汉阳天线设计有限公司
Hanyang Antenna Design Co. Ltd.
Baoyunda Logistics Information Building, Qianjin Second Road, Baoan District, Shenzhen 12A11 Building A1, Hisense Industrial Park, No.399 Songling Road, Laoshan District, Qingdao Tel: 0755-23069700 Fax: 0755-23069700

P/N: HY160808 SRF07

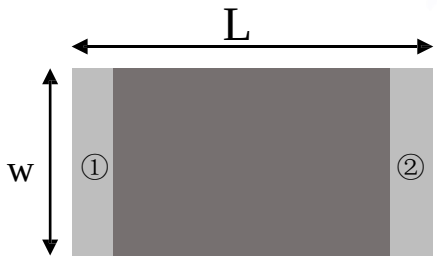
Features

1. Surface mounted devices with a small dimension of 1.6 × 0.8 × 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 beatifying the housing of final product.
3. High stability and low tolerance.

Applications

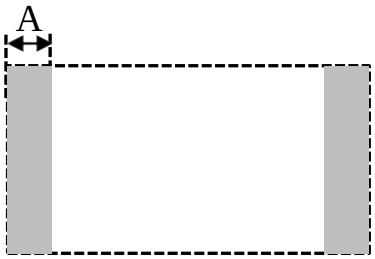
1. Bluetooth
2. Wireless LAN
3. ISM band 2.4GHz wireless applications

Dimensions (Unit: mm)

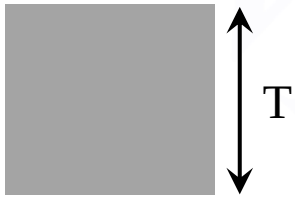


(Top View)

Number	Terminal Name
①	INPUT
②	NC



(Bottom View)



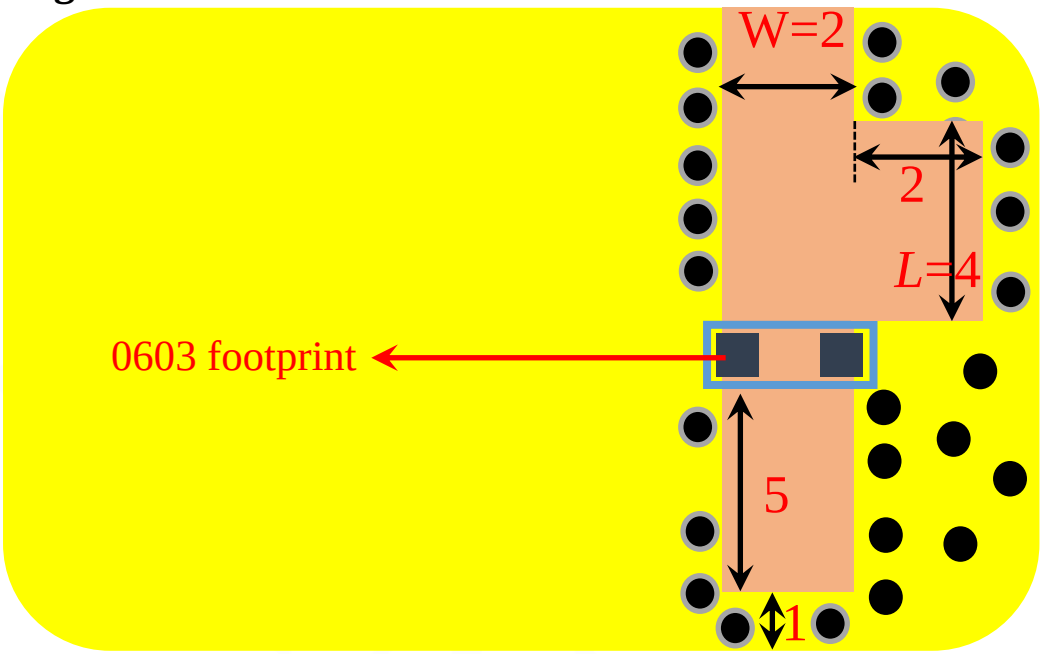
(Side View)

