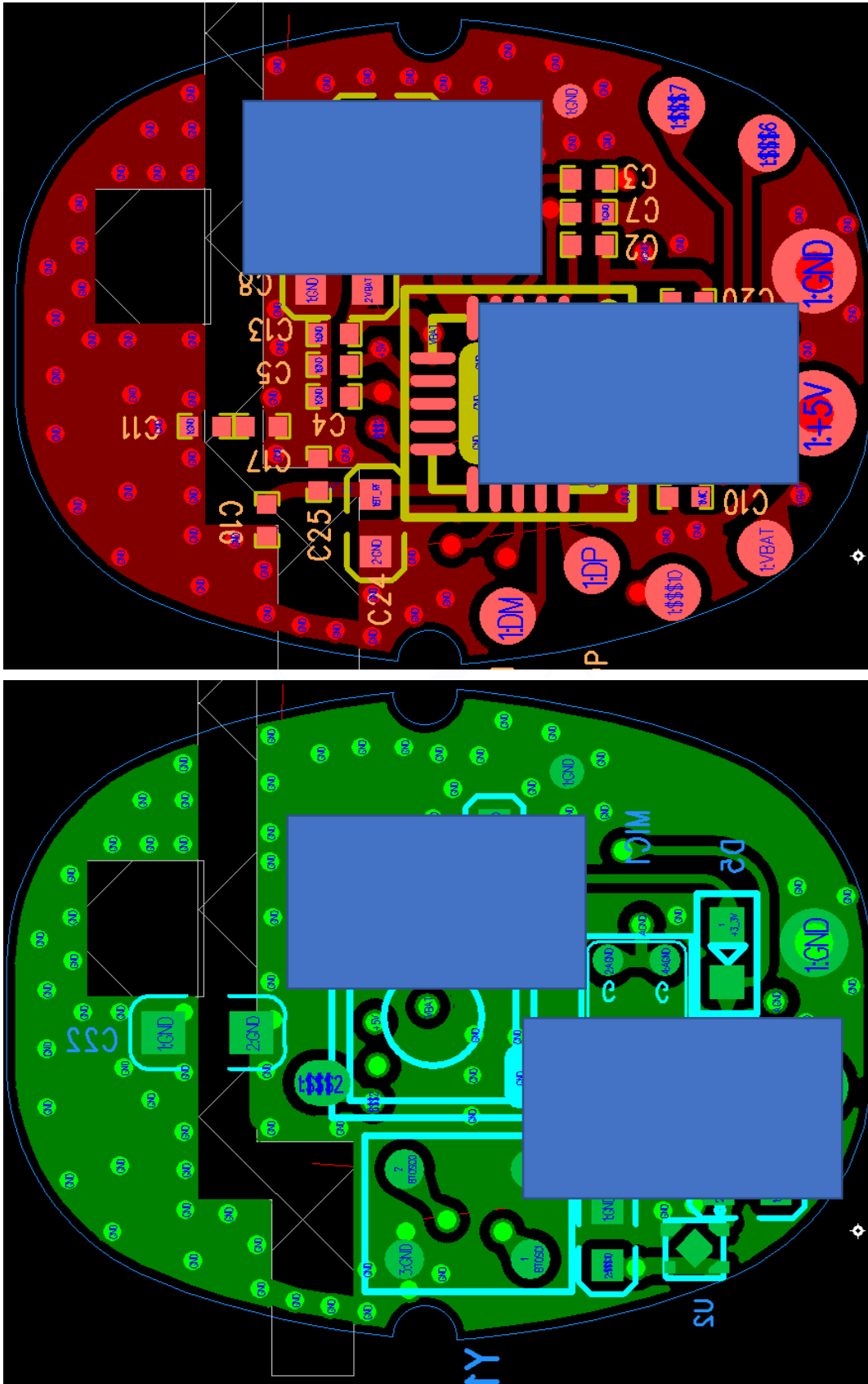
设计指导:

- 1、原则上，净空区左侧边缘距离板边的间距 $W_1$ 应该尽量大，且注意与底部电池的间距。
- 2、主净空区的宽度 $W_2$ 最优为1.5mm~2.5mm。
- 3、凹槽的长度 $L$ 的长度为2mm~5mm。
- 4、0603天线和0603天线底部的两颗物料可以上下互换位置。



