

SPECIFICATION FOR APPROVAL

CUSTOMER	_____
CUST. PART NO.	_____
CUST. DOC. REV.	_____
DESCRIPTION	CHIP INDUCTORS (RoHS+H.F.)
SAMPLE LOT NO.	_____
PART NO.	0402CP-XXXX-LRH
DOC. REV.	_____
DATE	_____

Once you approve this part, please sign and return this page to the following marked location.



Customer Signature: _____ **Date:** _____

This part currently development section. Production line can produce this series of products.

■ Sales Office-Headquarter

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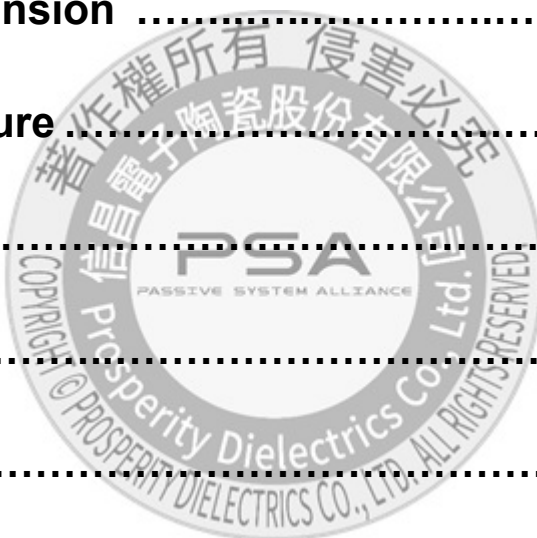
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TESTED BY	CHECKED BY	APPROVED BY

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SPECIFICATION FOR APPROVAL

CUSTOMER	CUSTOMER P/N	REV. -	SPL. LOT NO.	
PART NAME CHIP INDUCTORS (RoHS+H.F.)	PART NO. 0402CP-XXXX-LRH	REV.	DATE OF ISSUE	Q'TY 0 PCS

ENGINEERING CHANGE NOTICE – RECORD

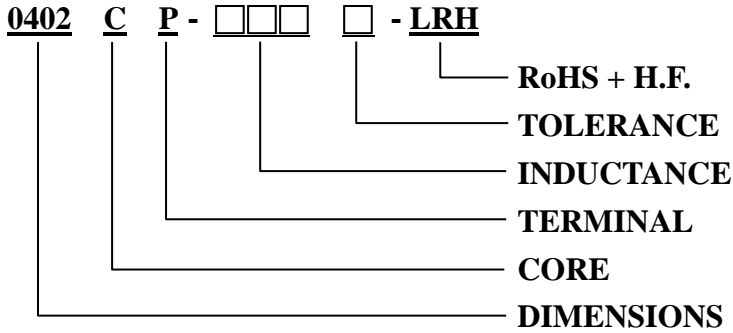
REVISION NO.	REVISION DESCRIPTION	AUTHOR	DATE	REMARK
				

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- ※This is a RoHS and REACH compliant product whose related documents are available on request.
- ※Graphic is only for dimensionally application.

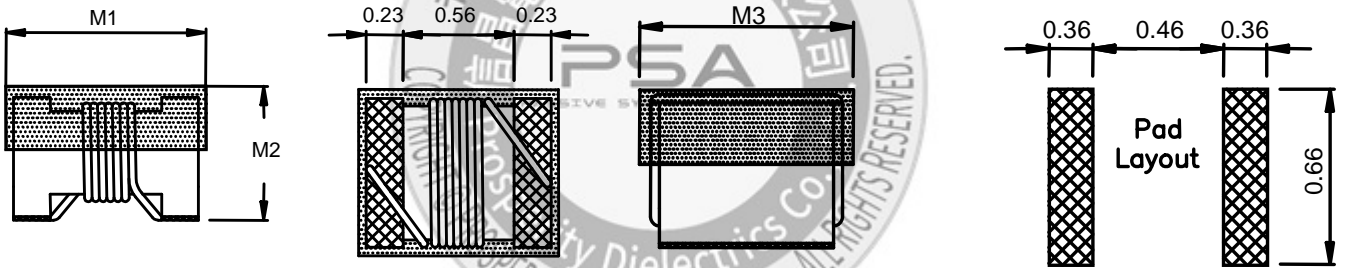
1. SCOPE: THIS SPECIFICATION APPLIES TO WIRE WOUND CHIP INDUCTORS.