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

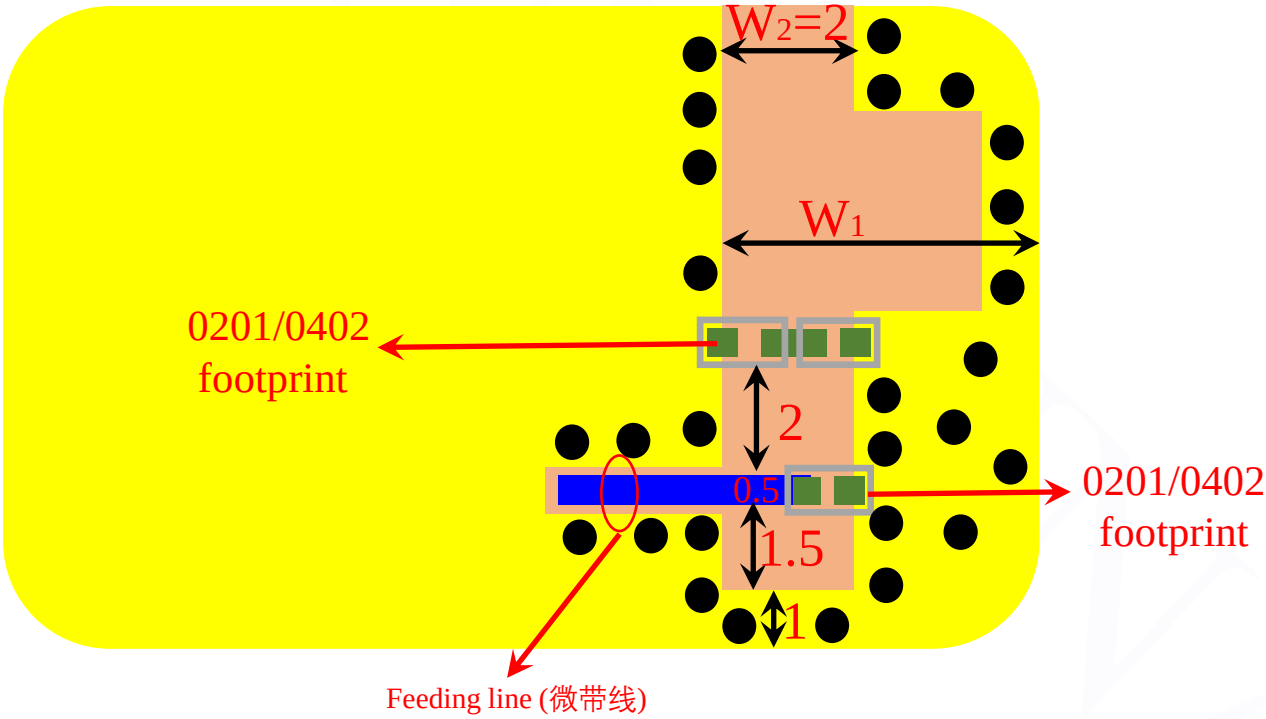
Baoyunda Logistics Information Building, Qianjin Second Road, Baoan District, Shenzhen 12A11 Building A1, Hisense Industrial Park, No.399 Songling Road, Laoshan District, Qingdao Tel: 0755-23069700 Fax: 0755-23069700

