Hanyang Antenna Co. Ltd.

P/N: HY160808 SRF08

Manufacturer: ShenZhen Hanyang Antenna Design Co., Ltd.
Address: R&D Center No. 9, Taohuayuan Science and Technology Innovation Park,
Tiegang Community, Xixiang Street, Bao'an District, Shenzhen

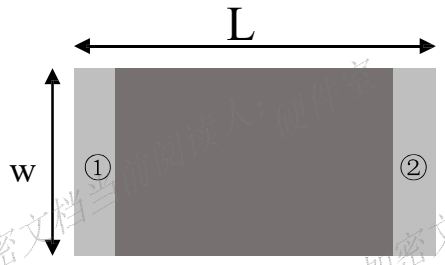
Features

1. Surface Mounted Devices with a small dimension of 1.6 x 0.8 x 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

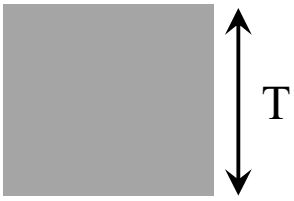
Dimensions (Unit: mm)



(Top View)

Number	Terminal Name
①	INPUT
②	NC

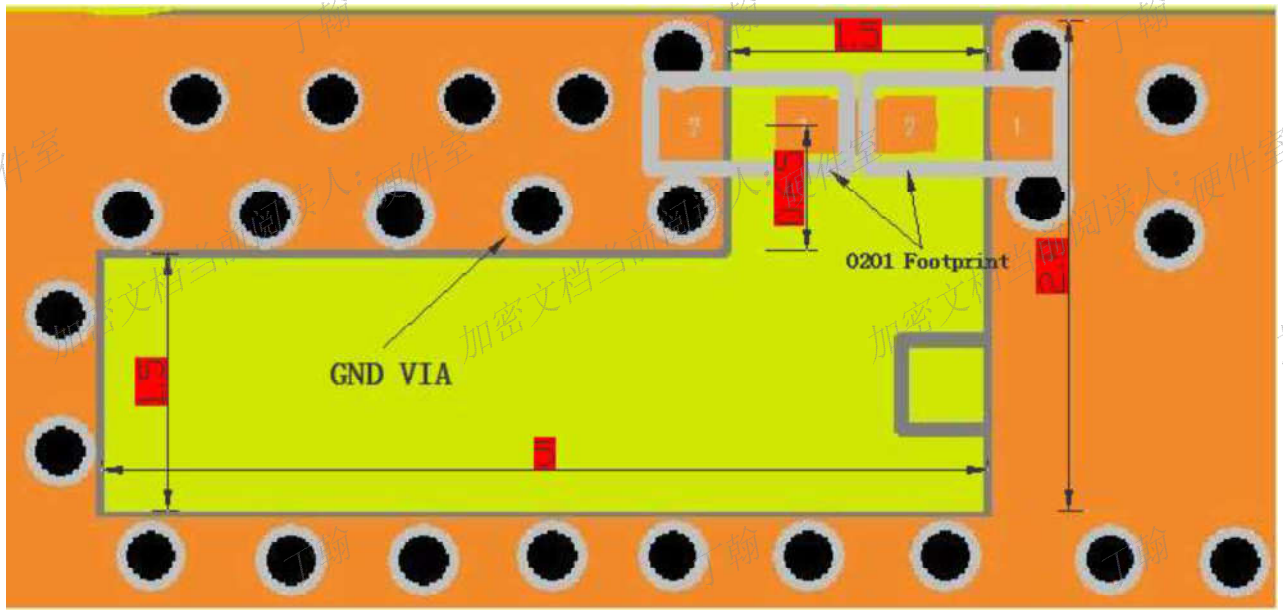
(Bottom View)

