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

SPECIFICATION FOR APPROVAL

CUSTOMER	益力嘉
CUST. PART NO.	
CUST. DOC. REV.	
DESCRIPTION	MOLDED POWER CHOKE (RoHS+H.F.)
SAMPLE LOT NO.	S202309-0030
PART NO.	MCS20FC-XXXMCY-A
DOC. REV.	A
DATE	2023/10/12

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	*Gillian Nan*	*K.C.Tseng*

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益力嘉		–	S202309-0030	
PART NAME	**PART NO.**	**REV.**	**DATE OF ISSUE**	**Q'TY**
MOLDED POWER CHOKE(RoHS+H.F.)	**MCS20FC-XXXMCY-A**	**A**	**2023/10/12**	**0 PCS**

ENGINEERING CHANGE NOTICE - RECORD

REVISION NO.	REVISION DESCRIPTION	AUTHOR	DATE	REMARK
A		***Gillian Nan***	***2023/10/12***	

SPECIFICATION FOR APPROVAL

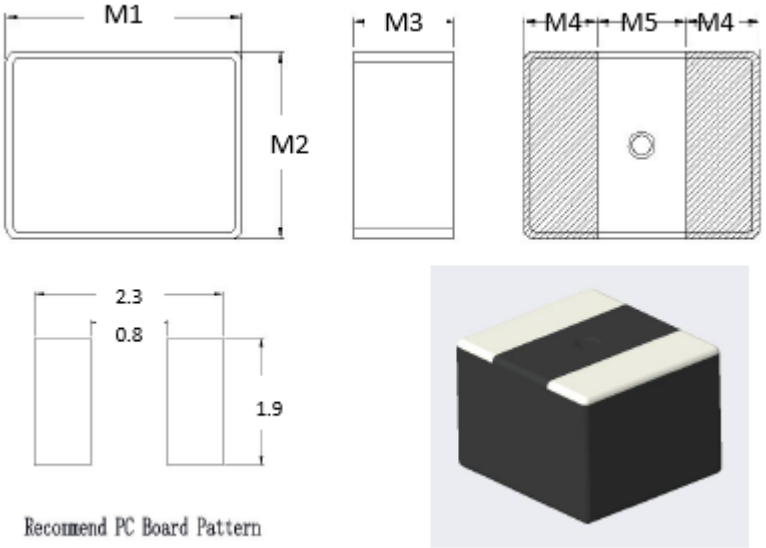
※This is a RoHS and REACH compliant product whose related documents are available on request.
※Graphic is only for dimensionally application.

1. PART NUMBERING IDENTIFICATION

MCS 20FC - □□□ □ CY -A

- CONTROL NO.
- TOLERANCE
- INDUCTANCE
- DIMENSIONS
- PRODUCT SYMBOL

2. MECHANICAL DIMENSION



UNIT: mm

	DIM.	TOL.
M1	2.0	±0.2
M2	1.6	±0.2
M3	1.0	MAX.
M4	0.5	±0.3
M5	1.0	TYP.

3. ELECTRICAL SPECIFICATION

Part number	Inductance (uH) ±20%	DC Resistance (mΩ) Typical	DC Resistance (mΩ) MAX.	Irms (A) Typical	Irms (A) MAX.	I sat (A) Typical	I sat (A) MAX.
MCS20FC-R24MCY-A	0.24	20.0	27.0	5.10	4.60	5.70	5.10
MCS20FC-R33MCY-A	0.33	25.0	35.0	4.20	3.70	5.10	4.60
MCS20FC-R47MCY-A	0.47	33.0	45.0	3.60	3.20	4.50	4.10
MCS20FC-R68MCY-A	0.68	40.0	55.0	3.50	3.10	3.80	3.40
MCS20FC-1R0MCY-A	1.0	60.0	70.0	2.70	2.30	3.00	2.70
MCS20FC-1R5MCY-A	1.5	115.0	130.0	2.10	1.90	2.60	2.30
MCS20FC-2R2MCY-A	2.2	135.0	150.0	1.80	1.60	2.00	1.80

NOTE:
1. Test Freq.: 1MHz, 1V
2. All test referenced to 25℃±3℃ ambient.
3. Operating Temperature range: -40℃ to +125℃(Including coil self-temperature rise)
4. Storage Temperature range:
   4-1 Product packing with carrier tape: -10℃~+40℃ and less than 60% RH.
   4-2 Product alone: -20℃~+60℃ and less than 60% RH.
5. Isat means that DC current will cause a 30% inductance reduction from initial value.
6. Irms means that DC current will cause coil temp. rising to 40℃ whichever is smaller.