P/N: HY160808 SRF07

Matching Circuits



Unit:mm

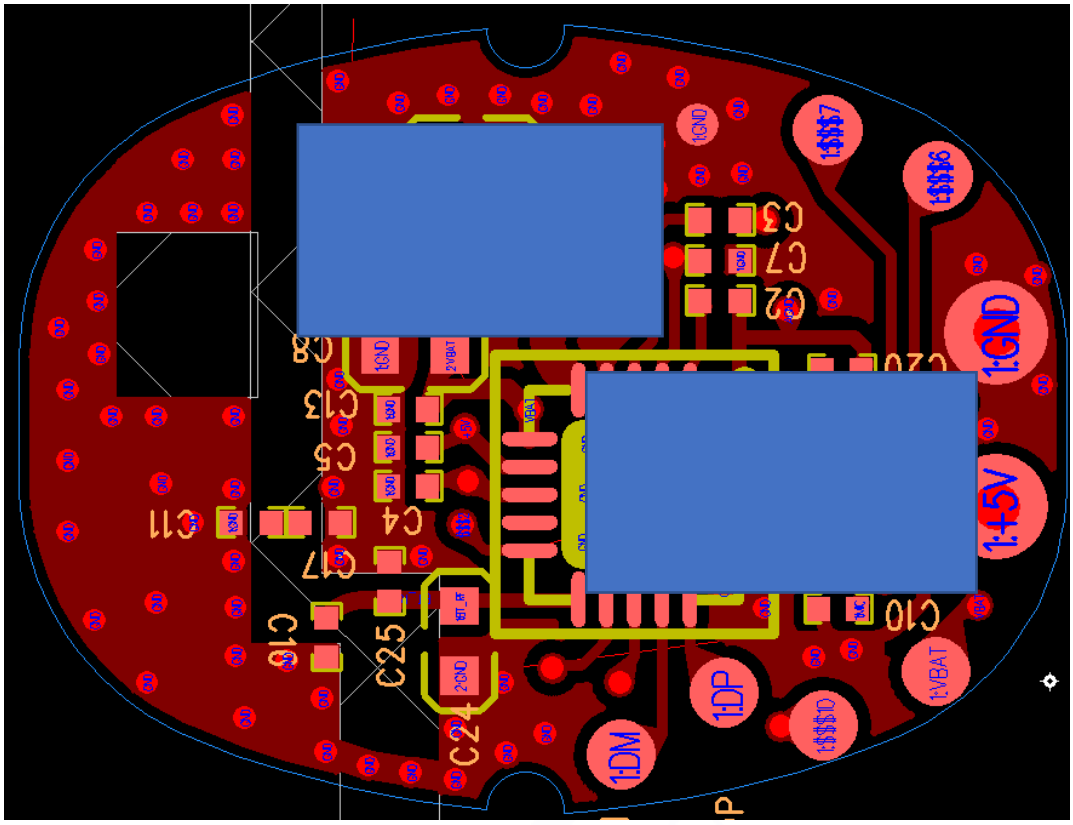


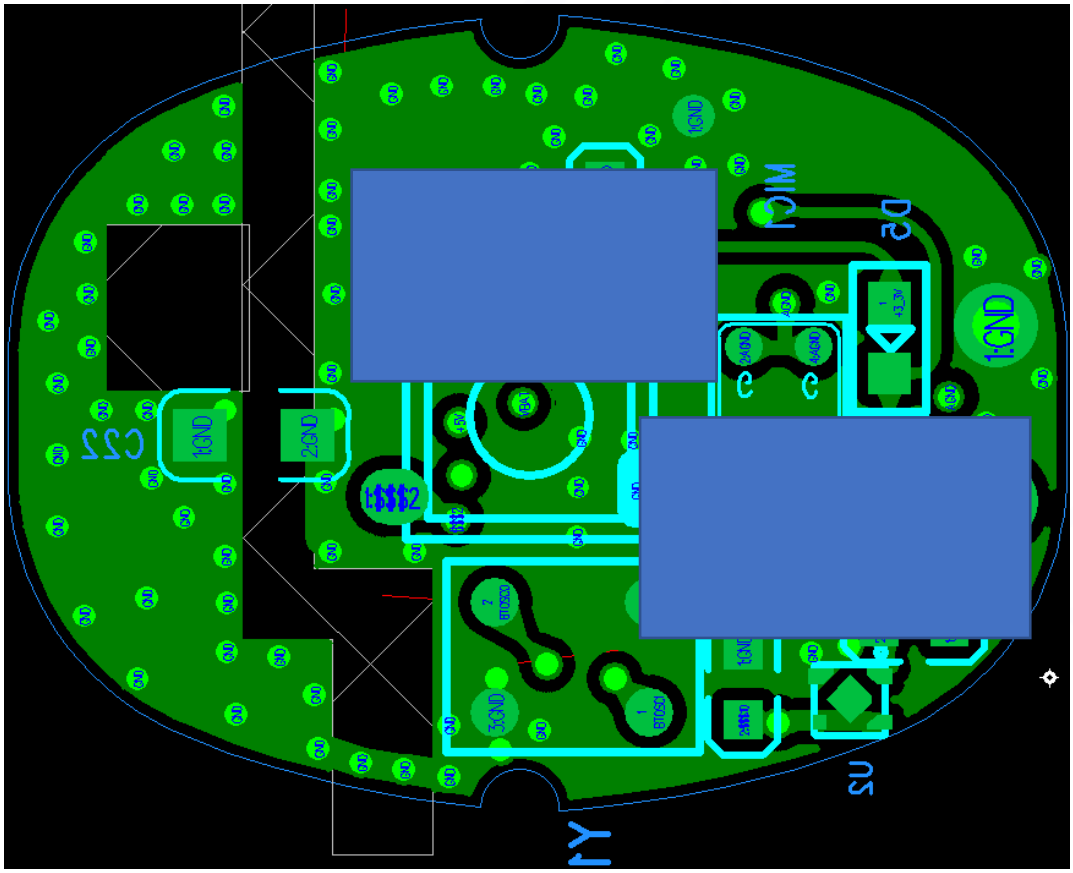
Design guidance:
1. In principle, the spacing W1 between the left edge of the clearance area and the edge of the plate should be as large as possible, and pay attention to the spacing with the bottom battery.
2, the main clearance area width W2 is the best 1.5mm~2.5mm.
3, the length of the groove L length is 2mm~5mm.
4. The two materials at the bottom of the 0603 antenna and the 0603 antenna can be interchanged.