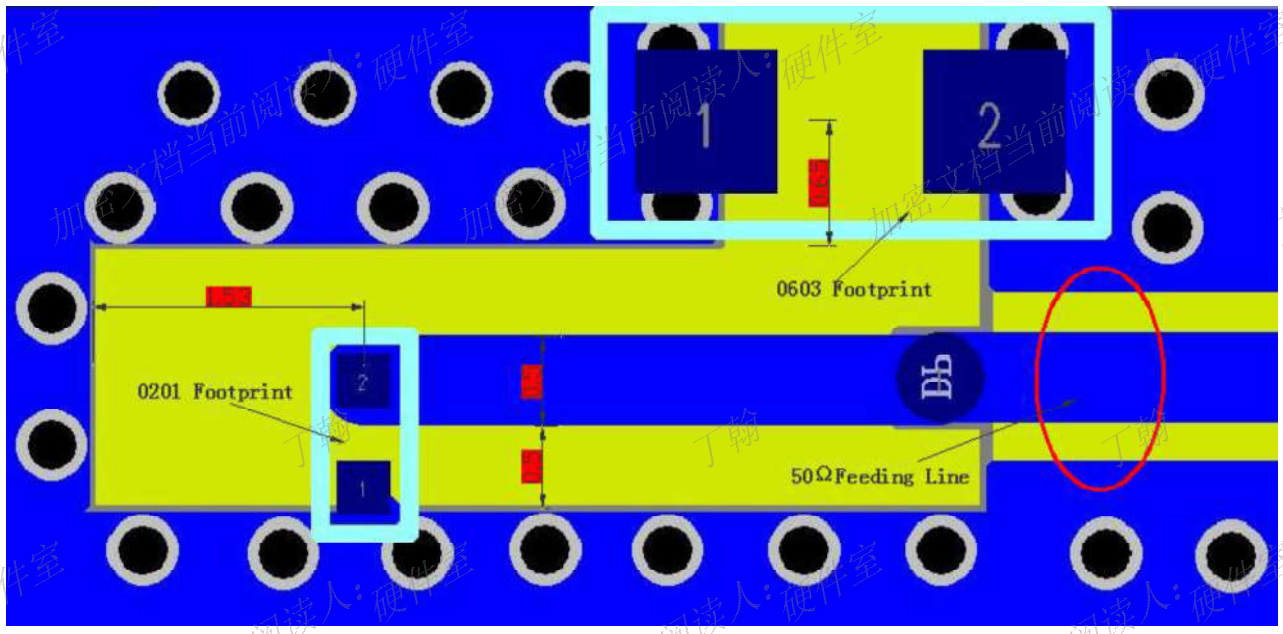


(Side View)