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### Application example-1

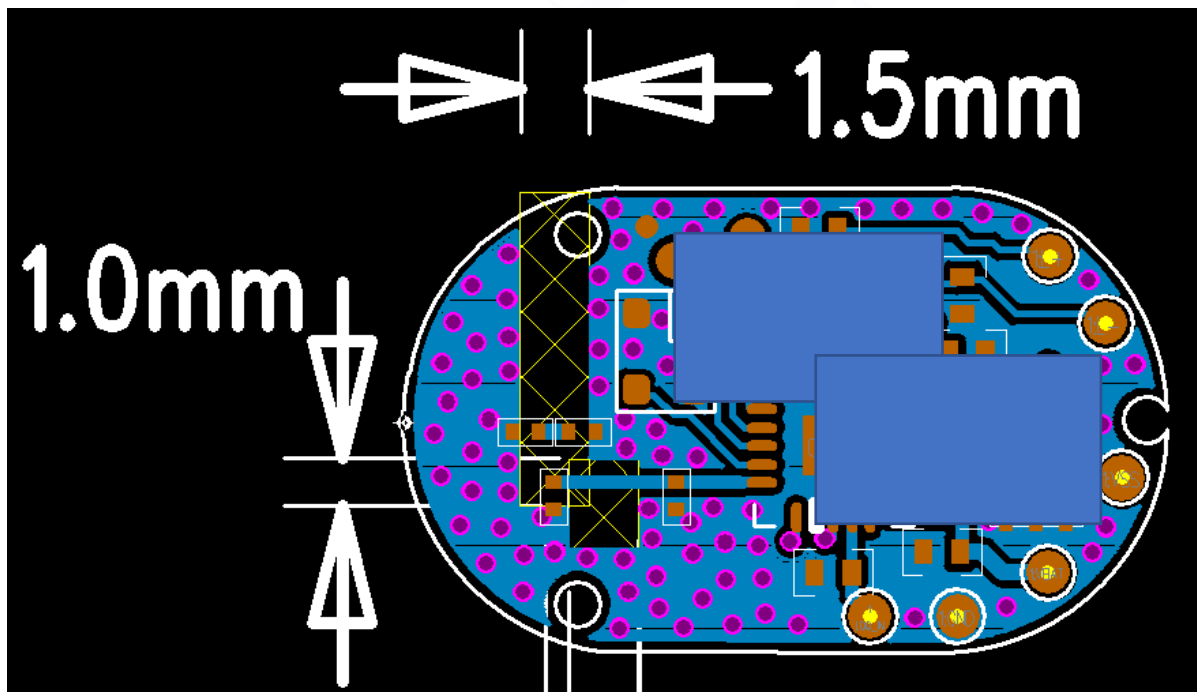
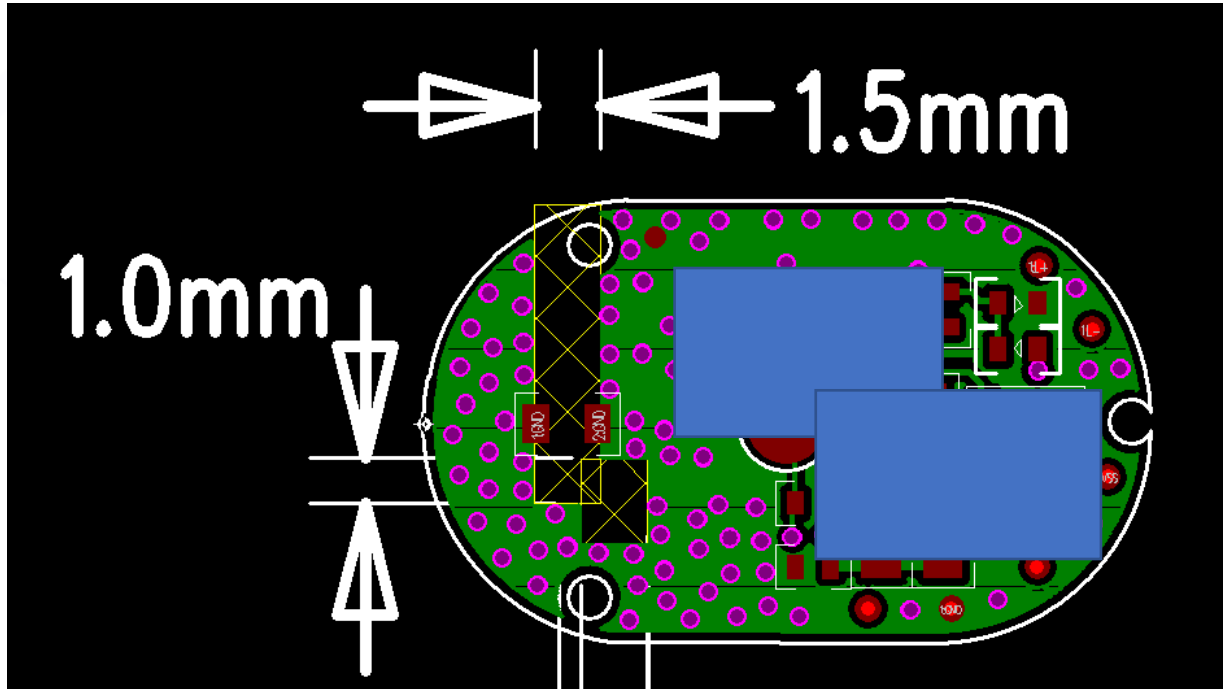