2. PART NUMBER IDENTIFICATION



3. MECHANICAL DIMENSION

UNIT: mm



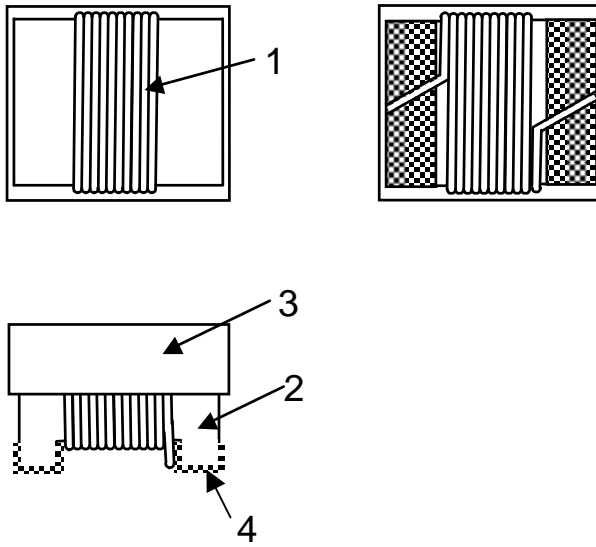
SERIES	M1	M2	M3
0402CP-XXXX-LRH	1.19(MAX)	0.66(MAX)	0.64(MAX)

4. RATING TEMPERATURE

OPERATING TEMPERATURE RANGE: -25°C ~ +125°C
 TEMPERATURE RISE : Below 15°C at Rated Current

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5. STRUCTURE



6. MATERIAL LIST

ITEM	MATERIAL CATEGORY	MATERIAL TYPE	UL NO.
1	WIRE	POLYSOL	E143312
2	CORE	CERAMIC	
3	EPOXY	UV TYPE	
4.	TERMINAL	AgPd+Ni+Sn	

