信 昌 電 子 陶 瓷 股 份 有 限 公 司
PROSPERITY DIELECTRICS CO., LTD.

SPECIFICATION FOR APPROVAL

CUSTOMER	
CUST. PART NO.	
CUST. DOC. REV.	
DESCRIPTION	MOLDING POWER CHOKE(RoHS+H.F.)
SAMPLE LOT NO.	S202112-0075
PART NO.	MCS0530-4R7MPN2
DOC. REV.	A
DATE	2022/1/14

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.

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ISSUE BY	CHECKED BY	APPROVED BY
Jenny Tseng	*Alen Cheng*	*Gillian Nan*

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CUSTOMER	CUSTOMER P/N	REV.	SPL. LOT NO.	
		—	S202112-0075	
PART NAME	**PART NO.**	**REV.**	**DATE OF ISSUE**	**Q'TY**
MOLDING POWER CHOKE(RoHS+H.F.)	**MCS0530-4R7MPN2**	**A**	**2022/1/14**	**0 PCS**

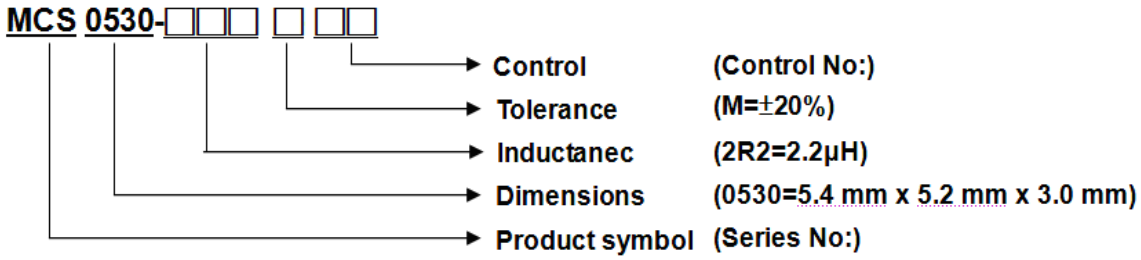
ENGINEERING CHANGE NOTICE - RECORD

REVISION NO.	REVISION DESCRIPTION	AUTHOR	DATE	REMARK
A		***Alen Cheng***	***2022/1/14***	

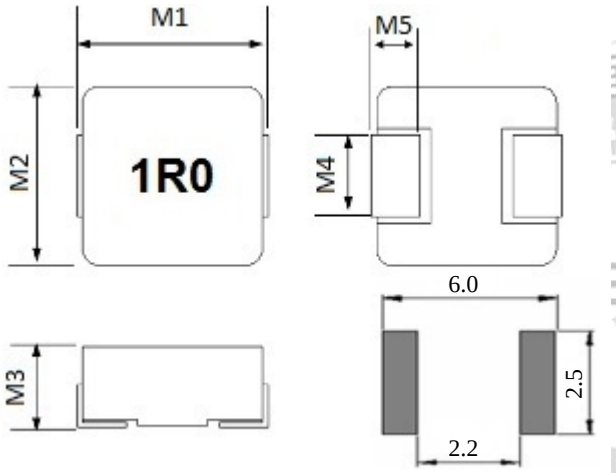
SPECIFICATION FOR APPROVAL

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

1. PART NUMBERING IDENTIFICATION



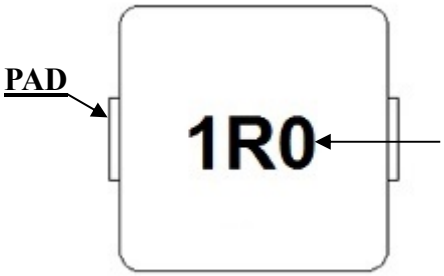
2. MECHANICAL DIMENSION



UNIT: mm

	DIM.	TOL.
M1	5.4	±0.3
M2	5.2	±0.3
M3	3.0	MAX.
M4	2.2	±0.3
M5	1.2	±0.2

3. MARKING



Marking Direction: PAD on the left and right sides, font facing up.
Example: 1R0 Stands for Marking➔1.0μH