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Application example-2



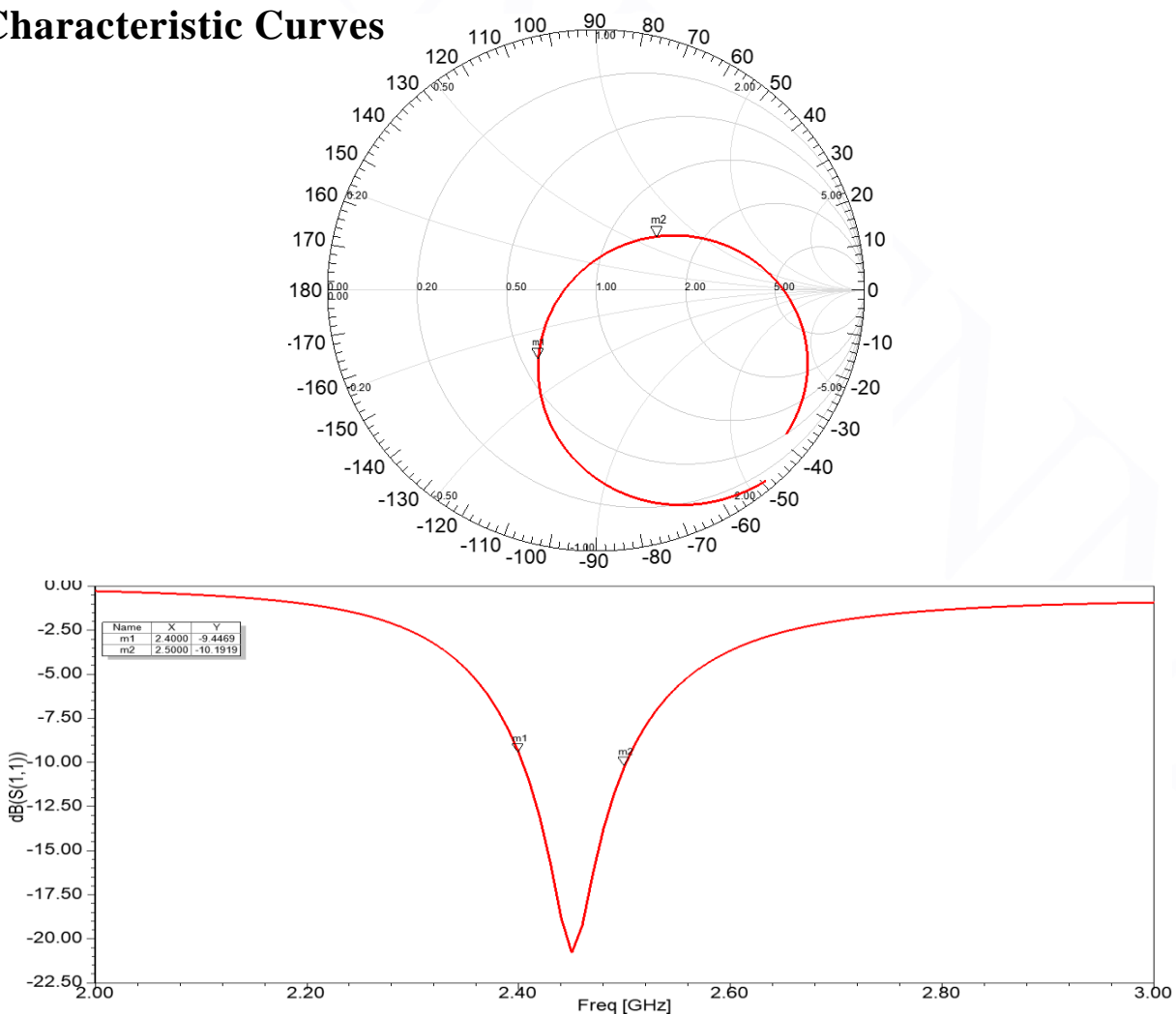


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### Electrical Characteristics

