



SYNTON-TECH CORPORATION

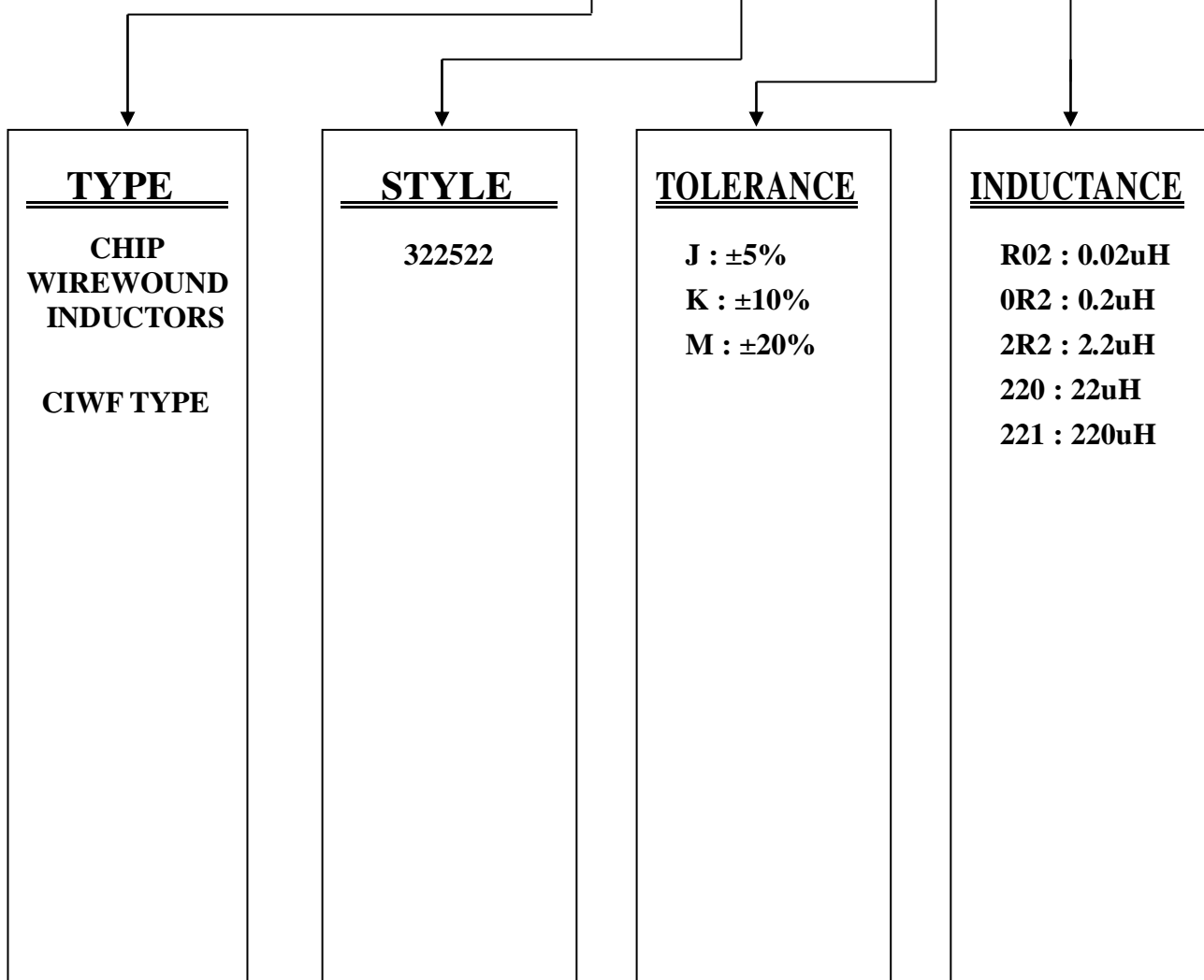
CHIP WIREWOUND INDUCTORS CIWF TYPE

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Version :	A
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1. Explanations of ordering code