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4. ELECTRICAL SPECIFICATION

Part number	Inductance (uH) ±20%	DC Resistance (mΩ) Typical	DC Resistance (mΩ) MAX.	Rated Current (A) Typical	I sat (A) Typical
MCS0530-R20MN2	0.20	3.5	3.9	18.0	14.5
MCS0530-R47MN2	0.47	7.4	8.5	13.5	12.0
MCS0530-R68MN2	0.68	11	12	8.5	14.0
MCS0530-1R0MN2	1.0	13	14	7.0	11.0
MCS0530-1R2MN2	1.2	15	16	6.5	11.0
MCS0530-1R5MN2	1.5	20	25	6.0	8.5
MCS0530-2R2MN2	2.2	25	29	5.5	7.5
MCS0530-3R3MN2	3.3	32	38	5.0	6.0
MCS0530-4R7MN2	4.7	50	60	3.5	5.0
MCS0530-6R8MN2	6.8	75	90	3.0	4.0
MCS0530-100MN2	10	110	125	2.5	3.5

TEST INSTRUMENT: CHROMA 16502、Zentech1320+Zentech3305

NOTE:

1. Test Freq.: 100KHz, 1.0V
2. All test data is referenced to 25℃ ambient.
3. Operating Temperature Range -25℃~+125℃.
4. Storage Temperature Range: -20℃~+40℃(<60% R.H.).
5. Rated Current: DC current (A) that will cause an approximate△T of 40℃.
6. I sat: DC current (A) that will cause Lo to drop approximately 30%.
7. The part temperature(ambient +temp rise)should not exceed 125℃ under worst case operating conditions.
8. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature Part temperature should be verified.
9. MSL: Level 1

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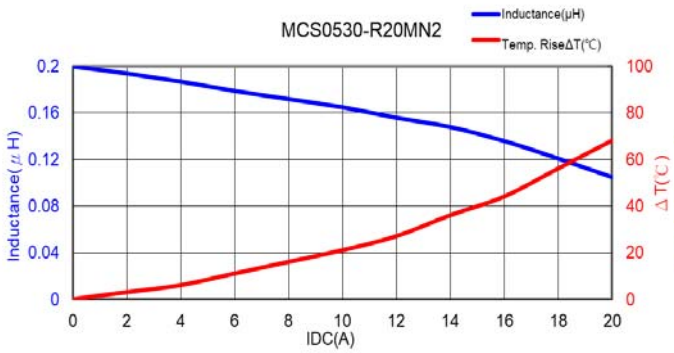
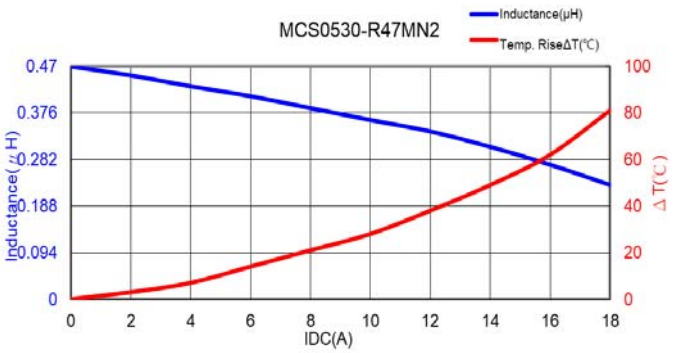
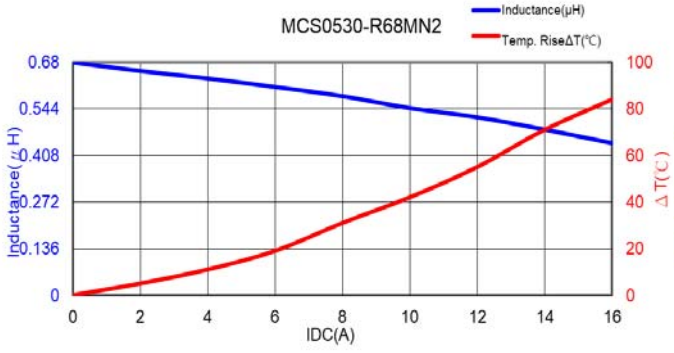
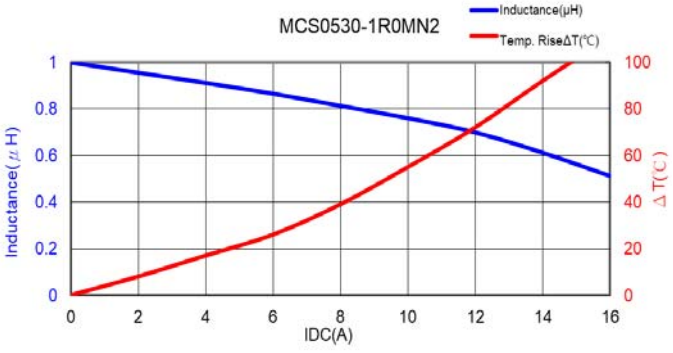
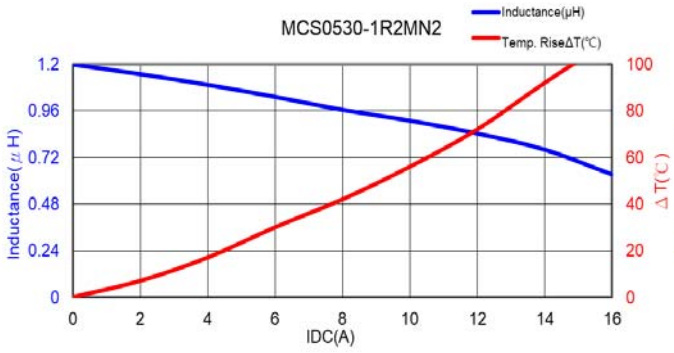
5. ELECTRICAL CURVE