	Feature	Specification
1	Central frequency	2.45GHz&5.5GHz
2	Bandwidth	>100MHz
3	Peak gain	>3dBi
4	VSWR	<2
5	Polarization	Linear
6	Azimuth beamwidth	Omnidirectional
7	Impedance	50 Ω

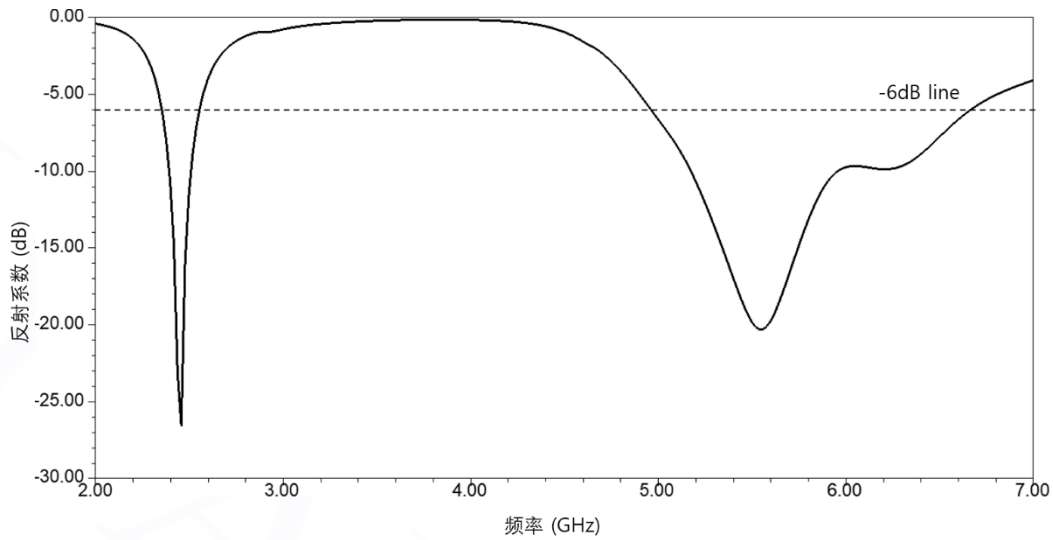
### Characteristic Curves



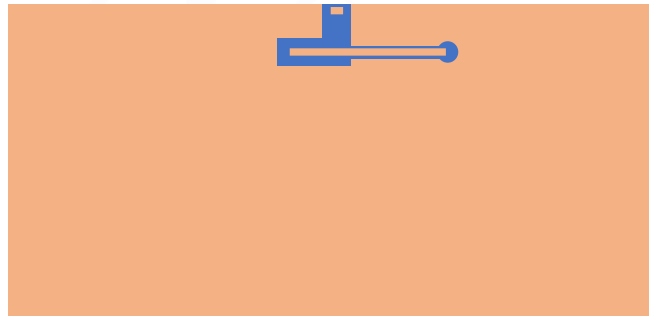
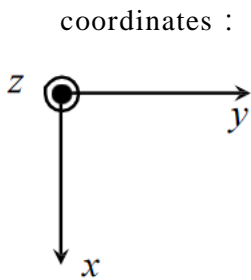
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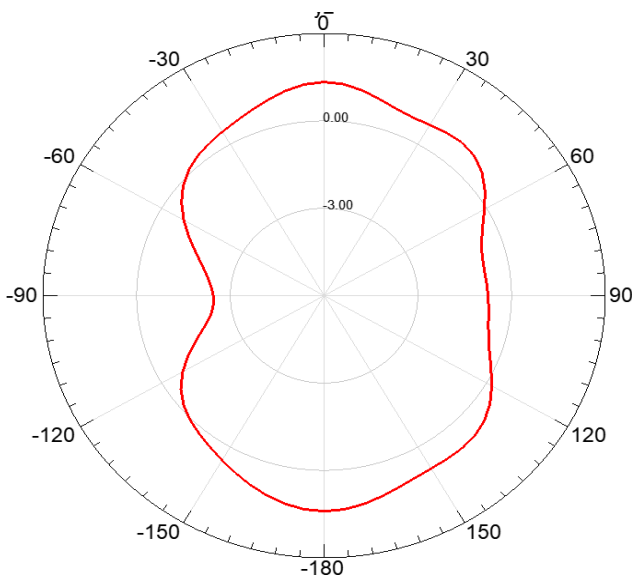
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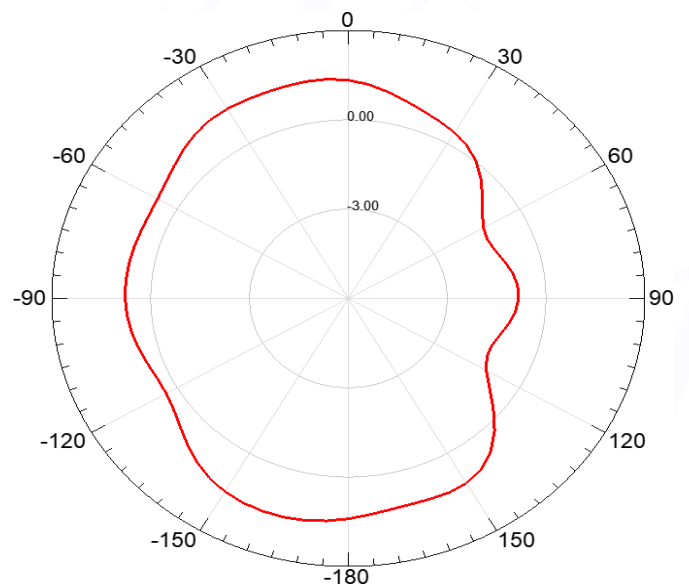
### Radiation Pattern