Baoyunda Logistics Information Building, Qianjin Second Road, Baoan District, Shenzhen 12A11 Building A1, Hisense Industrial Park, No.399 Songling Road, Laoshan District, Qingdao Tel: 0755-23069700 Fax: 0755-23069700

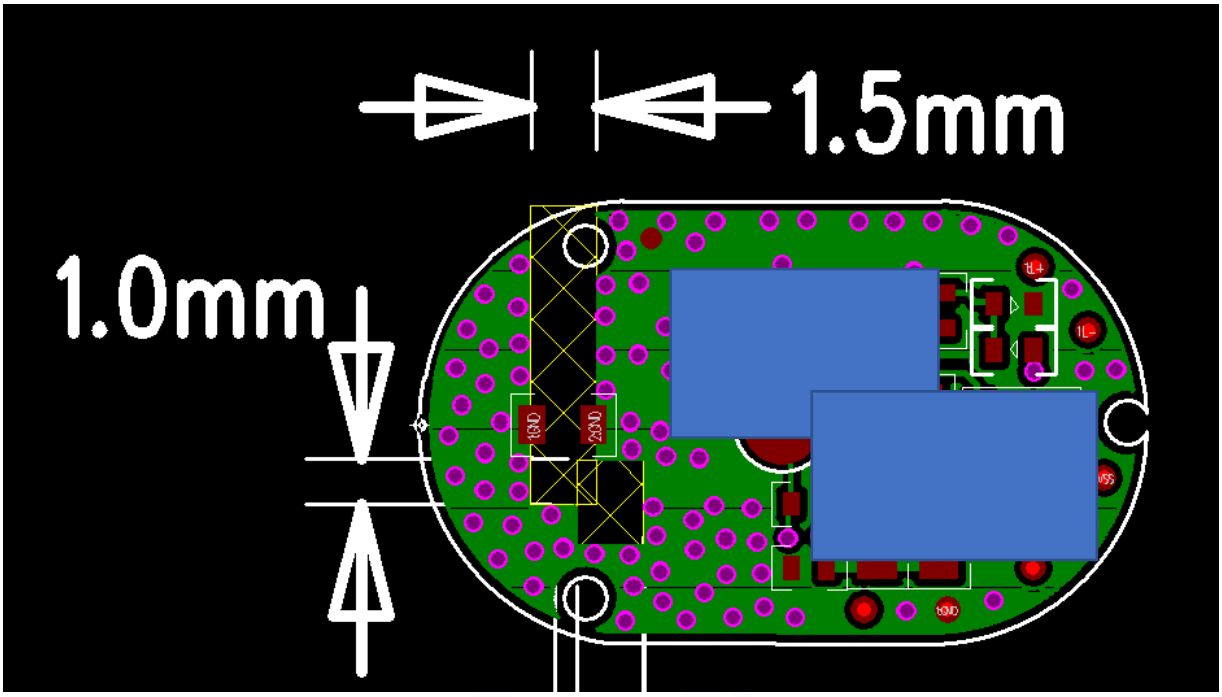
P/N: HY160808 SRF07

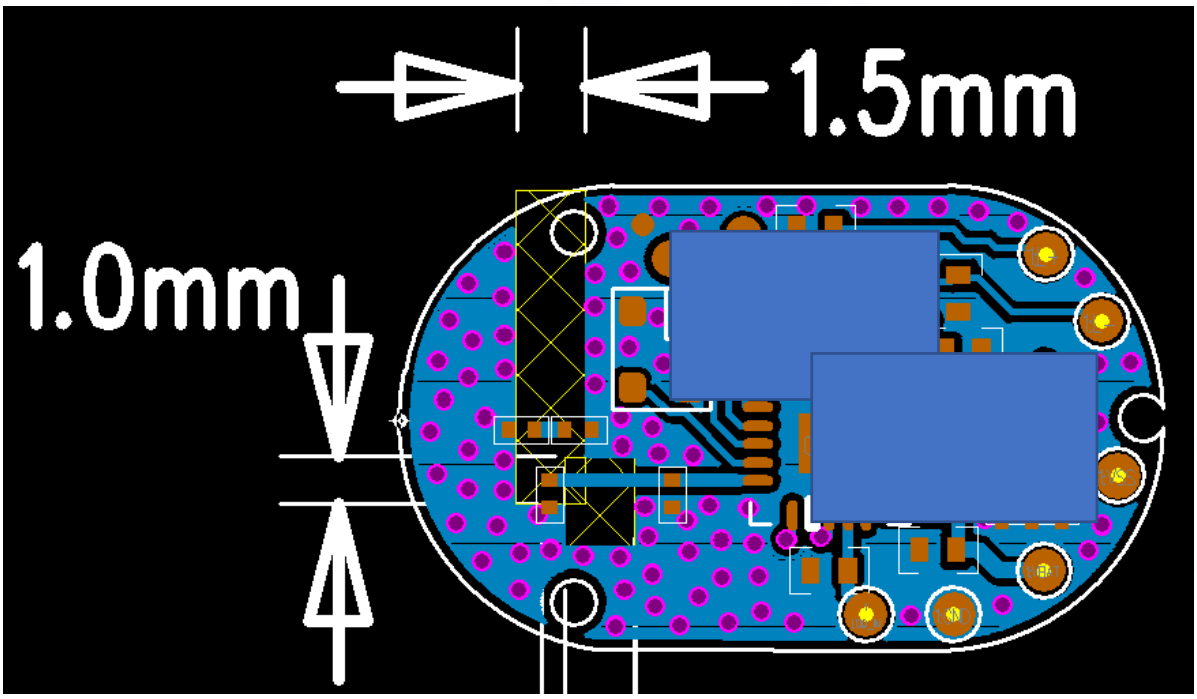
Application example-1





Application example-2

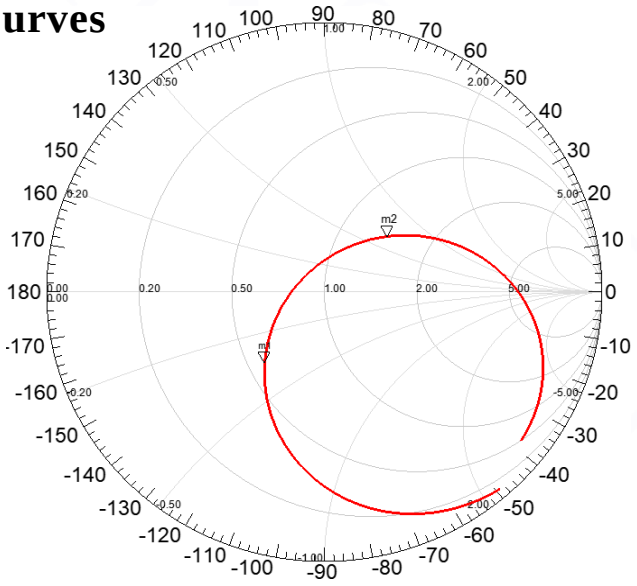


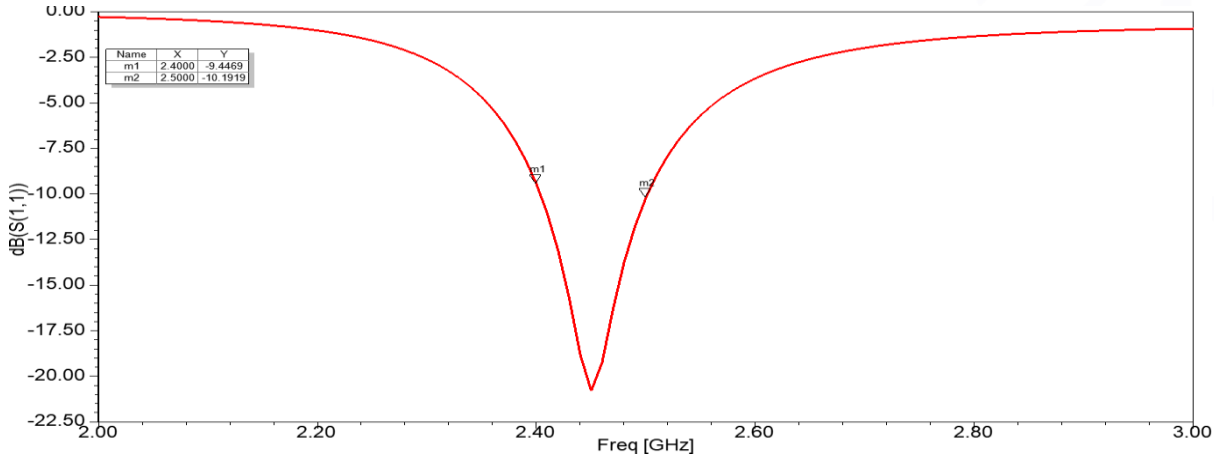


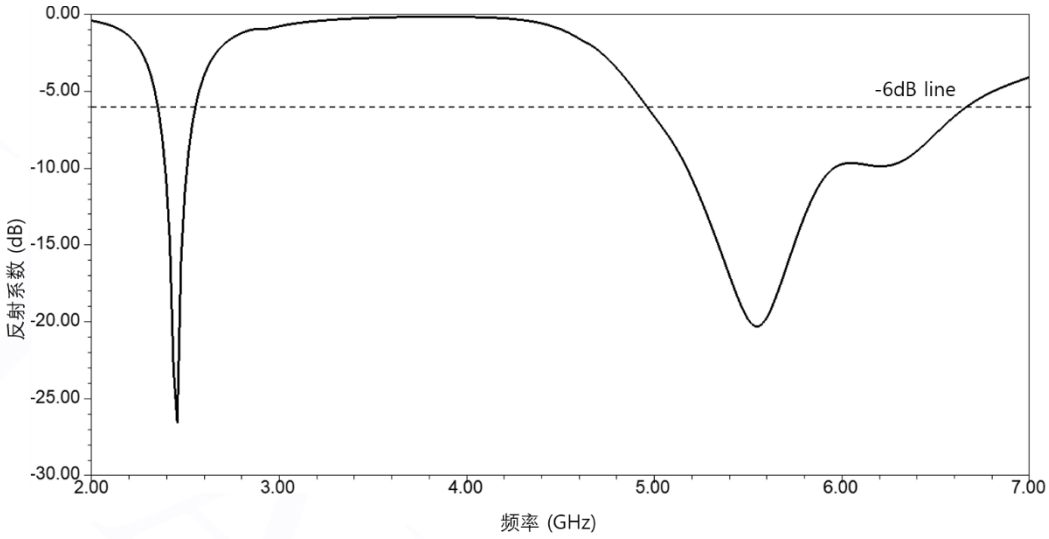
Electrical Characteristics

	Feature	Specification