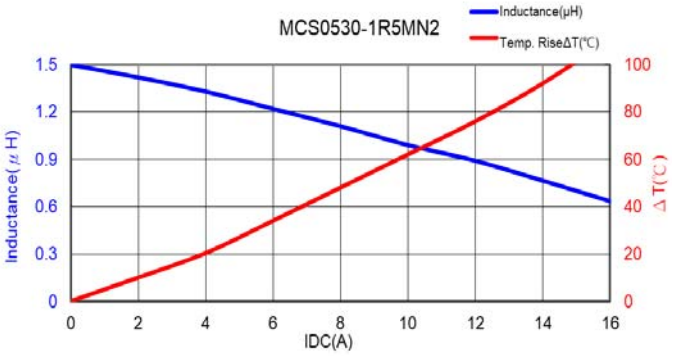












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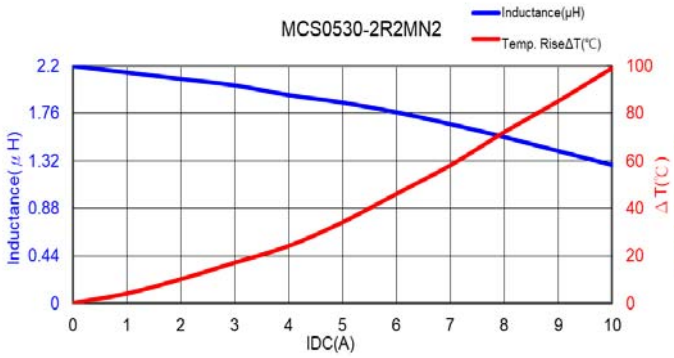