Y-Z Plane



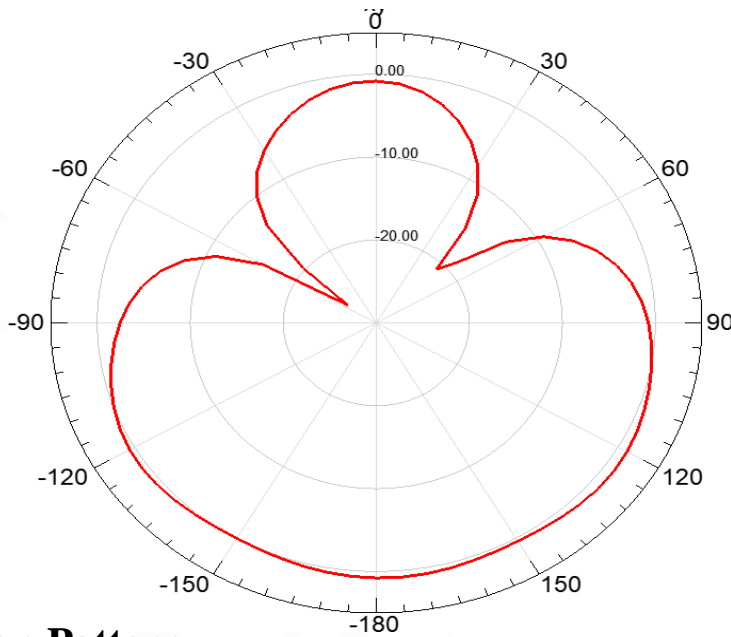
X-Z Plane



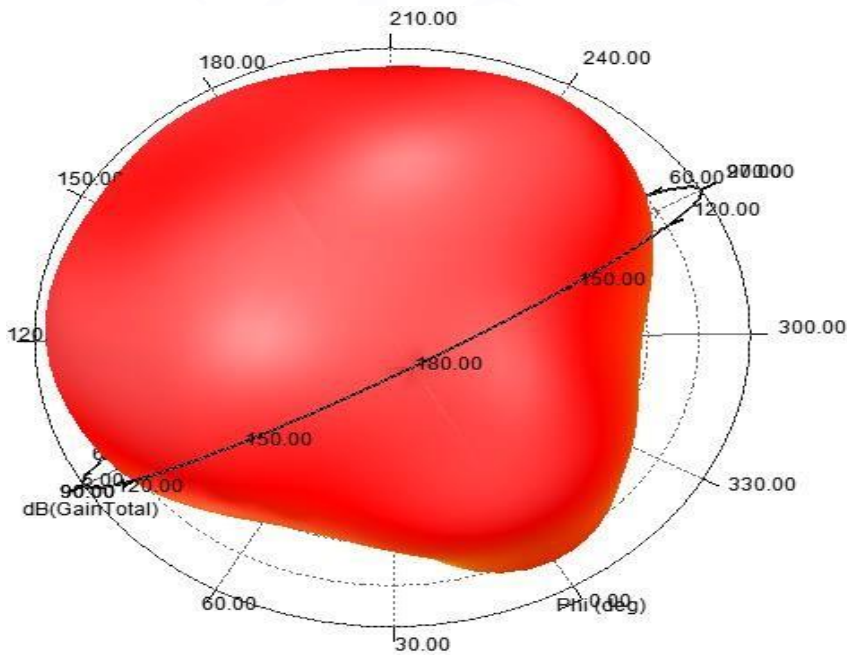
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**3D Radiation Pattern**