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

Evaluation Board and Matching Circuits





Unit:mm

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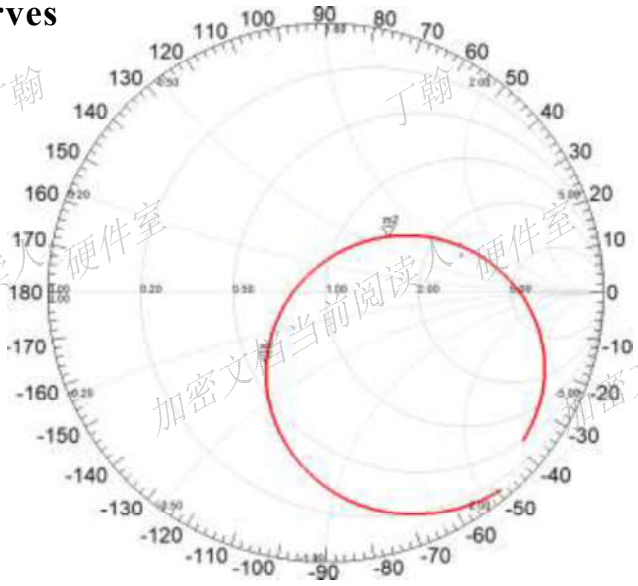
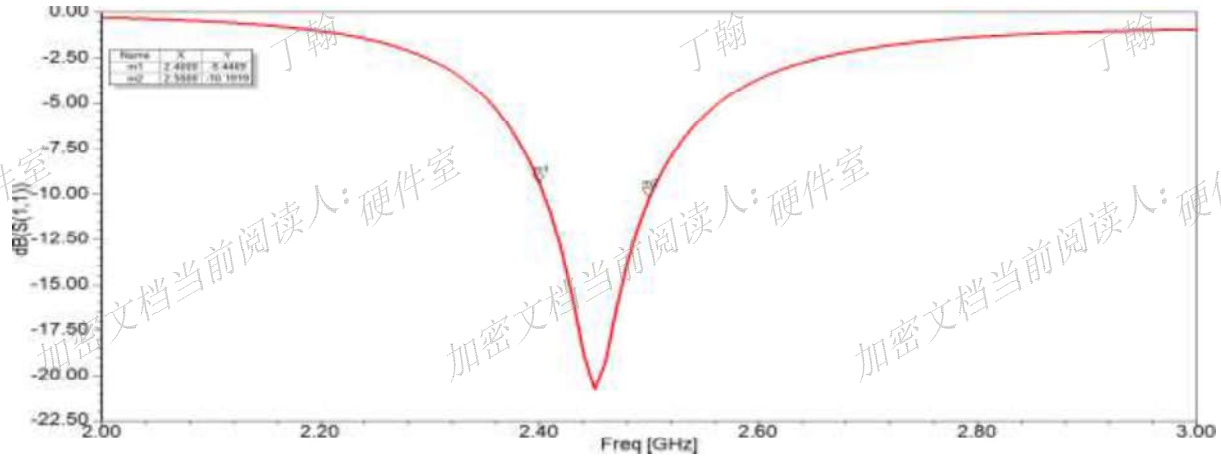
Electrical Characteristics

	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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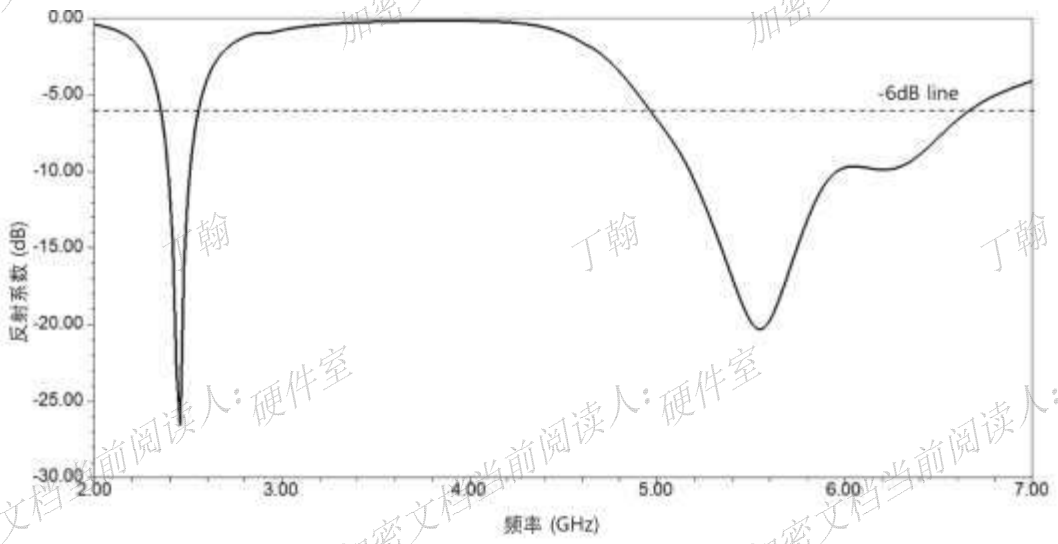
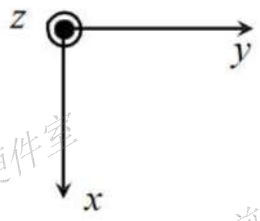
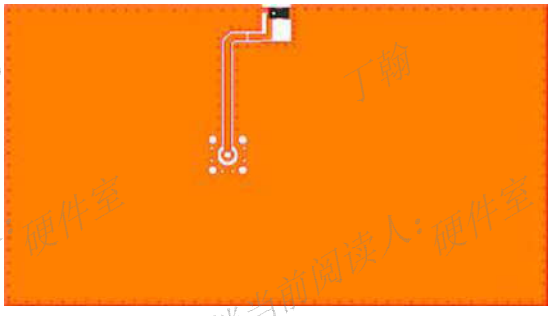