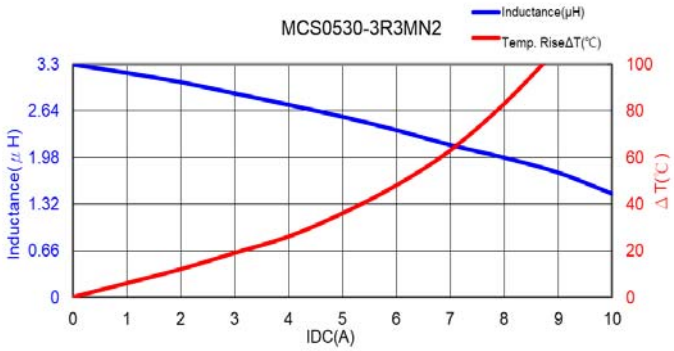

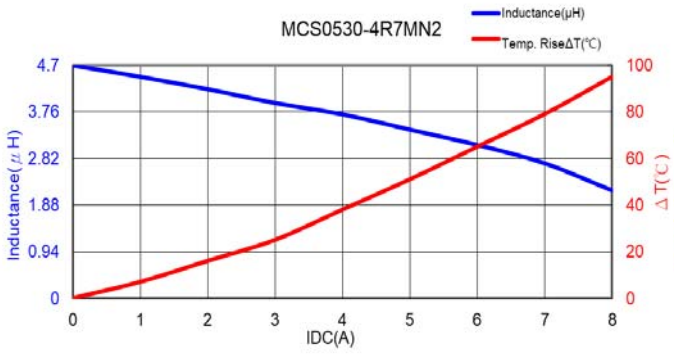

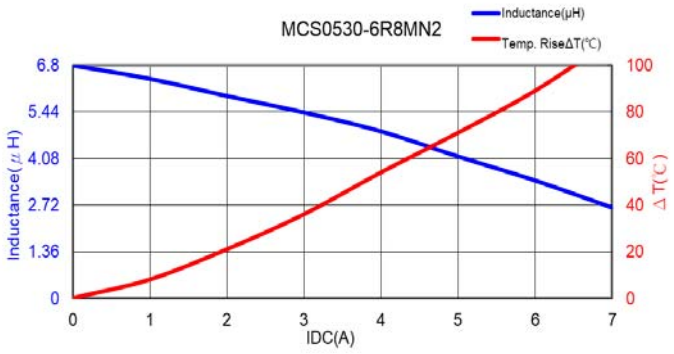

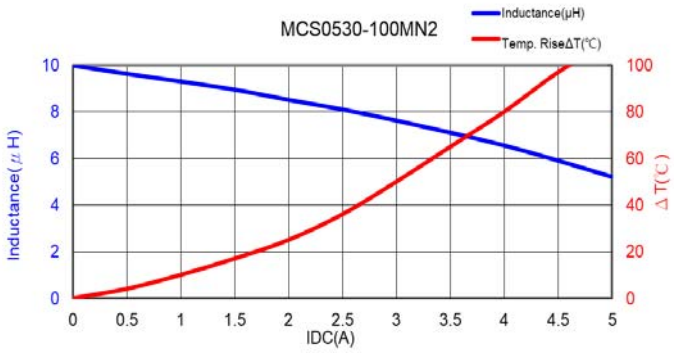

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6. RELIABILITY PERFORMANCE

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℃± 2℃, humidity of 90% ±5% (total 96 hours).	MIL-STD-202H Method 103 Test Condition B
High Temperature Test	1.Change from an initial value L:within±5% 2.no visible damage.	1.Temperature: +125℃±2℃. 2.Test time: 72±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℃±2℃. 2.Test time: 72±2hrs.	IEC 68-2 Test Condition A
Thermal Shock	1.Change from an initial value L:within±5% 2.no visible damage.	+125℃±5℃ (30 minutes) ~ -65±5℃ (30 minutes), temperature switch time: 5 minutes (total 50 cycles).	Reference MIL-STD-202H Method 107 Test Condition B-2
Life Test	1.Change from an initial value L:within±5% 2.no visible damage.	+70℃±5℃ (250Hours).	Reference MIL-STD-202H Method 108 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-202H Method 201
Solder Heat Resistance Test	1.no visible damage.	IR/convection reflow: Peak Temp 250±5℃ for 30±5Sec. in air, Through 3 Cycle. Temperature Ramp:+1~4°C/sec.; Above 183°C, must keep 90 s - 120 s.	Reference MIL-STD-202H Method 210 Test Condition K (Reflow)
Solder Ability Test	1. Lead must have 95% above coverage.	Solder temp: 245±5℃, Immersion time: 5 second. Immersion rate: 25±6mm/sec.	J-STD-002D Test condition B1

