



WMM0420PX Series Specification

Product Name	Power Inductor
Series	WMM0420PX
Size	EIAJ 0420



WMM0420PX Series Engineering Specification

1. Scope

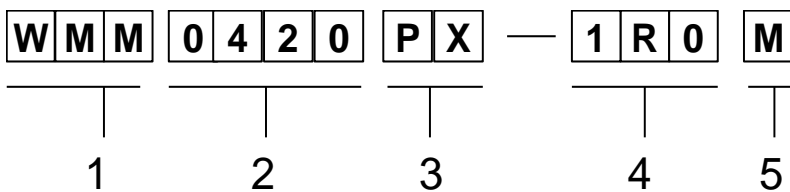
Feature

- Low RDC, high current handling inductor.
- Magnetically shielded structure that ensures the high-density mounting configurations.
- Flat bottom surface ensures secure, reliable mounting.
- Provided in embossed carrier tape packaging for use with automatic mounting machines.

Applications

- Ideally used in Notebook, SSD, PDA, DSC, DC-DC Converters, etc.

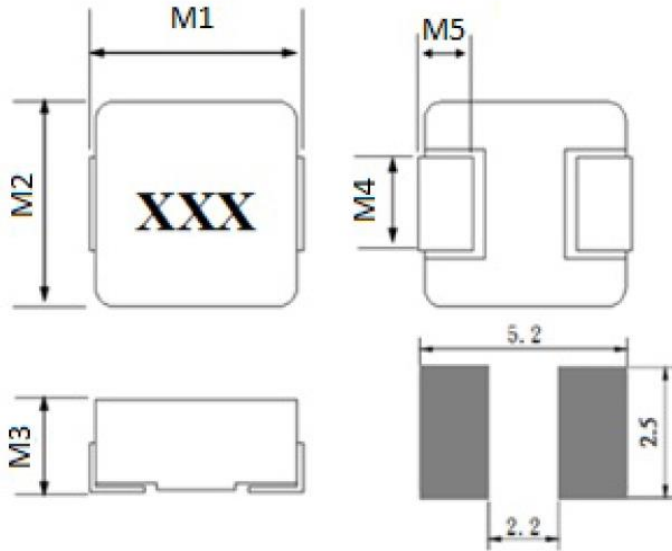
2. Explanation of Part Number



- ◆ 1 : Product Name, Wire-wound metal molding power inductor
- ◆ 2 : Dimensions
- ◆ 3 : Type name
- ◆ 4 : Inductance: 1R0 = 1.0 μ H
- ◆ 5 : Model code: Inductance tolerance (M \pm 20%; N \pm 30%)

3. Construction & Dimensions

3.1. Shapes, Dimensions and Recommended Land Patterns



UNIT: mm

	DIM.	TOL.
M1	4.45	±0.25
M2	4.0	±0.3
M3	1.8	±0.2
M4	1.5	±0.3
M5	0.8	±0.3

3.2. Marking

The inductor is marked with a 3-digit code (using ink for marking)

Example: 1R0 means 1.0 H



4. General specifications

4.1 Electrical Specifications

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 kHz, 0.5V	TYP.	MAX.	TYP.	TYP.
WMM0420PX-R10M	0.10	3.5	4.0	12.0	22.0
WMM0420PX-R22M	0.22	6.0	6.6	9.0	12.5
WMM0420PX-R33M	0.33	9.6	13	8.0	12.0
WMM0420PX-R47M	0.47	12.5	14	7.0	9.5
WMM0420PX-R56M	0.56	14	16	6.5	10.0
WMM0420PX-R68M	0.68	16	18	6.0	9.0
WMM0420PX-1R0M	1.00	24	27	4.5	7.0
WMM0420PX-1R2M	1.20	24	27	4.5	7.0
WMM0420PX-1R5M	1.50	38	46	4.0	6.0
WMM0420PX-2R2M	2.20	52	58	3.0	5.0
WMM0420PX-3R3M	3.30	74	87	2.5	4.0
WMM0420PX-4R7M	4.70	98	110	2.2	3.5
WMM0420PX-5R6M	5.60	105	115	1.8	3.5
WMM0420PX-6R8M	6.80	160	175	1.5	2.5
WMM0420PX-100M	10.0	256	282	1.2	2.2