DESCRIPTION : CIWF 322522 5% 22 uH

SYNTON CODE : CIWF 322522 J 220



APPROVED	CHECKED	DESIGNED	REMARK	DOCUMENT NO.
Carol	May	Chen		0201010216



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2. Rating

Inductance (uH)	Inductance tolerance	Q min	L、Q測定周波数 Test Frequency L, Q (MHz)	自己共振周波数 Self-resonant frequency (MHz) min.	直流抵抗 DC resistance (Ω) max	定格電流 Rated current (mA) max
0.01	±5%	15	100	2500	0.13	450
0.012	±5%	17	100	2300	0.14	450
0.015	±5%	19	100	2100	0.16	450
0.018	±5%	21	100	1900	0.18	450
0.022	±5%	23	100	1700	0.2	450
0.027	±5%	23	100	1500	0.22	450
0.033	±5%	25	100	1400	0.24	450
0.039	±5%	25	100	1300	0.27	450
0.047	±5%	26	100	1200	0.3	450
0.056	±5%	26	100	1100	0.33	450
0.068	±5%	27	100	1000	0.36	450
0.082	±5%	27	100	900	0.4	450
0.1	±5%	28	25.2	700	0.44	450
0.12	±5%	30	25.2	500	0.22	450
0.15	±5%	30	25.2	450	0.25	450
0.18	±5%	30	25.2	400	0.28	450
0.22	±5%	30	25.2	350	0.32	450
0.27	±5%	30	25.2	320	0.36	450
0.33	±5%	30	25.2	300	0.4	450
0.39	±5%	30	25.2	250	0.45	450
0.47	±5%	30	25.2	220	0.5	450
0.56	±5%	30	25.2	180	0.55	450
0.68	±5%	30	25.2	160	0.6	450
0.82	±5%	30	25.2	140	0.65	450
1	±5%	30	7.96	120	0.7	400
1.2	±5%	30	7.96	100	0.75	390
1.5	±5%	30	7.96	85	0.85	370
1.8	±5%	30	7.96	80	0.9	350



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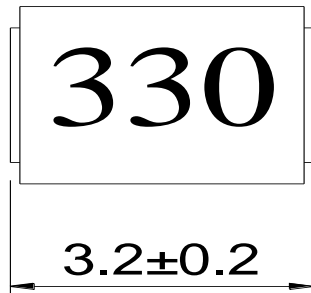
Inductance (uH)	許容差 Inductance tolerance	Q min	L、Q測定周波数 Test Frequency L, Q (MHz)	自己共振周波数 Self-resonant frequency (MHz) min.	直流抵抗 DC resistance (Ω) max	定格電流 Rated current (mA) max
2.2	±5%	30	7.96	75	1	320
2.7	±5%	30	7.96	70	1.1	290
3.3	±5%	30	7.96	55	1.2	260
3.9	±5%	30	7.96	50	1.3	250
4.7	±5%	30	7.96	45	1.5	220
5.6	±5%	30	7.96	40	1.6	200
6.8	±5%	30	7.96	35	1.8	180
8.2	±5%	30	7.96	30	2	170
10	±5%	30	2.52	28	2.1	150
12	±5%	30	2.52	20	2.5	140
15	±5%	30	2.52	20	2.8	130
18	±5%	30	2.52	20	3.3	120
22	±5%	30	2.52	19	3.7	110
27	±5%	30	2.52	18	5	80
33	±5%	30	2.52	16	5.6	70
39	±5%	30	2.52	15	6.4	65
47	±5%	30	2.52	13	7	60
56	±5%	30	2.52	12	8	55
68	±5%	30	2.52	11	9	50
82	±5%	30	2.52	10	10	45
100	±5%	20	0.796	9	10	40
120	±5%	20	0.796	9	11	70
150	±5%	20	0.796	7	15	65
180	±5%	20	0.796	6	17	60
220	±5%	20	0.796	6	21	50
270	±5%	20	0.796	5	28	45
330	±5%	20	0.796	4	34	40