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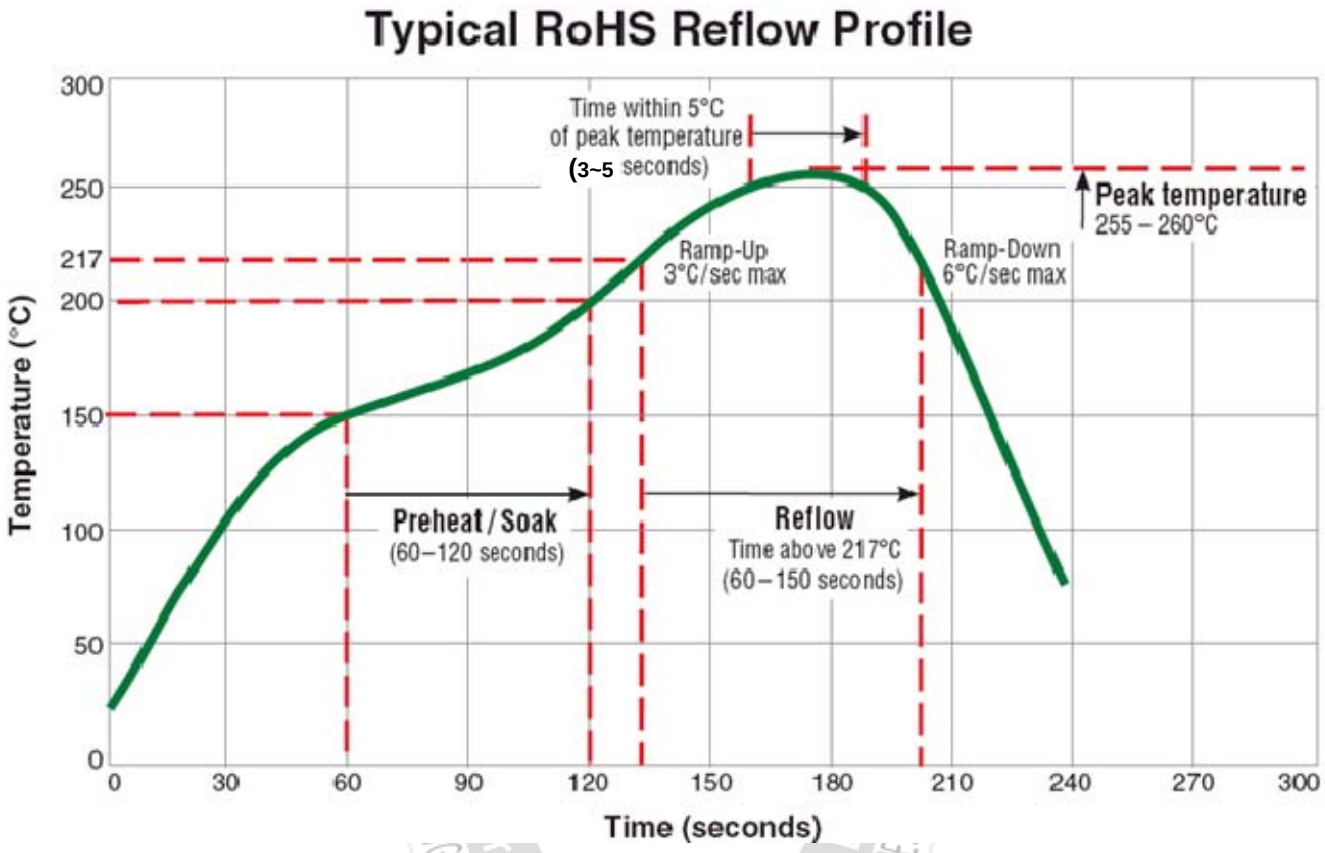
7. REFLOW CHART