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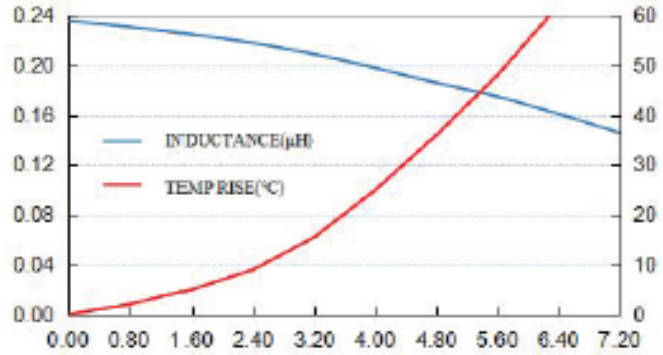
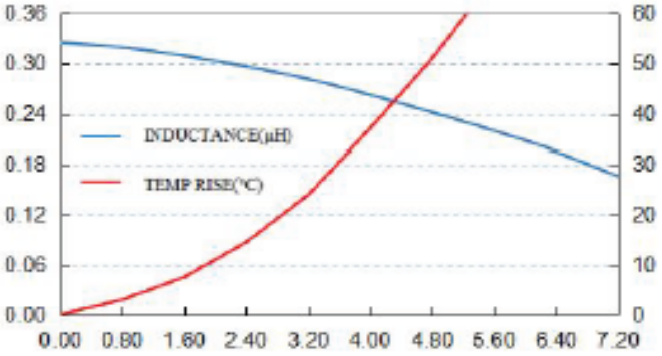
4. ELECTRICAL CURVE

MCS20FC-R24MCY -A



MCS20FC-R33MCY -A



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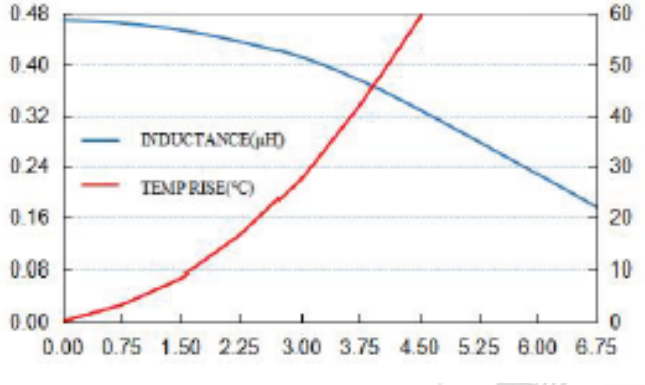
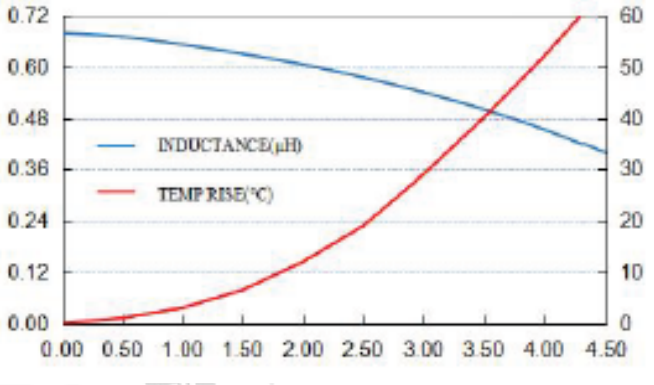


MCS20FC-R68MCY -A



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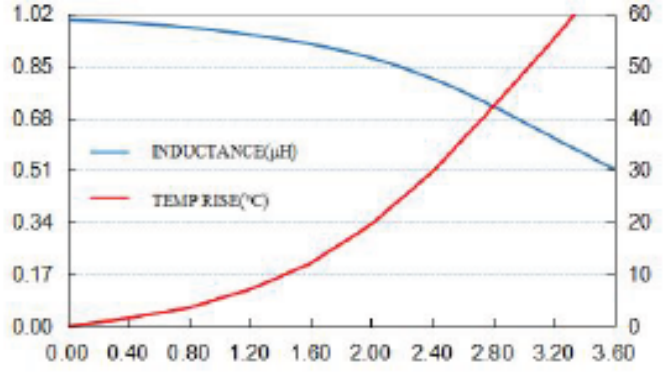
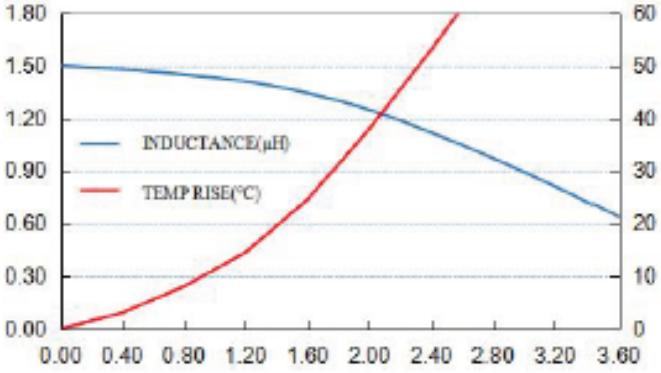
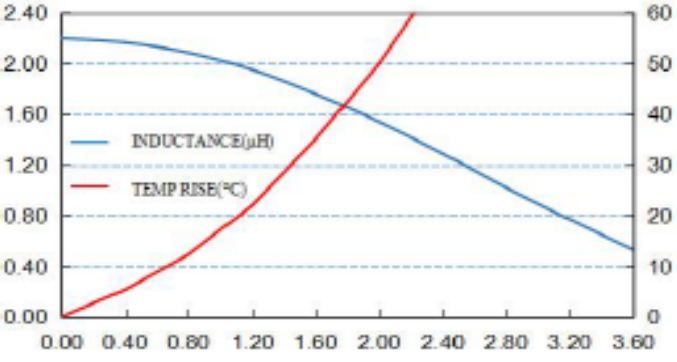