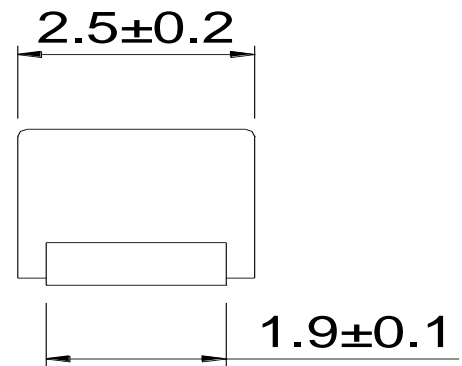
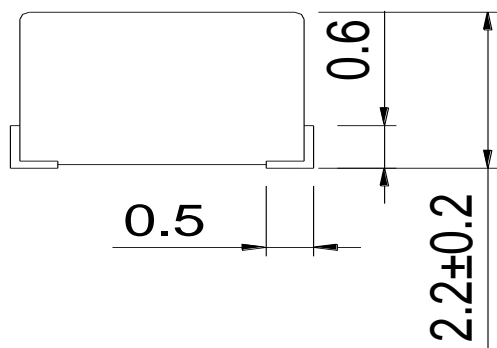
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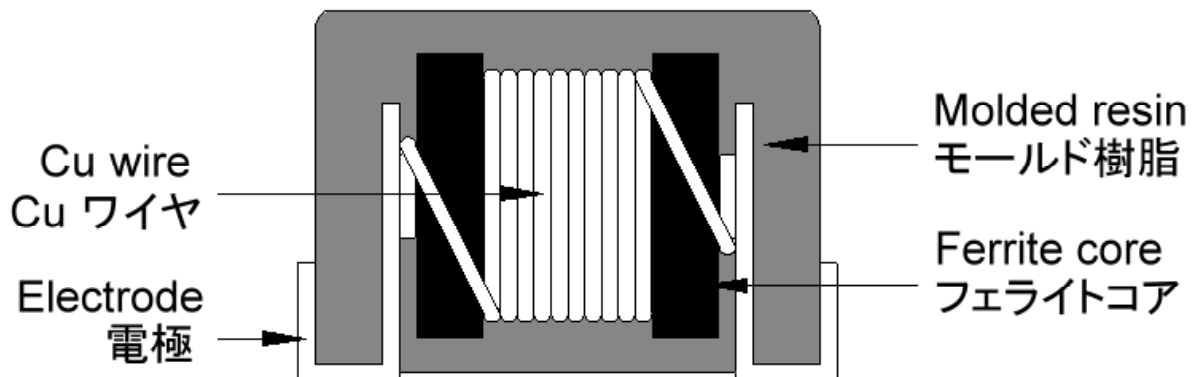
3. Form and dimension



Weight:50mg



4. Construction





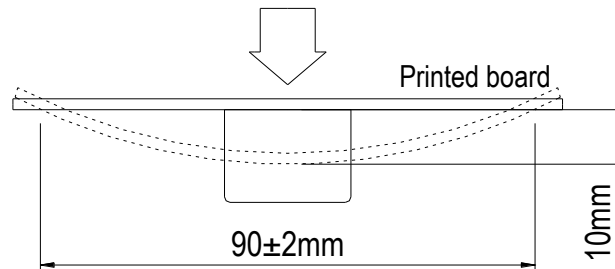
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5. Mechanical Strength

5-1. Bending test

Test Method Soldered sample on PC board to be bend down to 3mm as below drawing

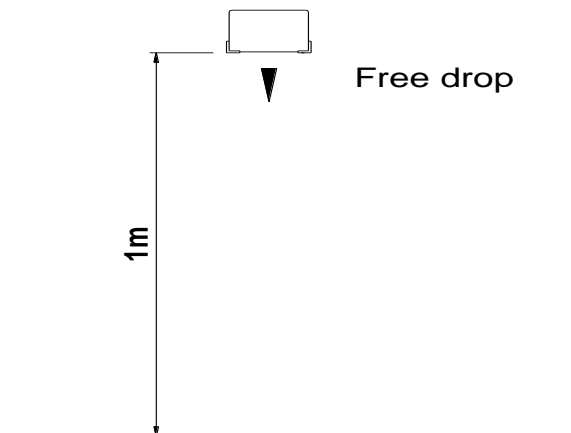


Number of samples n=10

Results *Appearance : No looseness and damage

5-2. Drop test

Test Method The sample shall be subject to “drop test” illustrated in following figure.
At the completion of the “drop test”, there shall be no abnormality in functioning