7. TEST INSTRUMENT

7-1 L、Q: TESTED BY AGILENT E4991B with 16197A or its equivalent

7-2 SRF: TESTED BY AGILENT 5071C or its equivalent

7-3 DCR: TESTED BY CHROMA 16502 or its equivalent

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8. ELECTRICAL SPECIFICATION

Part number	Inductance (nH) @250MHz	Inductance Tolerance	Q MIN.	L (TYP.)	Q (TYP.)	L (TYP.)	Q (TYP.)	SRF (GHz) MIN.	DC Resistance (Ω) MAX.	Irms (mA)
				@900MHz		@1700MHz				
0402CP-1N0□-LRH	1.0	W、U、Z	16	1.02	75	1.02	70	12.70	0.045	1360
0402CP-1N2□-LRH	1.2	W、U、Z	16	1.17	30	1.17	40	12.90	0.090	740
0402CP-1N8□-LRH	1.8	W、U、Z	16	2.08	59	1.94	74	12.00	0.070	1040
0402CP-1N9□-LRH	1.9	W、U、Z	16	1.72	65	1.74	80	11.30	0.070	1040
0402CP-2N0□-LRH	2.0	W、U、Z	16	1.93	54	1.93	75	11.10	0.070	1040
0402CP-2N2□-LRH	2.2	W、U、Z	19	2.19	55	2.23	82	10.80	0.070	960
0402CP-2N4□-LRH	2.4	W、U、Z	15	2.24	51	2.27	70	10.50	0.068	790
0402CP-2N5□-LRH	2.5	W、U、Z	15	2.37	33	2.38	53	10.40	0.150	660
0402CP-2N7□-LRH	2.7	W、U、Z	16	2.58	42	2.60	61	10.40	0.120	640
0402CP-3N3□-LRH	3.3	W、U、Z	19	3.10	65	3.12	80	7.00	0.066	840
0402CP-3N6□-LRH	3.6	W、U、Z	19	3.56	45	3.62	71	6.80	0.066	840
0402CP-3N9□-LRH	3.9	W、U、Z	19	3.89	50	4.14	72	6.00	0.066	840
0402CP-4N1□-LRH	4.1	W、U、Z	18	3.89	50	4.14	72	6.00	0.066	700
0402CP-4N3□-LRH	4.3	W、U、Z	18	4.19	40	4.30	71	6.00	0.091	700
0402CP-4N7□-LRH	4.7	W、U、Z	15	4.78	47	4.59	62	4.70	0.13	640
0402CP-5N1□-LRH	5.1	W、U、Z	20	5.16	52	5.19	76	4.80	0.083	800
0402CP-5N6□-LRH	5.6	G、J、K	20	5.20	48	5.28	75	4.80	0.083	760
0402CP-5N8□-LRH	5.8	G、J、K	20	5.60	48	5.63	74	4.80	0.083	760
0402CP-6N2□-LRH	6.2	G、J、K	20	6.15	50	6.20	73	4.80	0.083	760
0402CP-6N8□-LRH	6.8	G、J、K	20	6.73	65	6.95	70	4.80	0.083	680
0402CP-7N3□-LRH	7.3	G、J、K	20	7.51	60	7.89	80	4.8	0.100	680
0402CP-7N5□-LRH	7.5	G、J、K	22	7.91	60	8.22	85	4.80	0.100	680
0402CP-8N2□-LRH	8.2	G、J、K	22	8.53	64	8.81	88	4.40	0.100	680
0402CP-8N7□-LRH	8.7	G、J、K	18	8.78	54	9.21	73	4.10	0.200	480
0402CP-9N0□-LRH	9.0	G、J、K	22	9.07	65	9.53	83	4.16	0.100	680
0402CP-9N1□-LRH	9.1	G、J、K	22	9.27	63	8.61	73	4.16	0.100	680
0402CP-9N5□-LRH	9.5	G、J、K	18	9.64	62	9.93	56	4.00	0.200	480
0402CP-10N□-LRH	10	G、J、K	21	10.16	50	9.72	85	3.90	0.200	480
0402CP-11N□-LRH	11	G、J、K	24	10.89	53	11.46	77	3.68	0.120	640
0402CP-12N□-LRH	12	G、J、K	24	12.71	62	12.87	77	3.60	0.120	640
0402CP-13N□-LRH	13	G、J、K	24	13.4	51	14.63	57	3.45	0.210	440
0402CP-15N□-LRH	15	G、J、K	24	15.2	55	16.88	76	3.28	0.170	560
0402CP-16N□-LRH	16	G、J、K	24	16.43	45	18.79	49	3.10	0.220	560
0402CP-18N□-LRH	18	G、J、K	25	17.39	52	22.18	64	3.10	0.230	420
0402CP-19N□-LRH	19	G、J、K	24	19.51	60	21.85	72	3.04	0.200	480
0402CP-20N□-LRH	20	G、J、K	25	20.7	52	23.66	53	3.00	0.250	420
0402CP-22N□-LRH	22	G、J、K	25	22.33	57	26.54	53	2.80	0.300	400
0402CP-23N□-LRH	23	G、J、K	22	23.8	49	26.85	64	2.72	0.300	400
0402CP-24N□-LRH	24	G、J、K	25	25.59	59	31.06	56	2.70	0.300	400
0402CP-27N□-LRH	27	G、J、K	24	29.26	45	32.56	62	2.48	0.300	400
0402CP-30N□-LRH	30	G、J、K	25	31.9	45	40.38	41	2.35	0.300	400
0402CP-33N□-LRH	33	G、J、K	24	34.12	35	40.32	36	2.35	0.440	400
0402CP-36N□-LRH	36	G、J、K	24	39.5	45	48.4	53	2.32	0.440	320
0402CP-39N□-LRH	39	G、J、K	25	42.65	45	50.96	42	2.10	0.550	200
0402CP-40N□-LRH	40	G、J、K	24	39.0	44	47.41	35	2.24	0.440	320
0402CP-43N□-LRH	43	G、J、K	25	45.8	46	61.55	35	2.03	0.810	100
0402CP-47N□-LRH	47	G、J、K	20	52.85	42	-	-	2.10	0.830	150
0402CP-51N□-LRH	51	G、J、K	25	56.6	40	-	-	1.75	0.820	100
0402CP-56N□-LRH	56	G、J、K	22	58.59	40	-	-	1.76	0.970	100
0402CP-57N□-LRH	57	G、J、K	22	60.15	40	-	-	1.76	0.970	100
0402CP-62N□-LRH	62	G、J、K	22	64.95	40	-	-	1.76	1.620	100
0402CP-68N□-LRH	68	G、J、K	22	72.17	40	-	-	1.62	1.120	100
0402CP-72N□-LRH	72	G、J、K	20	-	-	-	-	1.26	2.000	30
0402CP-75N□-LRH	75	G、J、K	20	-	-	-	-	1.62	2.000	50
0402CP-82N□-LRH	82	G、J、K	20	-	-	-	-	1.26	1.550	50
0402CP-91N□-LRH	91	G、J、K	22	-	-	-	-	1.26	2.000	50
0402CP-R10□-LRH	100	G、J、K	20	-	-	-	-	1.16	2.000	30
0402CP-R12□-LRH	120	G、J、K	20	-	-	-	-	1.90	2.200	50