Notes

1. All test data is referenced to 25 °C ambient.
2. Operating temperature range – 55 °C to + 125 °C.
3. Idc(Irms): DC current (A) that will cause an approximate ΔT of 40 °C(reference ambient temperature is 25°C).
4. Isat: DC current (A) that will cause L0 to drop approximately 30 %.
5. The part temperature (ambient + temp rise) should not exceed 125 °C under worst case operating conditions.

5. Reliability and Test Conditions

5.1 Mechanical Reliability

Item	Specification and Requirement	Test Method
Vibration	Inductance change within $\pm 10\%$.	10-55-10HZ, amplitude: 1.5mm, direction: X, Y, Z axes, each axis 2 hours (total 6 hours).
Solderability	The surface of terminal immersed shall be minimum of 95% covered with a new coating of solder	Soak in 245 °C solder pot of 3 Sec.
Solder Heat Resistance	Inductance change within $\pm 10\%$.	IR/convection reflow: Peak Temp 260 \pm 5°C for 30 Sec. in air, Through 2 Cycle. Temperature Ramp:+1~4°C/sec; Above 217°C, must keep 90 s - 120 s.

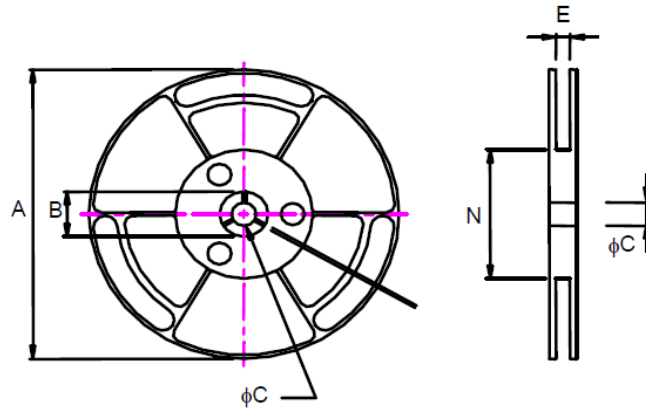
5.2 Electrical Reliability

Item	Specification and Requirement	Test Method
Thermal Shock	Inductance change within $\pm 10\%$.	1. Repeat 50 cycles as follow: -40 \pm 5 °C; 30 mins → Room temp., 5 mins → +125 \pm 5 °C, 30 mins → Room temp., 5 mins
High Temperature Resistance	Inductance change within $\pm 10\%$.	1. Environment condition: 70 \pm 5 °C Applied Current: Rated current 2. Duration: 250 hours
Humidity Resistance	Inductance change within $\pm 10\%$.	1. Environment condition: 40 \pm 2 °C Humidity: 90% \pm 5% 2. Duration: 96 hours
High/Low Temperature Storage	Inductance change within $\pm 10\%$.	Store temperature: High: +125 \pm 2 °C, 48 \pm 2 hours Low: -40 \pm 2 °C, 48 \pm 2 hours