Number of samples n=10

Results *Appearance : No looseness

*Inductance change rate : $\Delta L/L_0 \leq \pm 5\%$

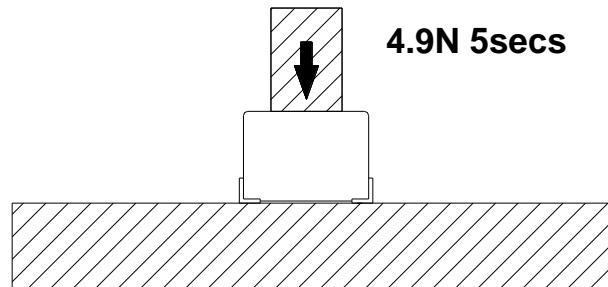


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5-3. Pressing strength

Test Method Apply 4.9N load for 5 Sec, as shown by following figure.



Number of samples n=10

Results *Appearance : No looseness and damage

5-4. Vibration test.

Test Method Submit the sample to a vibration test in X, Y and Z directions, 2 hours for each direction.

Vibration freq.: 10~55Hz

Amplitude : 1.5mm

Number of samples n=10

Results *Appearance : No looseness

*Inductance change rate : $\Delta L/L_0 \leq \pm 5\%$

6. Resistance to soldering heat

Test Method Dipping the sample into solder bath.

Pre-heat : 150+0/-20°C, 2 minutes.

Soak into the solder bath: 260±5°C, 10±1 seconds.

Number of samples n=10

Results *Appearance : No looseness and damage

*Inductance change rate : $\Delta L/L_0 \leq \pm 5\%$



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7. Solder ability test

Test Method Dipping the sample into solder bath.

Pre-heat : 150+0/-20°C, 2 minutes.

Soak into the solder bath: 230±5°C, 4±1 seconds.

Number of samples n=10

Results *Appearance : No looseness and damage

*Not less than 90% of the electrode sections shall be newly coated with solder smoothly when the sample is taken out of the solder bath.

8. Thermal shock

Test Method Exposure sample at the conditions in the figure below, characteristics are measured after the ambient air exposure of 1 or 2 hours.

100 cycles of +85°C for 30 minutes, -40°C for 30 minutes.

Number of samples n=10

Results *Appearance : No looseness

*Inductance change rate : $\Delta L/L0 \leq \pm 5\%$

*Inductance change rate : $\Delta Q/Q0 \leq \pm 30\%$

9. Low temperature storage

Test Method Exposure sample at -40°C, for 1000 hours. Characteristics are measured after the ambient air exposure of 1 or 2 hours.

Number of samples n=10

Results *Appearance : No looseness

*Inductance change rate : $\Delta L/L0 \leq \pm 5\%$

*Inductance change rate : $\Delta Q/Q0 \leq \pm 30\%$



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10.High temperature storage

Test Method Exposure sample at 85°C, for 1000 hours. Characteristics are measured after the ambient air exposure of 1 or 2 hours.

Number of samples n=10

Results *Appearance : No looseness

*Inductance change rate : $\Delta L/L0 \leq \pm 5\%$

*Inductance change rate : $\Delta Q/Q0 \leq \pm 30\%$

11.Moisture storage

Test Method Exposure sample at 60°C, 95%RH for 1000 hours. Characteristics are measured after the ambient air exposure of 1 or 2 hours.