NOTE:

- Tolerance: K:±10%、J:±5%、G:±2%、W:±0.5 nH、U:±0.2 nH、Z:±0.1 nH
- MSL: Level 1

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9. RELIABILITY PERFORMANCE

Reliability Experiment For Electrical

Test Item	Accept criteria	Test Condition	Standard Source
Humidity Test	1.Change from an initial value L:within±5% 2.no visible damage.	+40°C±2°C, humidity of 90%±5% (total 96 hours).	MIL-STD-202G Method 103B Test Condition B
High Temperature Test	1.Change from an initial value L:within±5% 2.no visible damage.	1.Temperature: +125°C±2°C. 2.Test time: 48±2hrs.	IEC 68-2 Test Condition B
Low Temperature Test	1.Change from an initial value L:within±5% 2.no visible damage.	1.Temperature: -25°C±2°C. 2.Test time: 48±2hrs.	IEC 68-2 Test Condition A
Thermal Shock	1.Change from an initial value L:within±5% 2.no visible damage.	+125°C±5°C (30 minutes) ~ -55±5°C (30 minutes), temperature switch time: 5 minutes (total 50 cycles) Wind speeds 10m/sec.	Reference MIL-STD-202G Method 107G Test Condition A-2
Life Test	1.Change from an initial value L:within±5% 2.no visible damage.	+70°C±5°C (250Hours).	Reference MIL-STD-202G Method 108A Test Condition B