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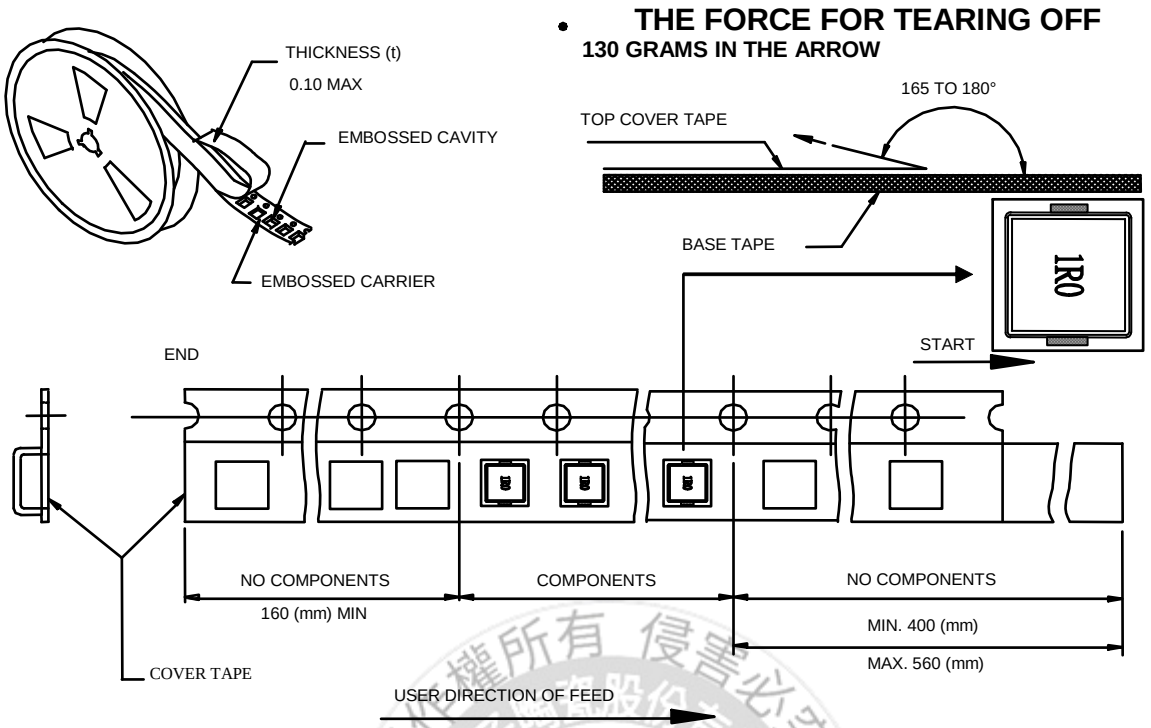
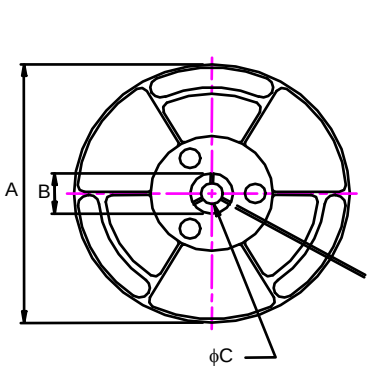
8. PACKING



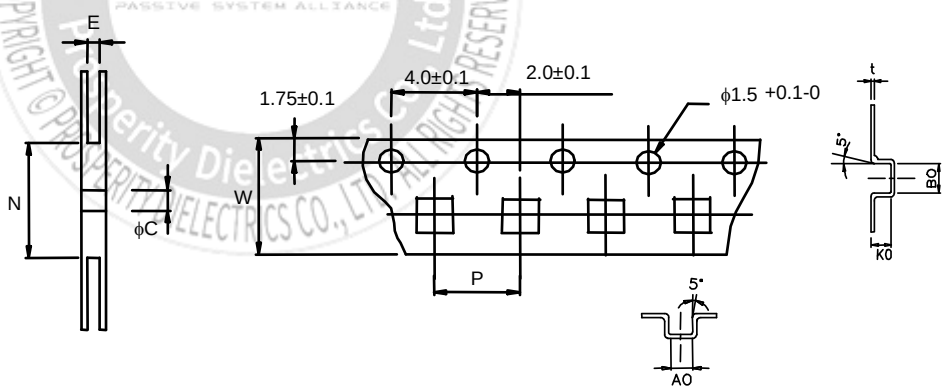
CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC



2000 Parts per Reel

DIMENSIONS OF CARRIER TAPE (mm)



※ 10 sprocket hole pitch cumulative tolerance ±0.20

UNIT: mm

	A	B	C	E	N	P	W	t	A0	B0	K0
DIM.	330	25.0	13.0	12.5	100	8.0	12.0	0.4	5.7	5.9	3.6
TOL.	±0.2	±0.5	±0.5	±0.5	MIN	±0.1	±0.3	±0.05	±0.1	±0.1	±0.1