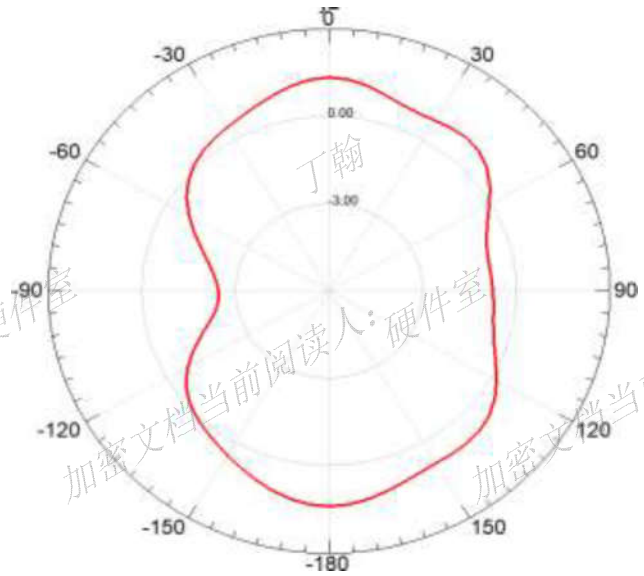
Radiation Pattern

coordinates :

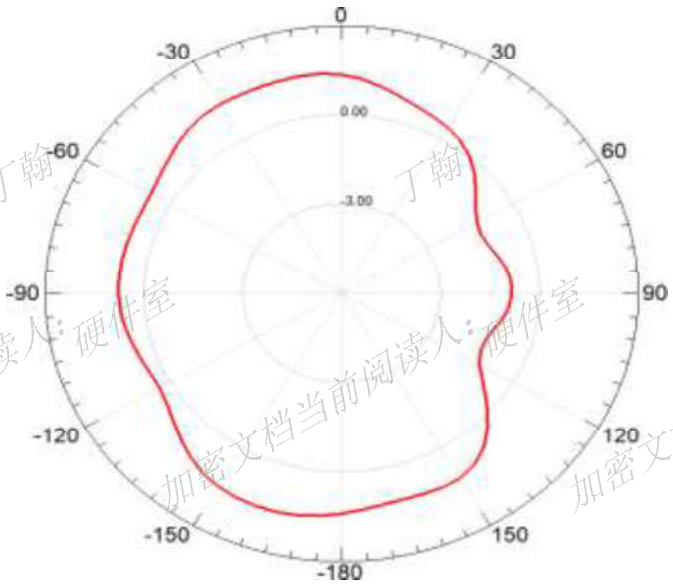


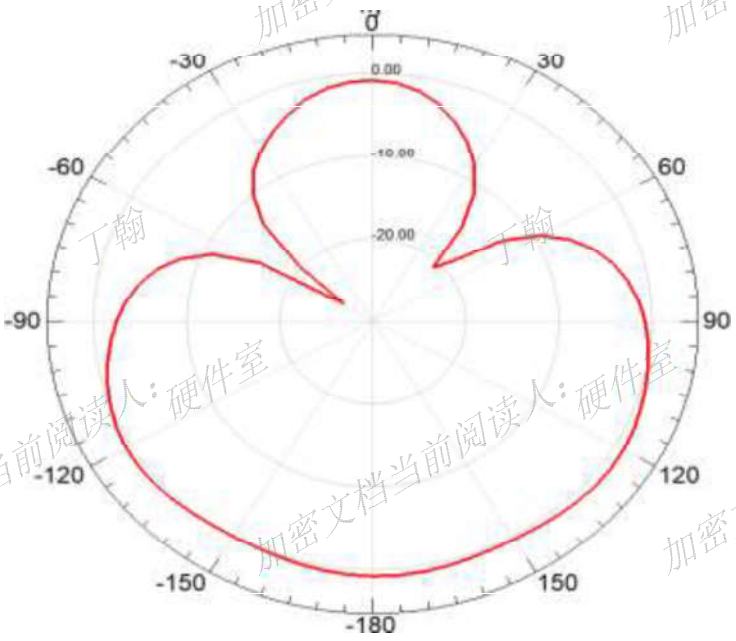


Y-Z Plane

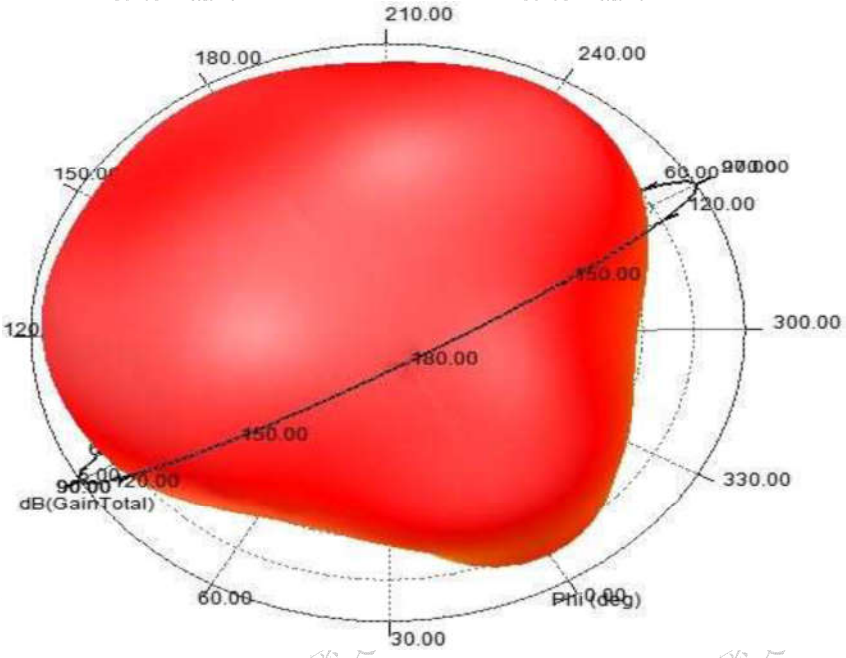


X-Z Plane





3D Radiation Pattern



Dependability Test

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

Moisture Proof

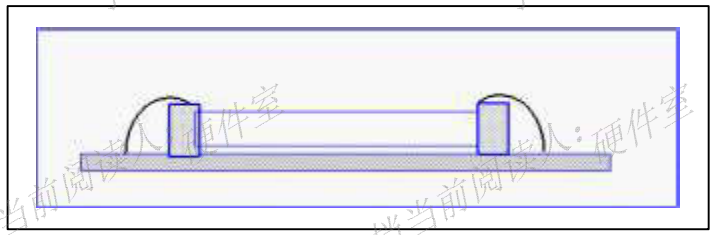
Temperature：40±2℃ Humidity：90~95%RH
Duration：500h
Recovery conditions：Room temperature Recovery Time：24h (Class1) or 48h (Class2)

Solderability

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

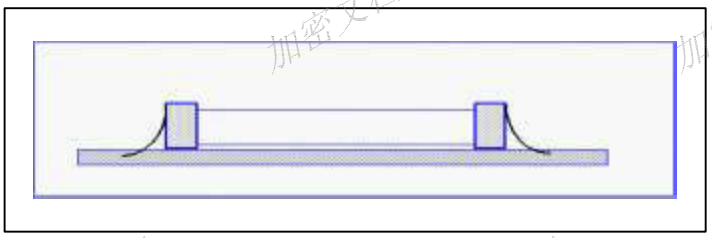
Optimum Solder Amount for Reflow Soldering

Too much solder



Cracks tend to occur due to large stress.