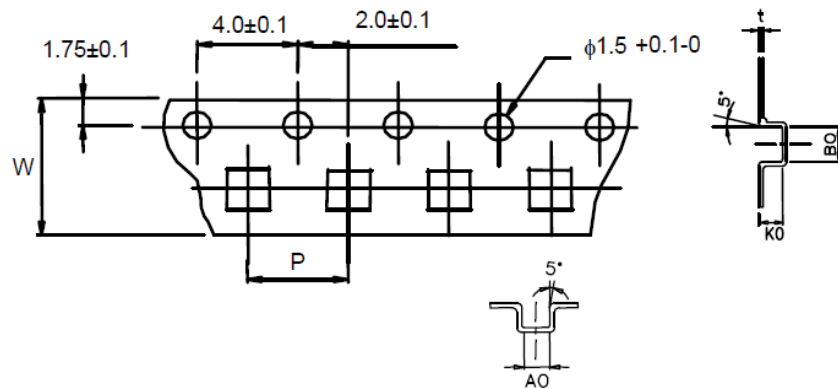
6. Taping Package

6.1 Dimension of Reel & Carrier Tape (Unit: mm)

MATERIAL: PLASTIC



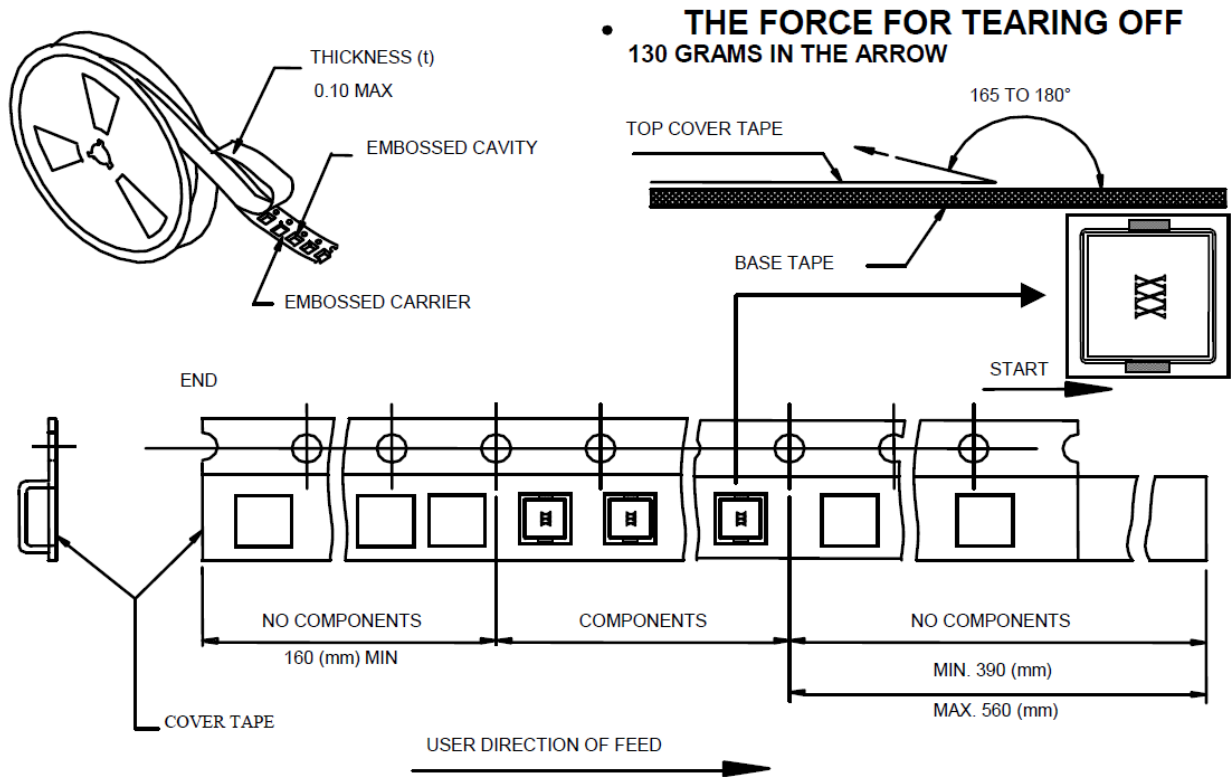
2000 Parts per Reel



UNIT : mm

	A	B	C	E	N	P	W	t	A0	B0	K0
DIM.	330	25.0	13.5	13.0	100	8.0	12.0	0.3	4.7	4.4	2.5
TOL.	±0.2	±0.5	±0.5	±0.5	MIN	±0.1	±0.3	±0.05	±0.1	±0.1	±0.1