MCS20FC-1R5MCY -A



MCS20FC-2R2MCY -A



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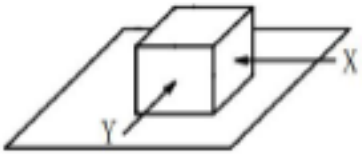
5. RELIABILITY PERFORMANCE

Test Item	Test Condition
External Appearance	No external defects can be found in the visual inspection
Electrode Strength	No electrode detachment should be found when the device is pushed in two directions of X and Y with the force of 5.0N for 10±2 seconds after soldering between copper plate and the electrodes. 
Heat Endurance Test	Temperature: 125°C±2°C Test time: 1000 h (+48 h, -0 h) Post-treatment: left at a room condition for 24 h±2 h
Dielectric Strength	The insulation resistance should be over 100MΩ when D.C.100V is applied to the coil-core, meanwhile no structure and electric defects should be found in 1 minute.
Temperature Feature	Inductance coefficient is (0 ~2000) × 10^{-6}/℃(-40℃ ~ +100℃)
Humidity Test	Inductance deviation is within ±5% and no structure and electric defects can be found after 96±4 hours test under the condition of relative humidity of 90~95% and temperature of 40±2℃, and 1 hour storage under room ambient conditions after the device is wiped with dry cloth.
Vibration Test	Inductance deviation is within ±3% after 1 hour sweeping vibration in each three directions, namely, forward and backward, up an and down, right and left. The frequency is 10~55~10Hz and the amplitude of 1 minute cycle is 1.5mm PP.
Shock Test	Inductance deviation is within ±3% after the test with shock testing machine, once in each of the three perpendicular axis directions. The shock acceleration is 981m/s2.

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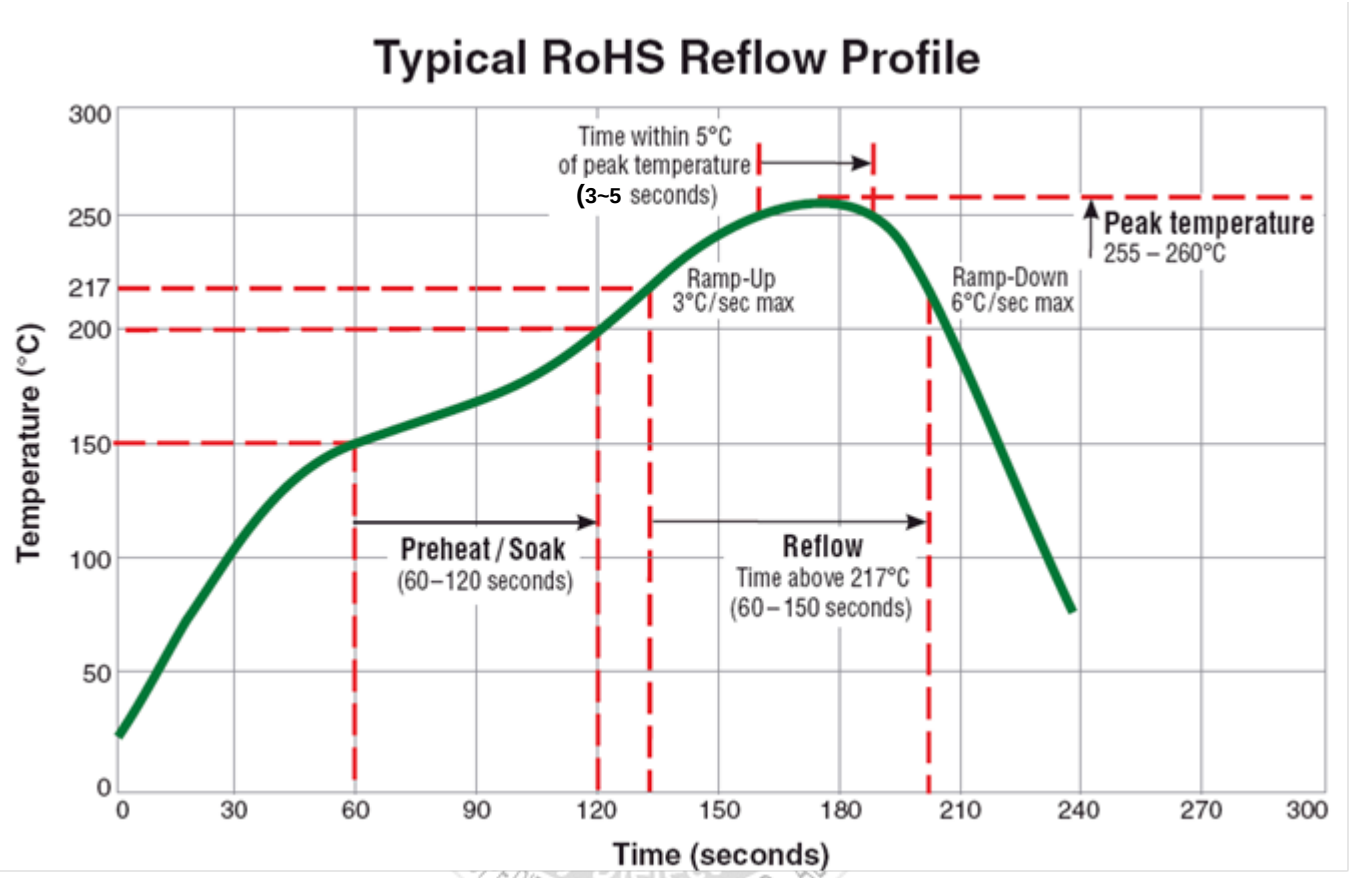
6. REFLOW CHART



