



PRODUCT SPECIFICATION

DOCUMENT NO. ENS000168920

DESCRIPTION	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY
WMMDX0630 Series	Yishan	Scott	Wiley	LSC




WMMDX0630 Series Engineering Specification

1. Scope

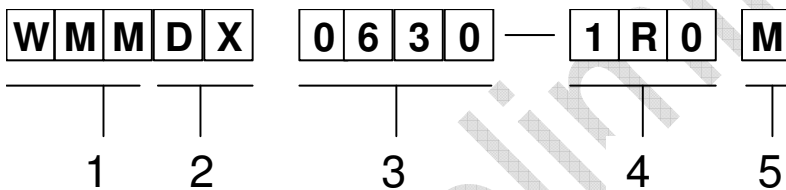
Feature

- 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.

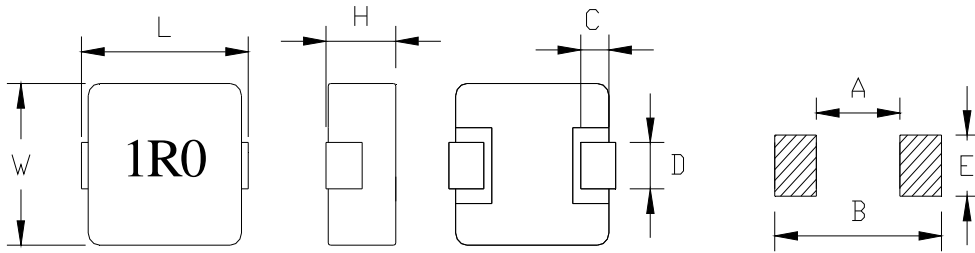
2. Explanation of Part Number



- ◆ 1 : Product Name, Wire-wound metal molding power inductor
- ◆ 2 : Type Name
- ◆ 3 : Dimensions
- ◆ 4 : Product type Inductance (μH)
- ◆ 5 : Model code: Inductance tolerance ($M\pm 20\%$; $N\pm 30\%$)

3. Construction & Dimensions

3.1. Shapes, Dimensions and Recommended Land Patterns



Series	L (mm)	W (mm)	H (mm)	C (mm)	D (mm)	Recommended Land Patterns		
						A' (mm)	B (mm)	E (mm)
WMMDX0630	7.2±0.3	6.6±0.2	3.0max	1.5±0.3	3.0±0.3	4.0	8.5	3.5

3.2. Marking

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

Example: 1R0 means 1.0μH



4. General specifications

4.1 Temperature Specifications

Operating Temperature range : -40°C to +125°C (Including self-heating)

Storage Temperature range : -55°C to +125°C

Operating Temperature range : -40°C to +125°C (Including self-heating)

4.2 Electrical Specifications

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
WMMDX0630-R10N	0.10 (30%)	1.5	1.7	32.50	60.00
WMMDX0630-R22M	0.22	2.5	2.8	23.00	34.00
WMMDX0630-R33M	0.33	3.0	3.5	21.00	25.00
WMMDX0630-R47M	0.47	3.5	4.1	18.00	20.00
WMMDX0630-R56M	0.56	3.9	4.5	16.50	18.00
WMMDX0630-R68M	0.68	4.5	5.0	16.00	17.00
WMMDX0630-R82M	0.82	7.0	7.5	14.00	16.00
WMMDX0630-1R0M	1.00	8.5	9.0	12.00	15.00
WMMDX0630-1R5M	1.50	10.6	12.1	10.00	13.00
WMMDX0630-2R2M	2.20	15.5	18.0	8.00	10.00
WMMDX0630-2R5M	2.50	18.0	20.0	7.00	10.00
WMMDX0630-3R3M	3.30	25.0	28.0	6.50	9.00
WMMDX0630-4R7M	4.70	32.5	35.0	5.50	6.50
WMMDX0630-5R6M	5.60	36.0	42.0	5.00	6.25
WMMDX0630-6R8M	6.80	43.9	50.0	4.50	6.00
WMMDX0630-8R2M	8.20	54.0	60.0	4.50	6.00
WMMDX0630-100M	10.0	62.0	68.0	4.00	5.50
WMMDX0630-150M	15.0	105.0	125.0	3.00	4.00
WMMDX0630-220M	22.0	144.0	160.0	2.50	3.00

Notes

1. All test data is referenced to 25 °C ambient
2. Operating temperature range - 55 °C to + 125 °C
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 °C(reference ambient temperature is 25°C)
4. Isat(A):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