1	Central frequency	2.402GHz&2.480GHz
2	Bandwidth	>100MHz
3	Peak gain	>3.5dBi
4	VSWR	2
5	Polarization	Linear
6	Azimuth beamwidth	Omnidirectional
7	Impedance	50 Ω

Characteristic Curves

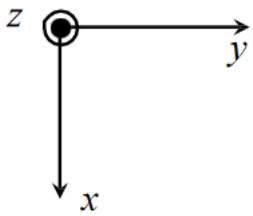


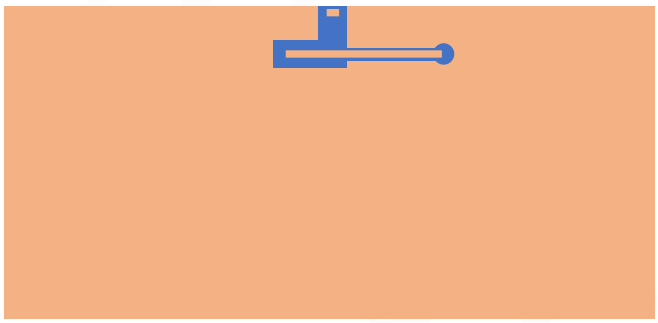




Radiation Pattern

coordinates：





Baoyunda Logistics Information Building, Qianjin Second Road, Baoan District, Shenzhen 12A11 Building A1, Hisense Industrial Park, No.399 Songling Road, Laoshan District, Qingdao Tel: 0755-23069700 Fax: 0755-23069700

Frequency	2402MHz	2480MHz