Number of samples n=10

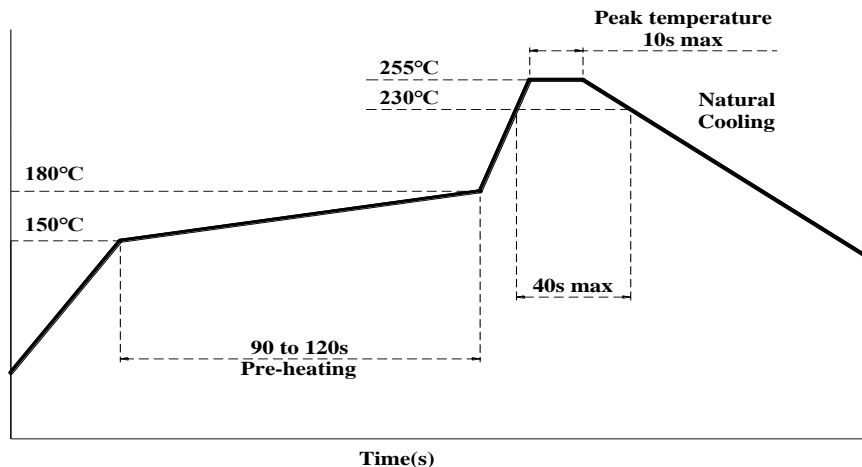
Results *Appearance : No looseness

*Inductance change rate : $\Delta L/L0 \leq \pm 5\%$

*Inductance change rate : $\Delta Q/Q0 \leq \pm 30\%$

12. The recommended Soldering conditions

12.1 Reflow soldering

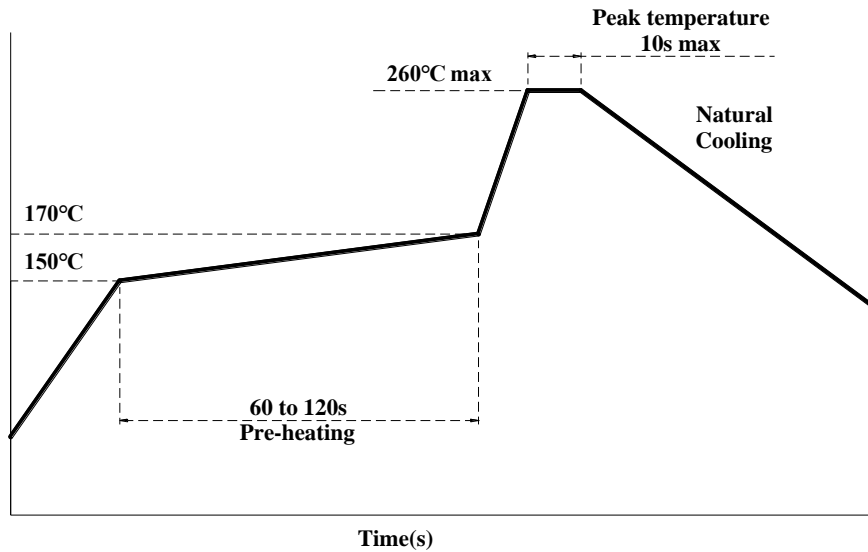




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12.2 Flow soldering



12.3 Iron soldering

Tip temperature	300 to 350°C
Heating time	3 sec/soldering
Soldering rod specifications	Output: 30W Tip diameter: 1mm

Based on the above conditions, use a maximum product temperature of 260°C and a maximum accumulated heating time of 10 seconds as a guideline.