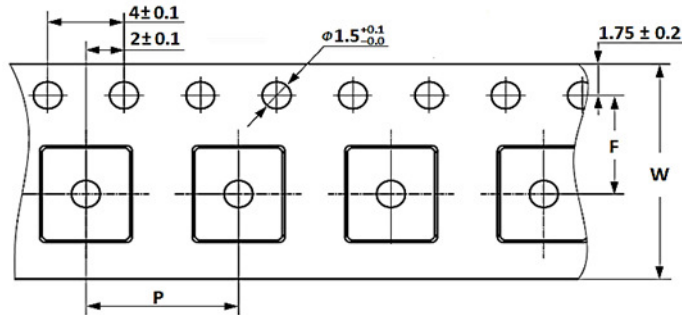
Item	Specification and Requirement	Test Method
Solderability	The surface of terminal immersed shall be minimum of 95% covered with a new coating of solder	Solder heat proof: 1. Preheating: 160 ± 10 °C 2. Retention time: 245 ± 5 °C for 2 ± 0.5 seconds
Vibration	Inductance change: Within $\pm 10\%$ Without mechanical damage such as break	1. Vibration frequency: (10 Hz to 55 Hz to 10Hz) in 60 seconds as a period 2. Vibration time: Period cycled for 2 hours in each of 3 mutual perpendicular directions. 3. Amplitude: 1.5 mm max.
Shock	Inductance change: Within $\pm 10\%$ Without mechanical damage such as break	1. Peak value: 100 G 2. Duration of pulse: 11ms 3. 3 times in each positive and negative direction of 3 mutual perpendicular directions

5.2 Endurance Reliability

Item	Specification and Requirement	Test Method
Thermal Shock	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Repeat 100 cycles as follow: (-55 ± 2 °C ; 30 ± 3 min) →(Room temp., 5 min) → ($+125 \pm 2$ °C , 30 ± 3 min) → (Room temp., 5 min) 2. Recovery: $48 + 4 / -0$ hours of recovery under the standard condition after the test.
High Temperature Resistance	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Environment condition: 85 ± 2 °C Applied Current: Rated current 2. Duration: $1000 + 4 / -0$ hours
Humidity Resistance	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Environment condition: 60 ± 2 °C Humidity: 90–95% Applied Current: Rated current 2. Duration: $1000 + 4 / -0$ hours
High/Low Temperature Store	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	Store temperature: High: $+125 \pm 2$ °C , $1000 + 4 / -0$ hours Low: -55 ± 2 °C , $1000 + 4 / -0$ hours