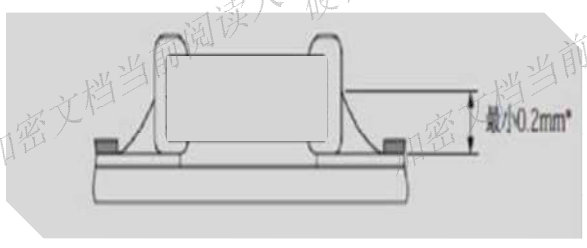
Not enough solder



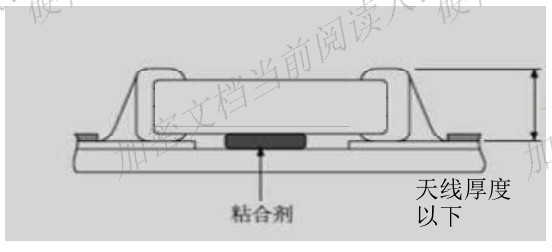
Weak holding force may cause bad connection between the chip and PCB.

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( )	30
第2步	常温 (+20)	2～3
第3步	上限温度( )	30
第4步	常温 (+20)	2～3

Resistance to Soldering Heat

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

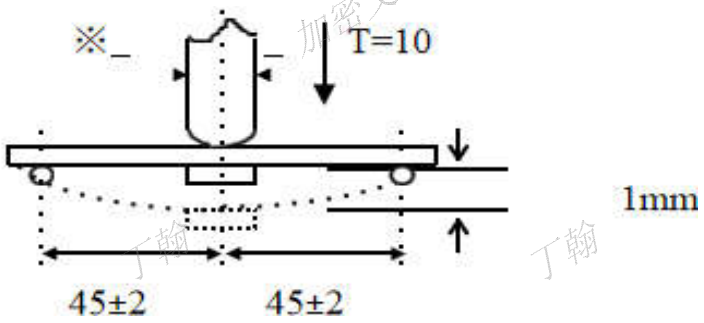
Solder Temperature: 265±5℃ Duration: 10±1s

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



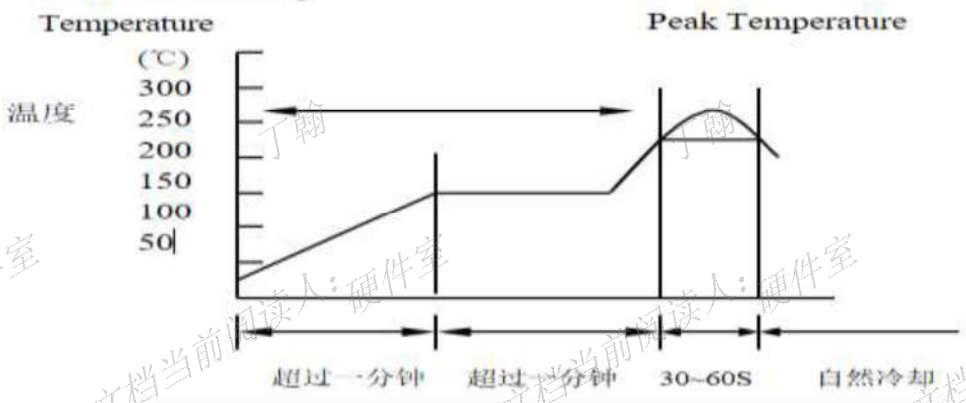
Test Board: Al_2O_3 or PCB Warp: 1mm Speed: 0.5mm/sec.