6.2 Feed Direction & Peeling Strength of Cover Tape:



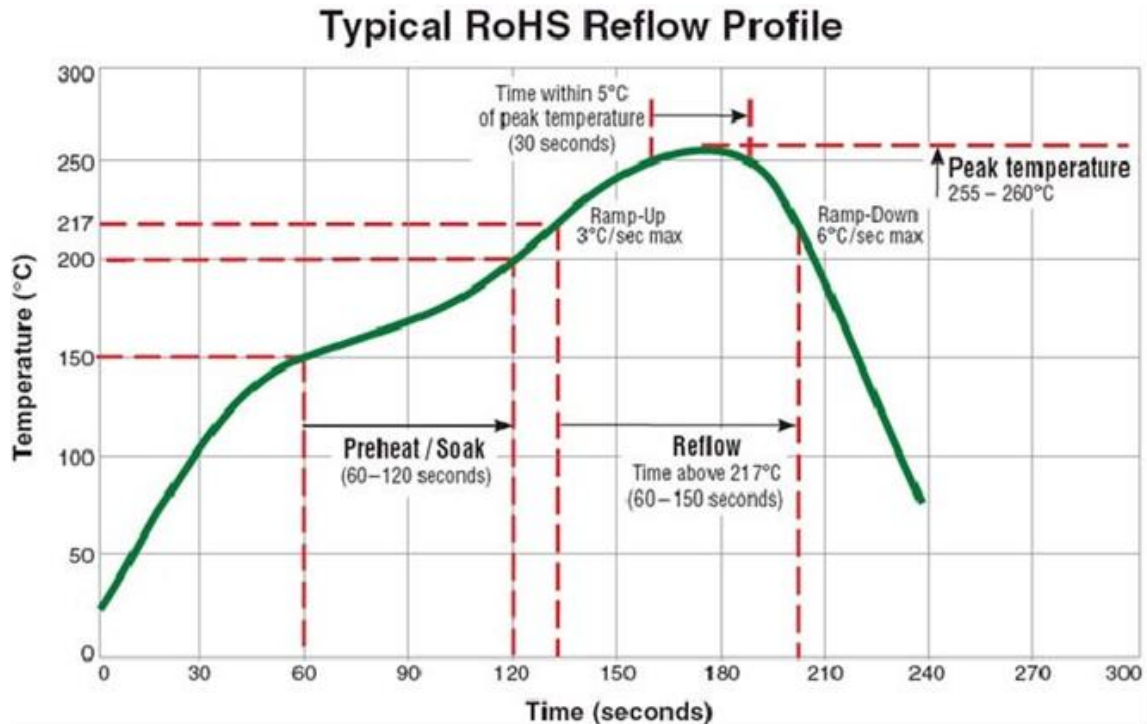
6.3 Label Marking

The label specified as follows shall be put on the side of reel.

- (1) Part No.
- (2) Quantity
- (3) Lot No.

* Part No. And Quantity shall be marked on outer packaging.

7. Recommendable Reflow Soldering



8. Precaution

8.1 Handling

- Keep the products away from all magnets and magnetic objects.
- Be careful not to subject the products to excessive mechanical shocks.
- Please avoid applying impact to the products after mounted on pc board.
- Avoid ultrasonic cleaning

8.2 Storage

To prevent deterioration of the solderability of terminal electrodes and/or the packing materials of the products, please store the products under following storage conditions.

Ambient temperature range +5 °C to 35°C

Humidity 45% to 70% RH .

Even under the ideal storage conditions, solder ability of inductor's electrode deteriorates as time passes, so inductors should be used within 12 months after the delivery time.