Frequency	2450MHz	5500MHz
Avg. gain	-0.85	-1.30
Peak gain	3.0	3.5
Efficiency	82%	78%

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### Dependability Test

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

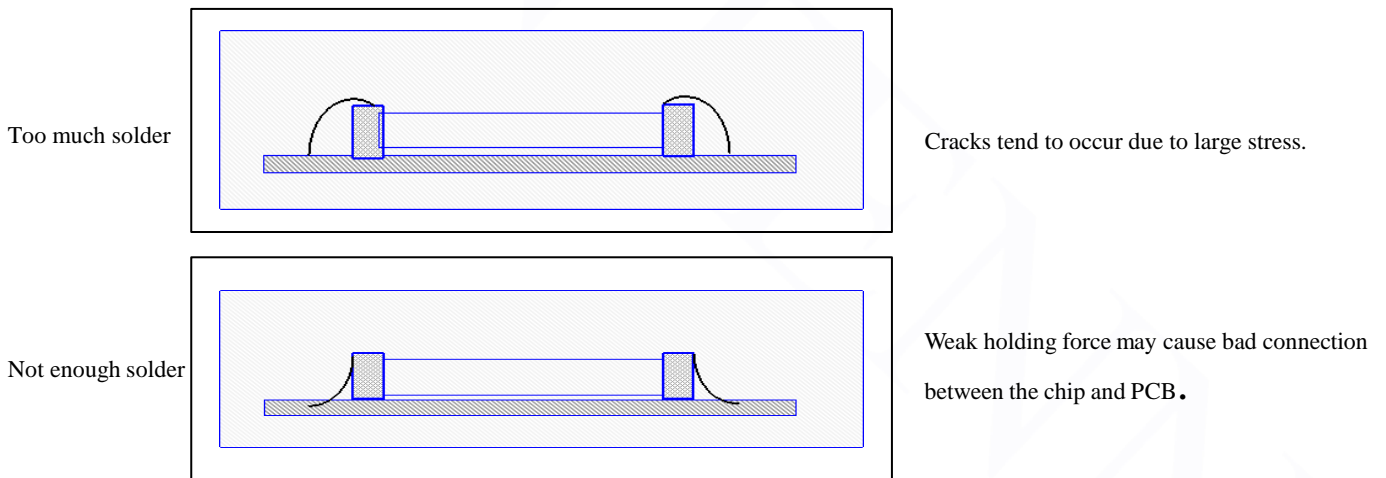
### Moisture Proof

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

### Solderability

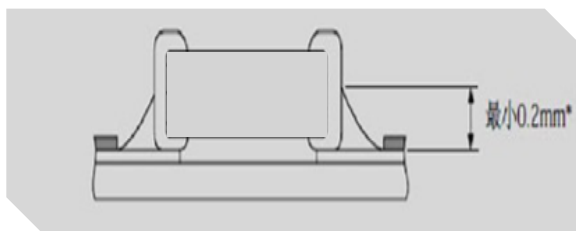
At least 95% of the terminal electrode is covered by new solder.  
Preheating conditions: 80 to 120°C; 10~30s.  
Solder Temperature: 235 ± 5°C Duration: 2 ± 0.5s, Solder Temperature: 245 ± 5°C Duration: 2 ± 0.5s