Unit: mm

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

The temperature profile for soldering

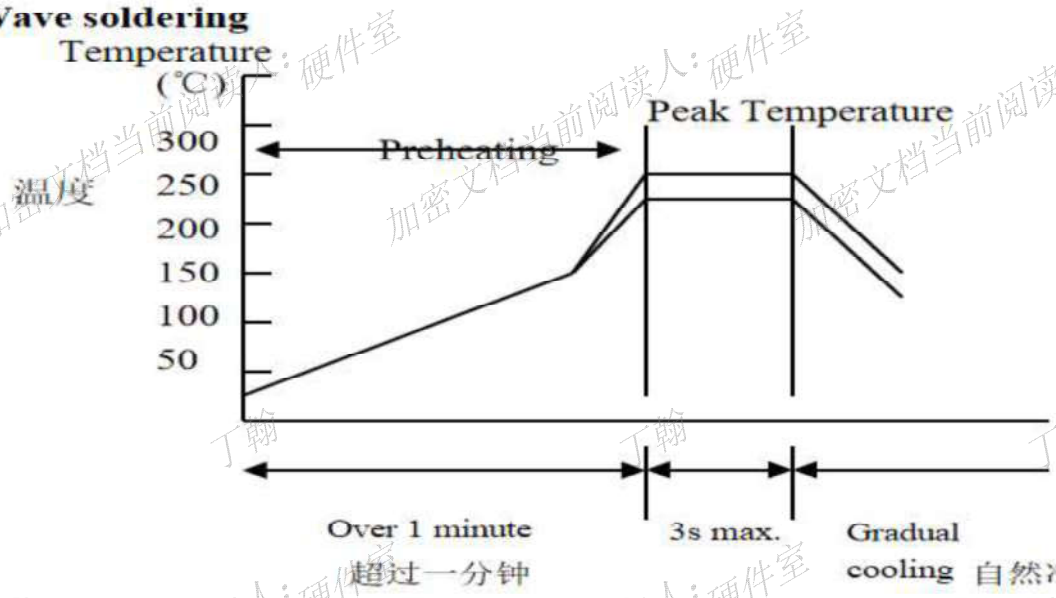
Re-flow soldering



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

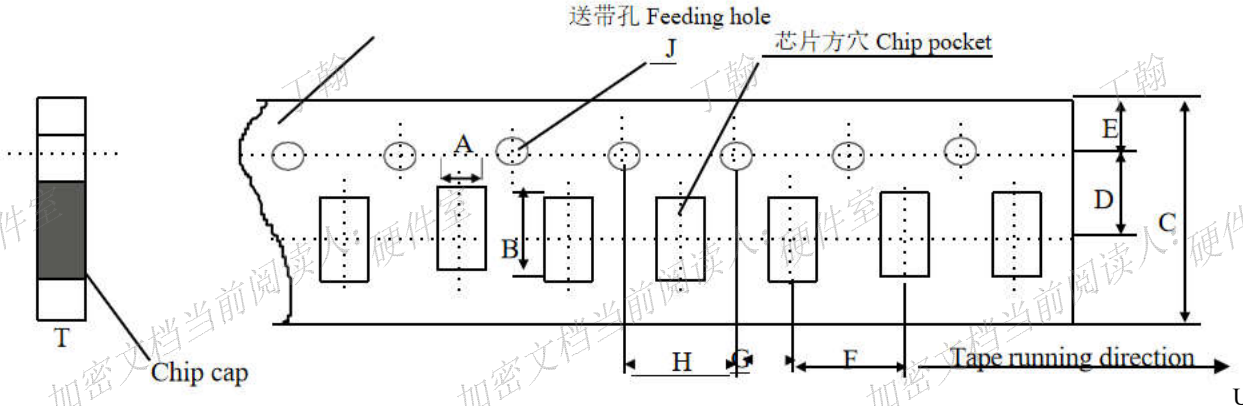
While in preheating,please keep the temperature difference between soldering temperature and surface temperature of chips as: T≤150℃.