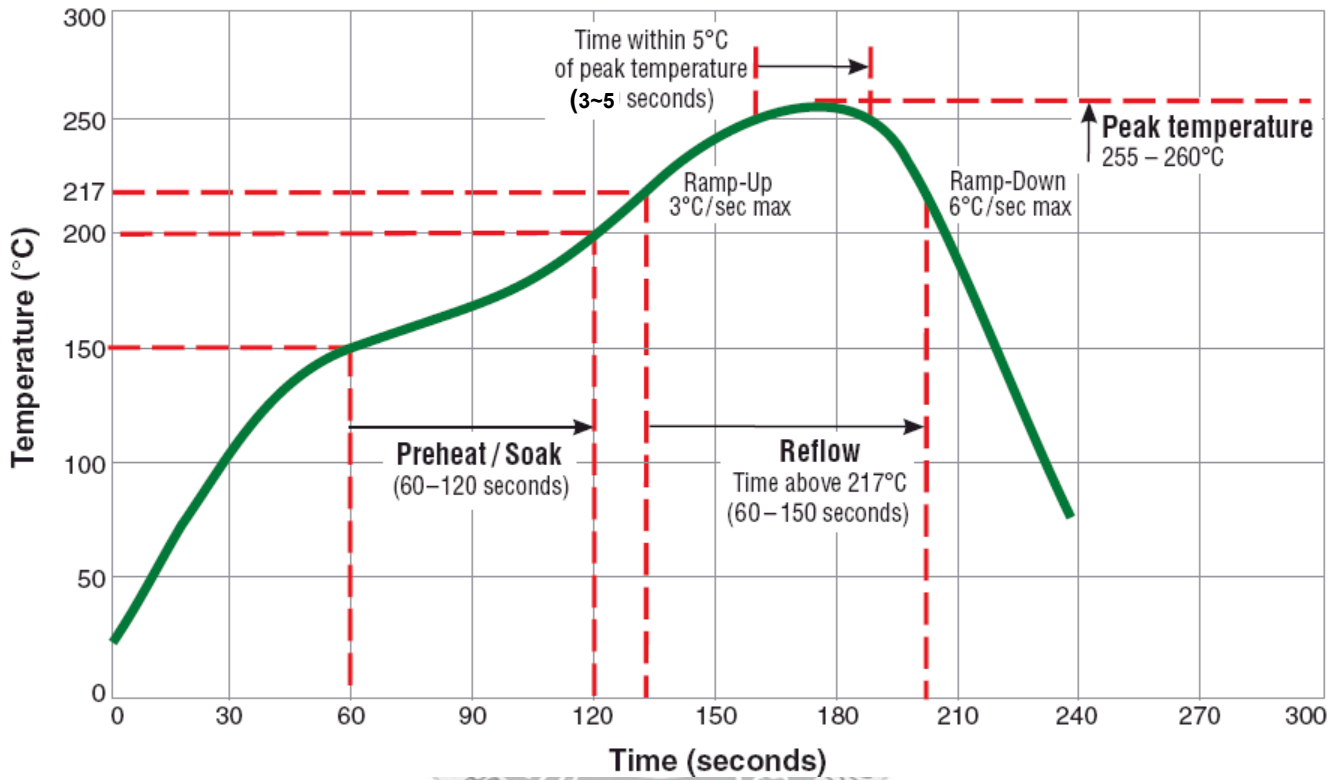
Reliability Experiment For Physical

Test Item	Accept criteria	Test Condition	Standard Source
Vibration Test	1.Change from an initial value L:within±5% 2.no visible damage.	10-55-10HZ, amplitude: 1.5mm, direction: X, Y, Z axes, each axis 2 hours (total 6 hours).	MIL-STD-202G Method 201A
Solder Heat Resistance Test	1.no visible damage.	IR/convection reflow: Peak Temp 255°C ~260°C for 3~5 Sec. in air, Through 2 Cycle. Temperature Ramp:+1~4°C/sec.; Above 217°C, must keep 90 s - 120 s.	Reference MIL-STD-202G Method 210F Test Condition K (Reflow)
Solder Ability Test	1. Lead must have 95% above coverage.	Soak in 245°C solder pot of 3~5 Sec.	Reference J-STD-002D

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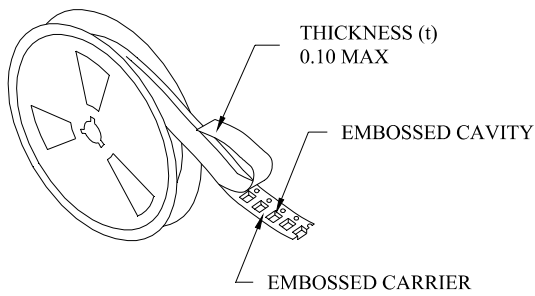
10. TYPICAL RoHS REFLOW PROFILE

Typical RoHS Reflow Profile

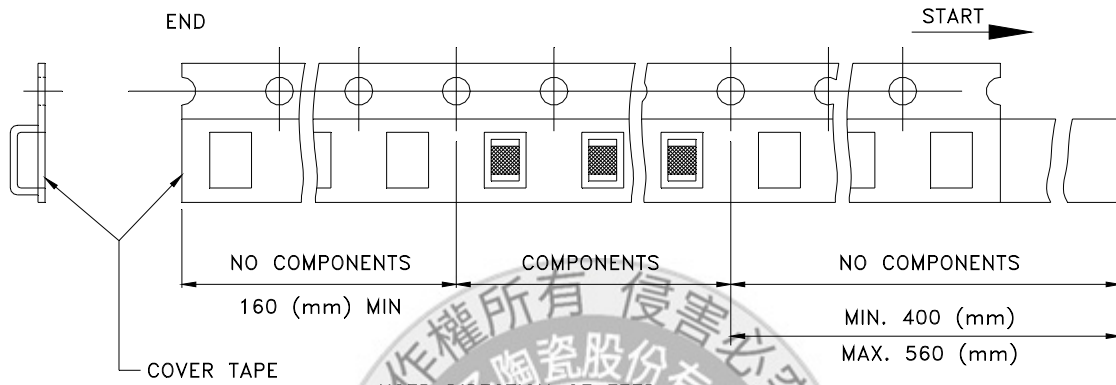
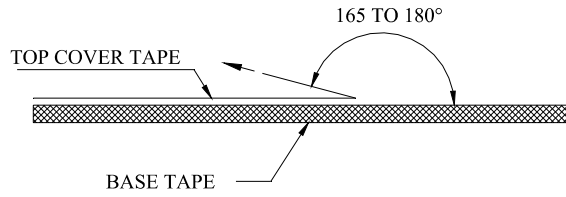