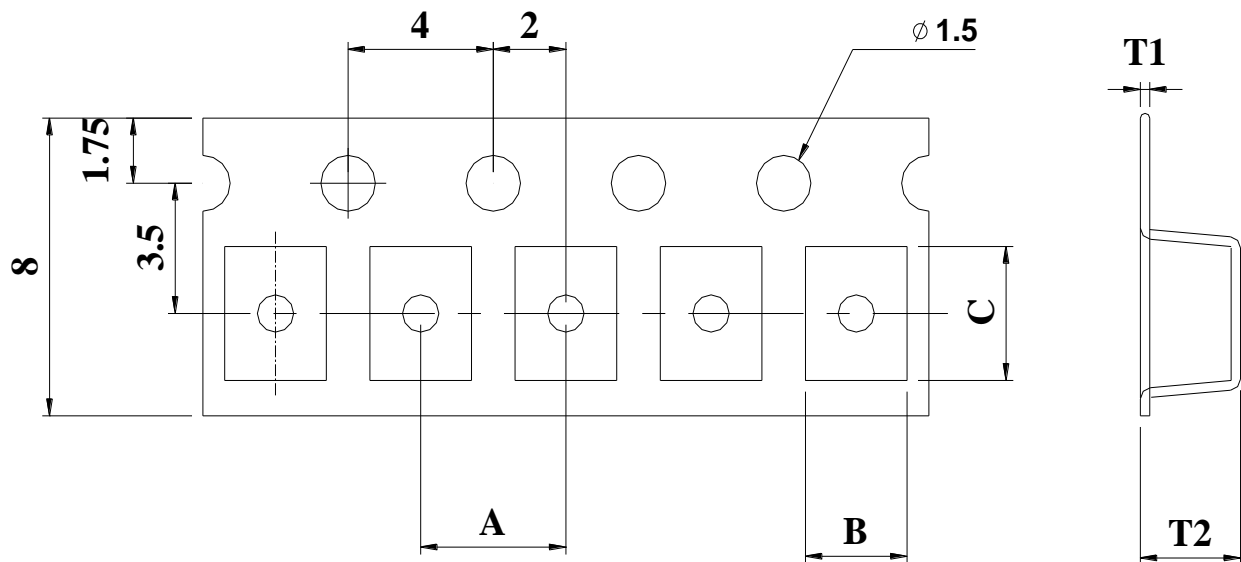


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13. Package

(1) Taping specifications



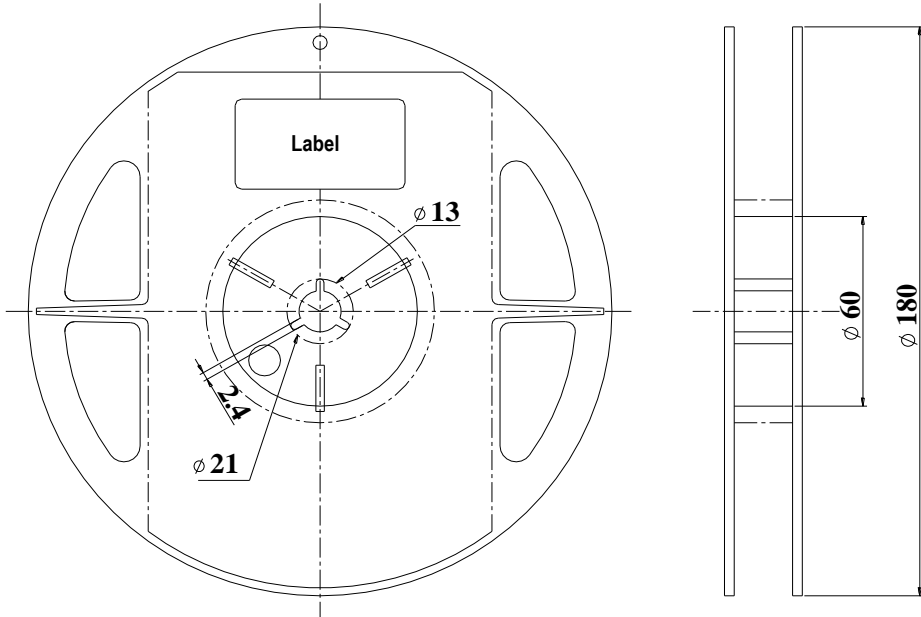
Product	Product's thickness (mm)	A (mm)	B (mm)	C (mm)	T1 (mm)	T2 (mm)	QTY
CIWF322522	2.2±0.2	4.0	2.8	3.5	0.3	2.45	2000Pcs/reel



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(2) Reel Specifications



	Type	Size(mm)	Q'ty
1	7" Plastic reel	φ 180*11	2,000pcs
2	Box	185* 90 *190	5 Reels
3	Carton	480 * 195 * 200	5 boxes