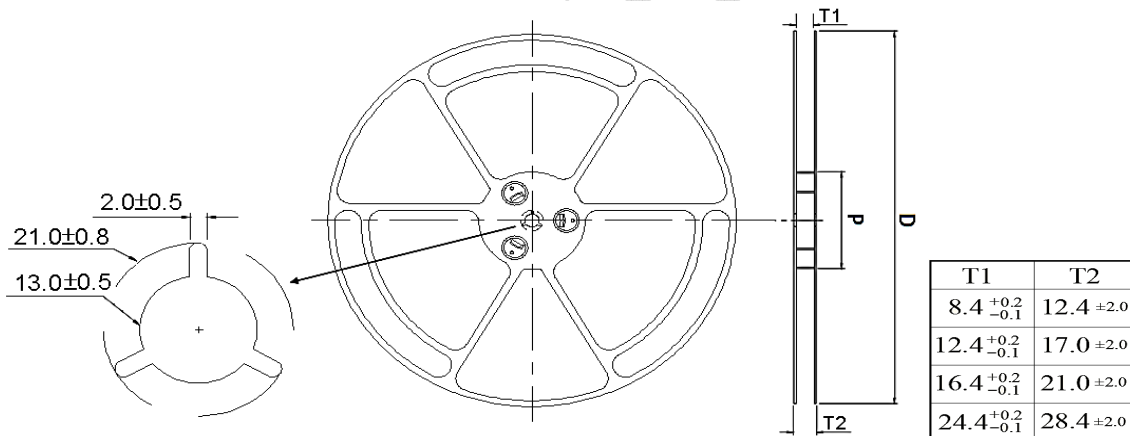
6. Taping Package and Label Marking

6.1 Dimension of Tape (Unit: mm)



Series	W	P	F
WMMDX0630	16.0 ± 0.3	12.0 ± 0.1	7.5 ± 0.1

6.2 Dimension of Reel (Unit: mm)



Code	D	P	Quantity(pcs)
Dimensions	330 ± 1.5	100 ± 1.5	1,500

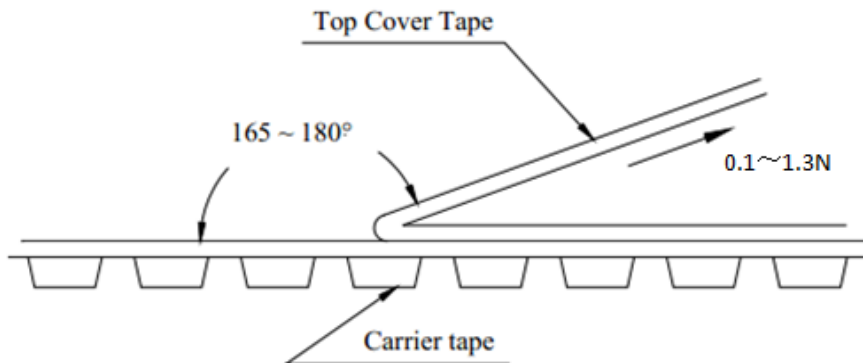
Unit : mm

6.3 Packaging Quantities:

1,500PCS/Reel.

6.4 Peeling Strength of Cover Tape:

The peel force of top cover tape shall be between 0.10N to 1.3N



Room Temp.(°C)	Room Humidity (%)	Room aim (hpa)	Peel Speed (Mm/min)
5-35	45-85	860-1060	300

6.5 Taping Specifications

There shall be the portion having no product in both the head and the end of taping, and there shall be the cover tape in the head of taping.

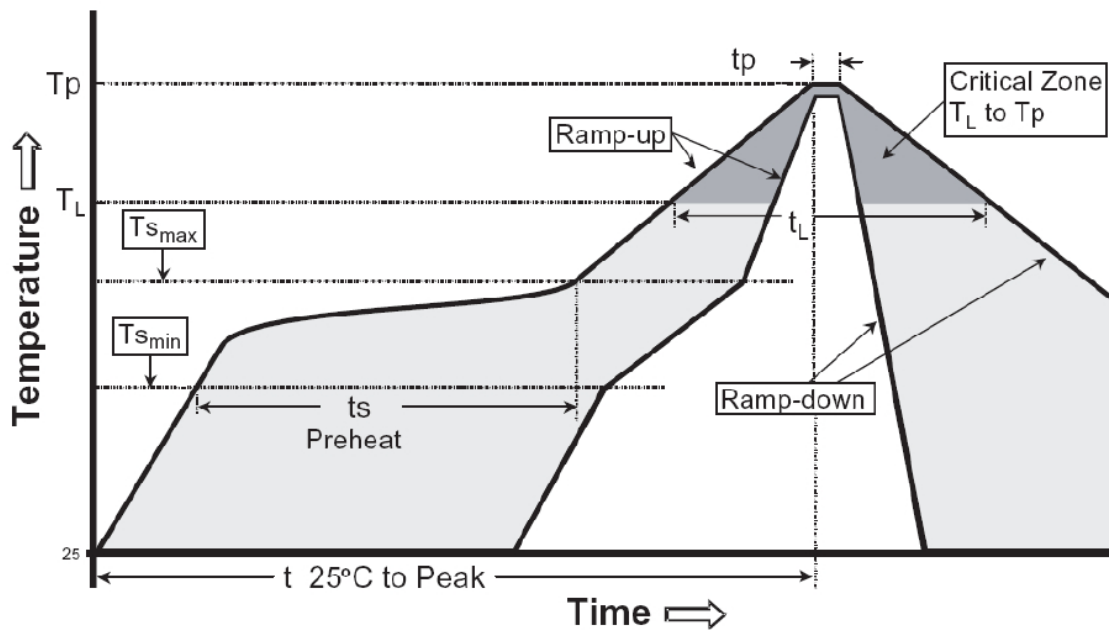
6.6 Label Marking

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



Profile Feature	Pb free Assembly
Average Ramp Rate ($T_{s_{max}}$ to T_p)	3 °C/second max
Preheat	
- Temperature Min ($T_{s_{min}}$)	150 °C
- Temperature Min ($T_{s_{max}}$)	200 °C
- Time($t_{s_{min}}$ to $t_{s_{min}}$)	60-180 seconds
Time maintained above:	
- Temperature (T_L)	217 °C
- Time (t_L)	60-150 seconds
Peak/Classification Temperature (T_p)	260 °C
Peak/Classification Time (T_p)	3-4 seconds
Time within 5 °C of actual Peak Temperature (T_p)	20-40 seconds
Ramp-Down Rate	6 °C/second max.
Time 25°C to Peak Temperature	8 minutes max