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11. PACKING

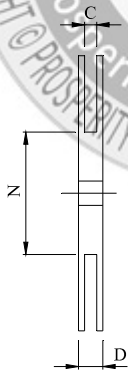
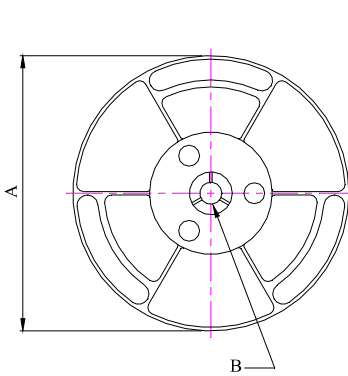


- THE FORCE FOR TEARING OFF COVER TAPE IS 10 TO 100 GRAMS IN THE ARROW DIRECTION.

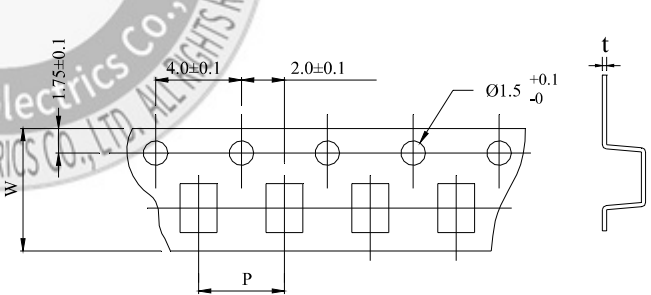


■ CARRIER TAPE REELS (mm)

MATERIAL: PAPER



■ DIMENSIONS OF CARRIER TAPE (mm)

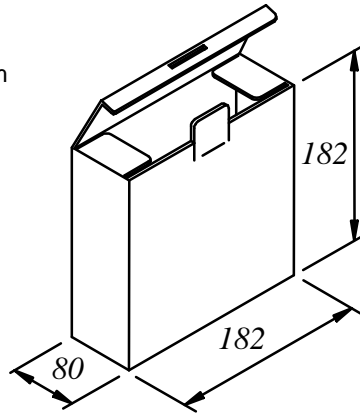


UNIT: mm

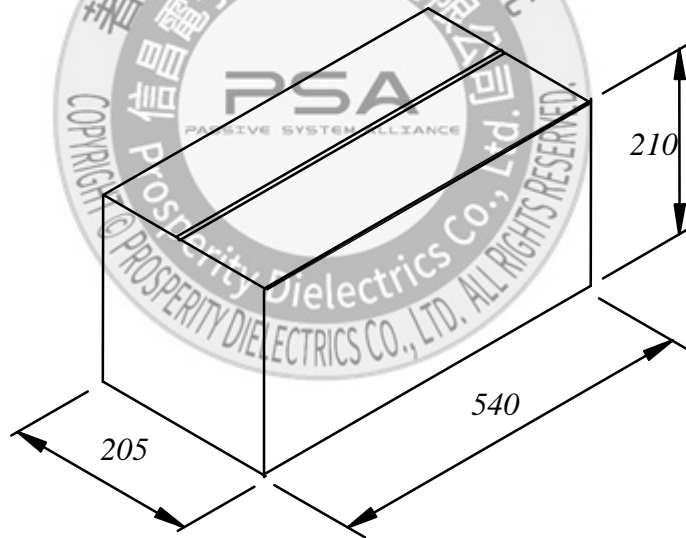
	A	B	C	D	N	P	W	t
DIM.	178	13.0	8.4	14.4	50	2.0	8.0	0.68
TOL.	MAX.	+0.5-0.2	+2.0-0	MAX	MIN.	±0.1	±0.2	±0.03

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UNIT : mm



- CONSTRUCTION:
A BOX CONTAINS 5 REELS.
Q'TY : 4000 / REEL
20000/BOX



TOTAL Q'TY : 120,000 PCS/CARTON