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℃

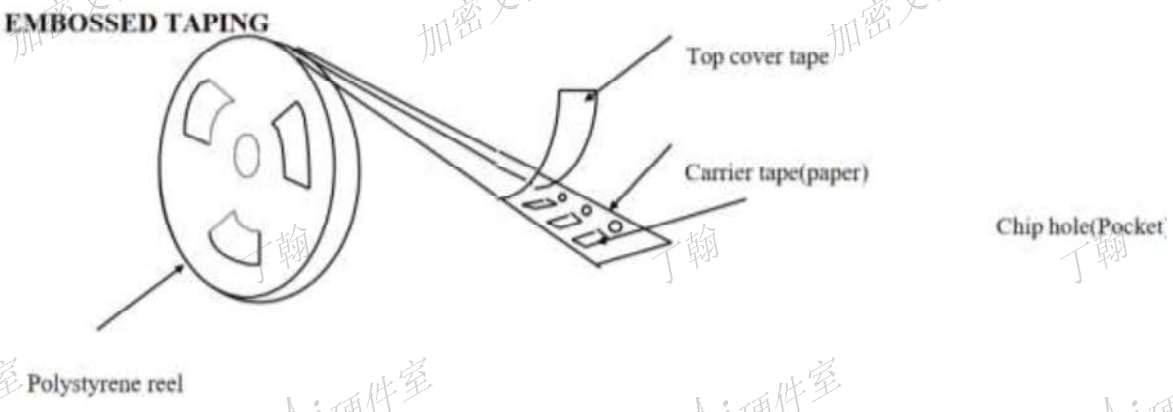
Dimensions of paper taping



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)



Storage Period

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

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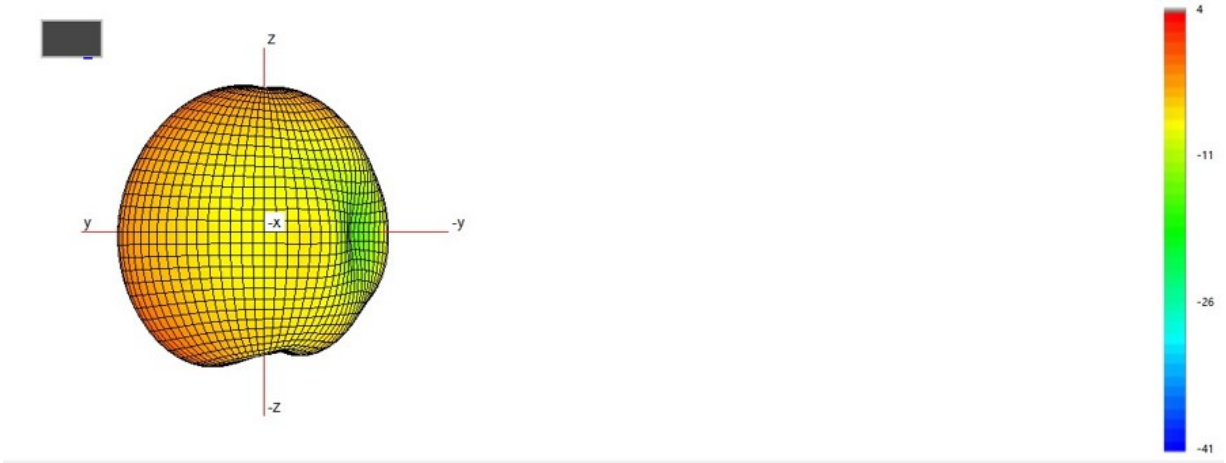
Freq	2425	2450	2475	2485	5200	5400	5600	5800
Efficiency_dB	-2.27	-1.98	-2.03	-2.07	-1.84	-2.15	-2.61	-2.42
Gain	2.79	3	2.91	2.89	3.5	3.1	2.2	2.9
Efficiency_Pcent	59.31	63.41	62.64	62.06	65.54	60.98	54.83	57.22

2.4G



5.2G