Avg. gain	-0.85	-1.30
Peak gain	3.0	3.5
Efficiency	82%	78%

Dependability Test

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

Moisture Proof

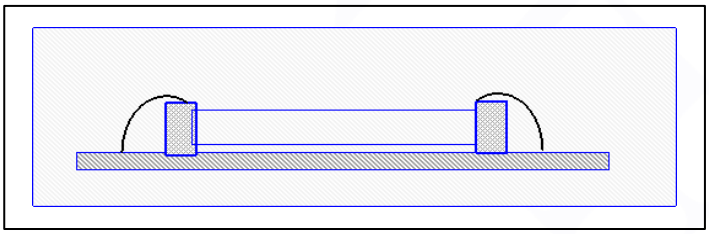
Temperature：40±2℃ Humidity：90~95%RH
Duration：500h
Recovery conditions：Room temperature Recovery Time：24h (Class1) or 48h (Class2)

Solderability

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

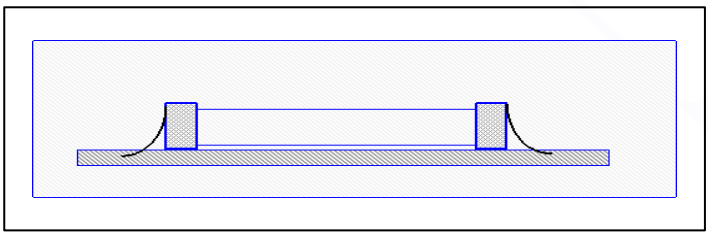
Optimum Solder Amount for Reflow Soldering

Too much solder



Cracks tend to occur due to large stress.