### Optimum Solder Amount for Reflow Soldering

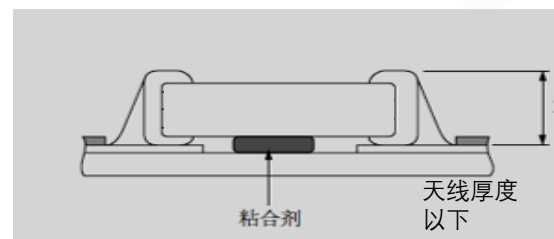


### Recommended Soldering Amounts

The optimal solder fillet amounts for re-flow soldering



The optimal solder fillet amounts for wave soldering



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### Temperature Cycle Test

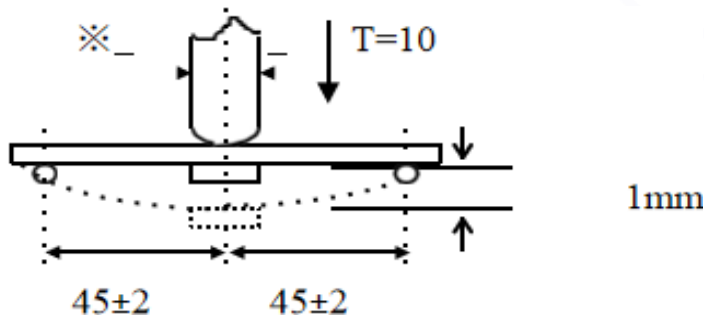
10 ± 1S Applied Force: 5N Duration: 10 ± 1S  
Preheating conditions: up-category temperature, 1h  
Recovery time: 24 ± 1h  
Initial Measurement  
Cycling Times: 5 times, 1 cycle, 4 steps:

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

### Resistance to Soldering Heat

Preheating 80 to 120°C; 10~30s. Solder Temperature: 235±5°C; Duration: 2±0.5s; Solder Temperature: 245±5°C  
Duration: 2±0.5s; Preheating 100 to 200°C; 10±2min.  
Solder Temperature: 265±5°C; 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<sub>2</sub>O<sub>3</sub> or PCB Warp: 1mm Speed: 0.5mm/sec.  
Unit: mm

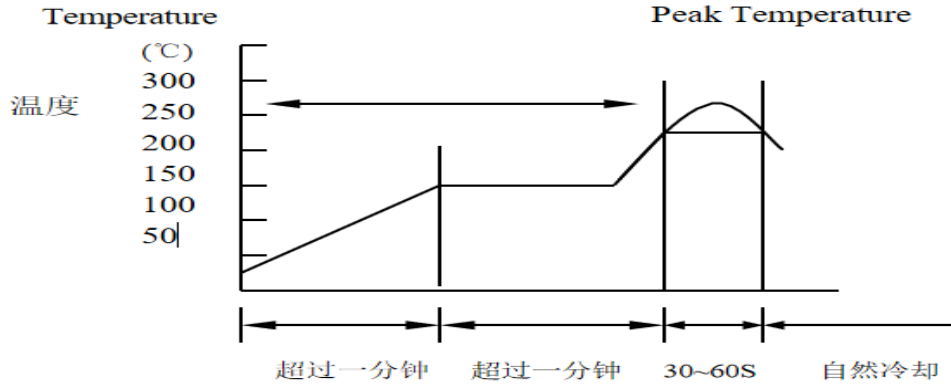
The measurement should be made with the board in the bending position.



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### The temperature profile for soldering