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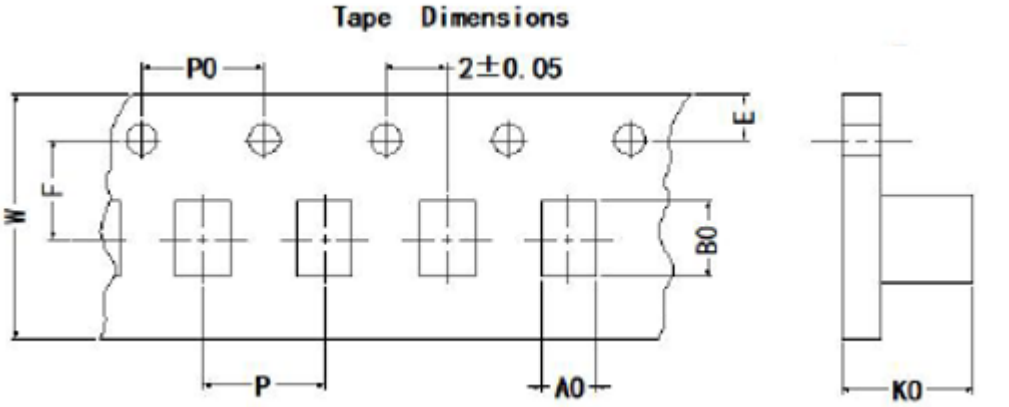
7. PACKING

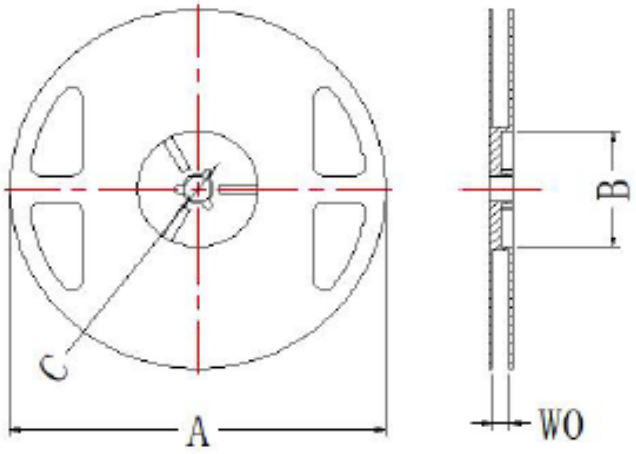
7-1 CARRIER TAPE DIMENSIONS



UNIT : mm

DIM	P	W	E	F	P0	A0	B0	K0
TOL.	4.0±0.1	8.0±0.1	1.75±0.05	3.5±0.1	4.0±0.1	1.90±0.1	2.30±0.1	1.15±0.1

7-2 TAPING REEL DIMENSIONS



DIM	A	B	C	W0
TOL.	178±2.0	60±2.0	12.0±1.5	10±1.5

7-3 PACKING QUANTITY:3000PCS/REEL