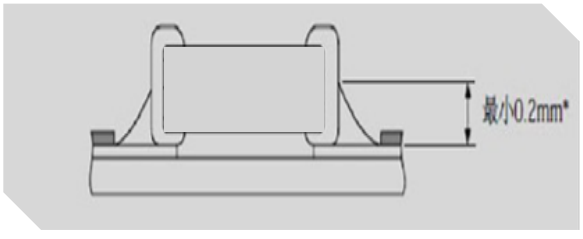
Not enough solder



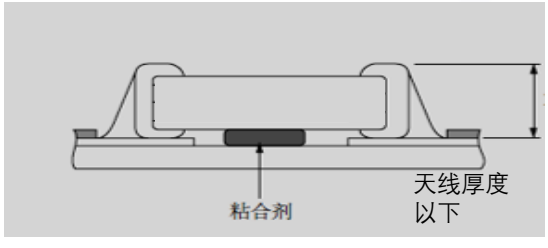
Weak holding force may cause bad connection between the chip and PCB.

Recommended Soldering Amounts

The optimal solder fillet amounts for re-flow soldering



The optimal solder fillet amounts for wave soldering



Temperature Cycle Test

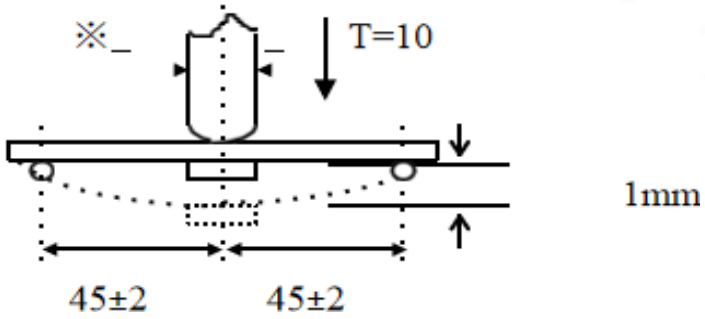
10±1S Applied Force: 5N Duration: 10±1S
Preheating conditions: up-category temperature, 1h
Recovery time: 24±1h
Initial Measurement
Cycling Times: 5 times, 1 cycle, 4 steps:

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

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; Preheating100 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