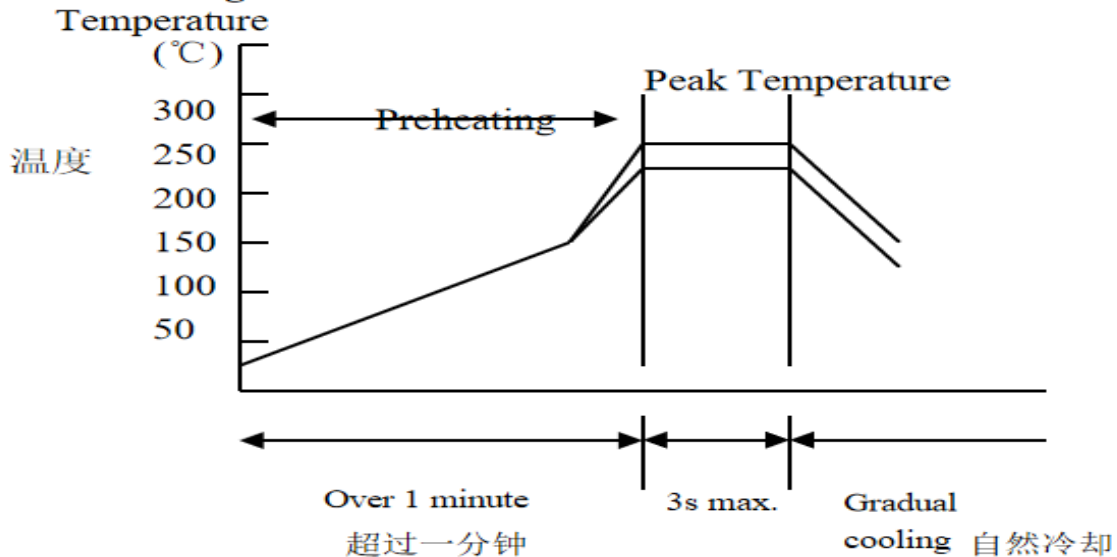
#### Re-flow soldering



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

While in preheating, please keep the temperature difference between soldering temperature and surface temperature of chips as:  $T \leq 150^\circ\text{C}$ .

#### Wave soldering

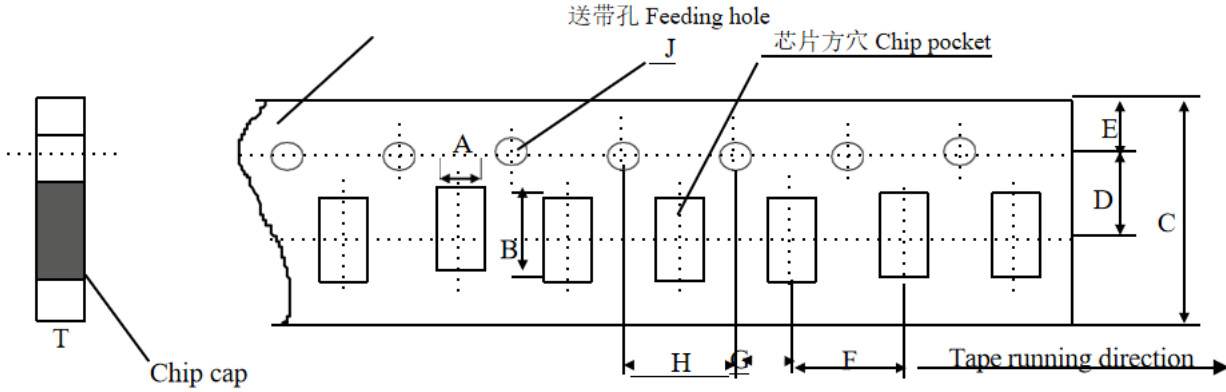


	Pb-Sn 焊接 Pb-Sn soldering	无铅焊接 Lead-free soldering
尖峰温度 Peak temperature	230°C~260°C	240°C~270°C



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### Dimensions of paper taping

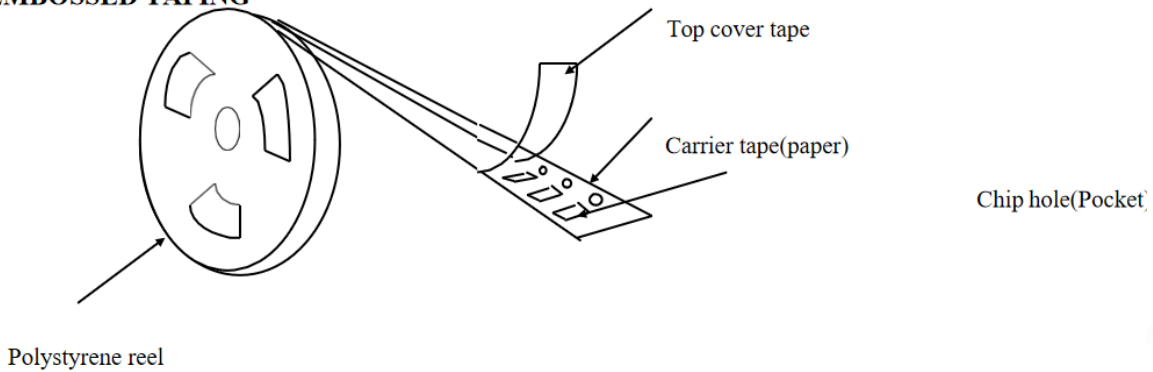


Unit: mm

代号 Code 纸带规格 papersize	A	B	C	D*	E	F	G*	H	J	T
尺寸	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)

#### EMBOSED TAPING



### Storage Period

The guaranteed period for solderability is 6 months (Under deliver package condition).  
Temperature: 5~40°C /Relative Humidity: 20~70%

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