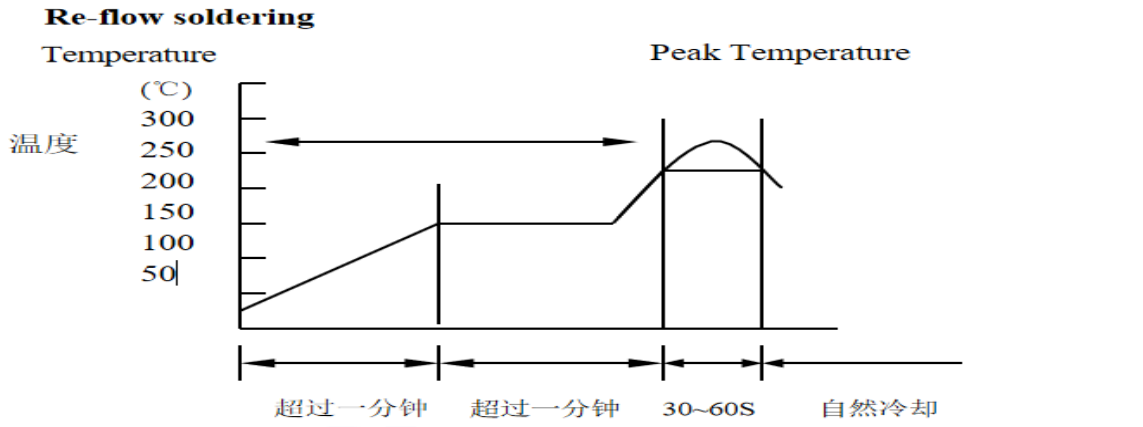
Resistance to Flexure of Substrate



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

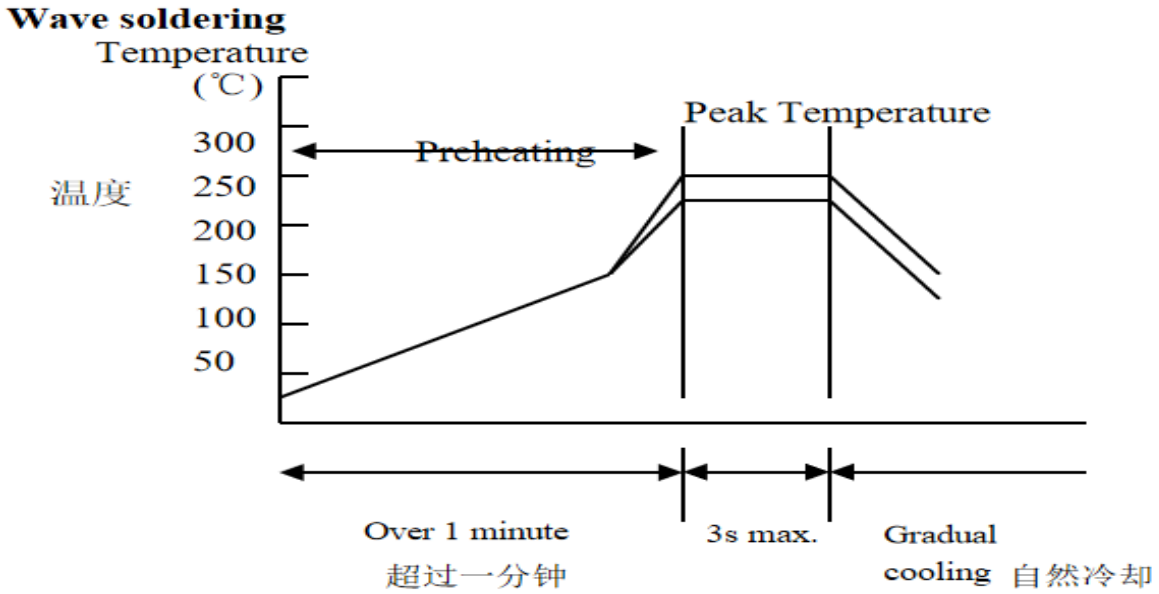
The measurement should be made with the board in the bending position.

The temperature profile for soldering



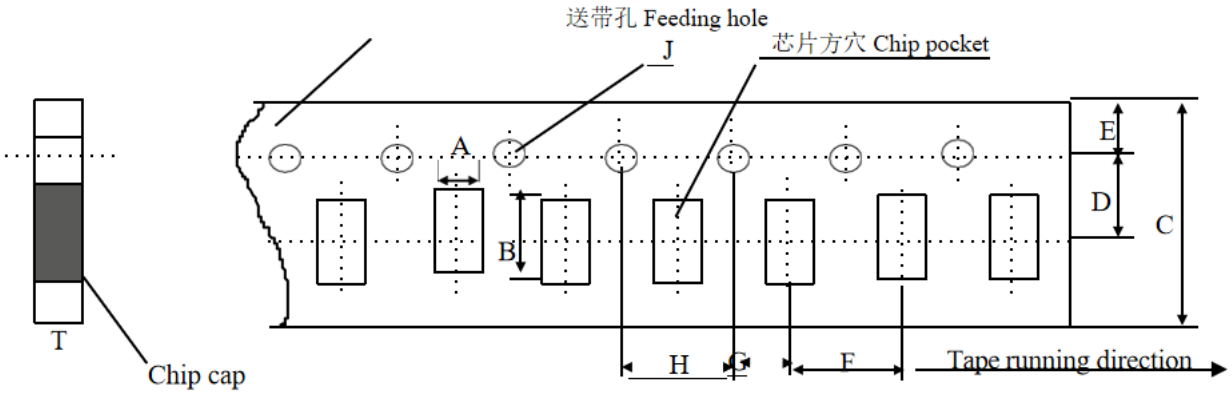
	Pb-Sn 焊接 Pb-Sn soldering	无铅焊接 Lead-free soldering
尖峰温度 Peak temperature	230℃～250℃	240℃～260℃

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



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

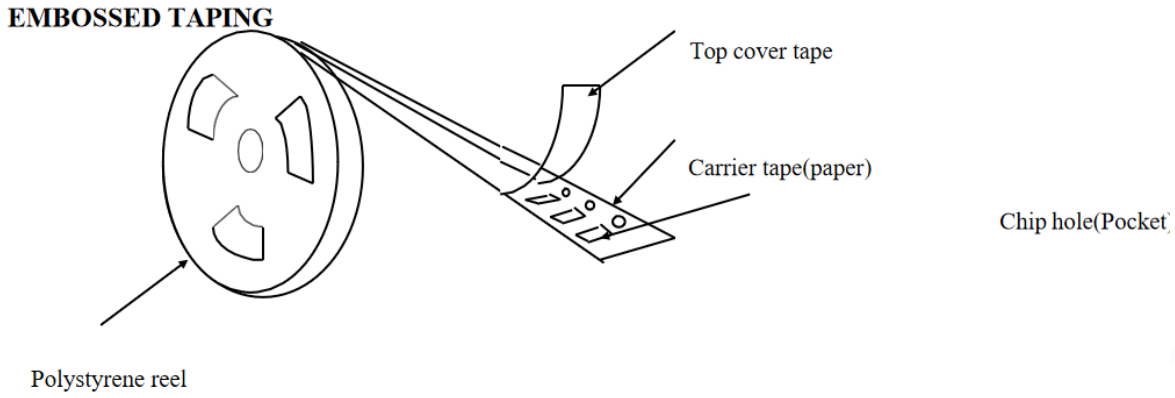
Dimensions of paper taping



Unit：mm

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



Storage Period

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