

SPECIFICATION FOR APPROVAL

CUSTOMER	WITTIG
CUST. PART NO.	
CUST. DOC. REV.	
DESCRIPTION	CHIP INDUCTORS (RoHS+H.F.)
SAMPLE LOT NO.	S202111-0082
PART NO.	ML160808H-XXXX-LRHGT
DOC. REV.	A
DATE	2021/11/26

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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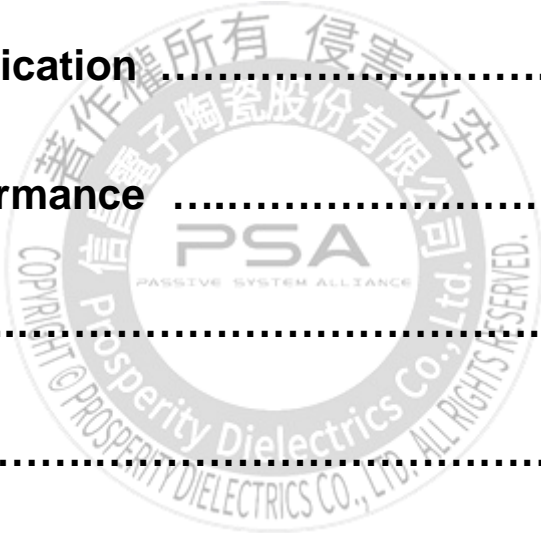
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SPECIFICATION FOR APPROVAL

CUSTOMER WITTIG	CUSTOMER P/N	REV. -	SPL. LOT NO. S202111-0082	
PART NAME CHIP INDUCTORS (RoHS+H.F.)	PART NO. ML160808H-XXXX-LRHGT	REV. A	DATE OF ISSUE 2021/11/26	Q'TY 0 PCS

ENGINEERING CHANGE NOTICE - RECORD

REVISION NO.	REVISION DESCRIPTION	AUTHOR	DATE	REMARK
A		<i>July Shen</i>	2021/11/26	

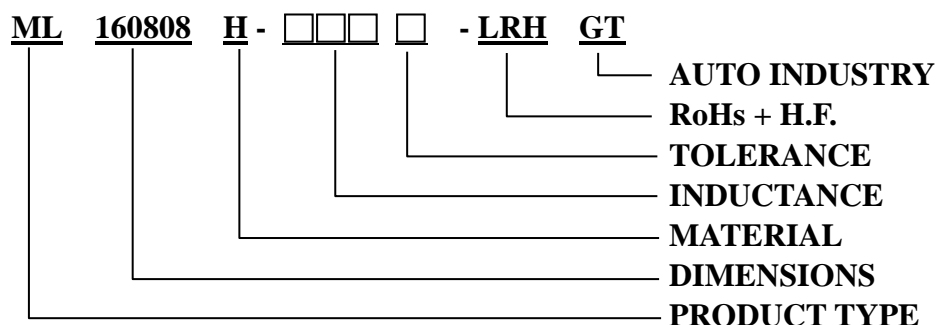


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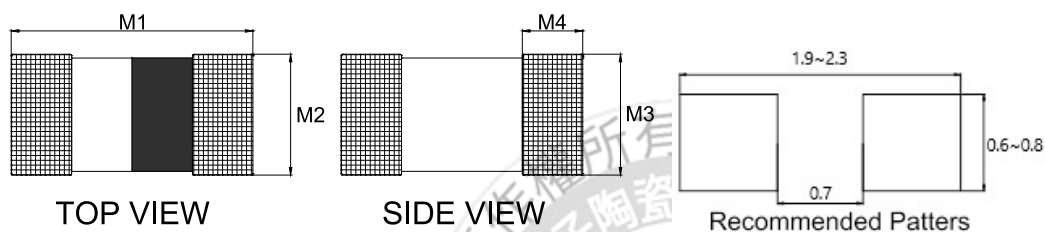
※This is a RoHS and REACH compliant product whose related documents are available on request.

※Graphic is only for dimensionally application.

1. PART NUMBER IDENTIFICATION



2. MECHANICAL DIMENSION



UNIT: mm

	DIM.	TOL.
M1	1.6	±0.15
M2	0.8	±0.15
M3	0.8	±0.15
M4	0.20~0.60	

3. ELECTRICAL SPECIFICATION

Part number	Inductance (nH)	Inductance Tolerance	Q MIN.	L,Q Test Frequency (MHz)	SRF (MHz) MIN.	DC Resistance (Ω) MAX.	Irms (mA) MAX.
ML160808H-1N0□-LRHGT	1.0	S	8	100	10000	0.05	1000
ML160808H-1N2□-LRHGT	1.2	S	8	100	10000	0.05	1000
ML160808H-1N5□-LRHGT	1.5	S	8	100	10000	0.10	1000
ML160808H-1N8□-LRHGT	1.8	S	8	100	10000	0.10	1000
ML160808H-2N2□-LRHGT	2.2	S	8	100	8000	0.10	1000
ML160808H-2N7□-LRHGT	2.7	S	10	100	7000	0.13	1000
ML160808H-3N3□-LRHGT	3.3	S	10	100	6000	0.13	1000
ML160808H-3N9□-LRHGT	3.9	S	10	100	6000	0.15	1000
ML160808H-4N7□-LRHGT	4.7	S	10	100	5000	0.20	1000
ML160808H-5N6□-LRHGT	5.6	S	10	100	4000	0.23	700
ML160808H-6N8□-LRHGT	6.8	J	10	100	4000	0.25	700
ML160808H-8N2□-LRHGT	8.2	J	10	100	3500	0.28	600
ML160808H-10N□-LRHGT	10	J	12	100	3400	0.30	600
ML160808H-12N□-LRHGT	12	J	12	100	2600	0.35	600
ML160808H-15N□-LRHGT	15	J	12	100	2300	0.40	600
ML160808H-18N□-LRHGT	18	J	12	100	2000	0.45	600
ML160808H-22N□-LRHGT	22	J	12	100	1600	0.50	600
ML160808H-27N□-LRHGT	27	J	12	100	1400	0.55	600
ML160808H-33N□-LRHGT	33	J	12	100	1200	0.60	600
ML160808H-39N□-LRHGT	39	J	12	100	1100	0.65	500
ML160808H-47N□-LRHGT	47	J	12	100	900	0.70	500

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Part number	Inductance (nH)	Inductance Tolerance	Q MIN.	L,Q Test Frequency (MHz)	SRF (MHz) MIN.	DC Resistance (Ω) MAX.	Irms (mA) MAX.
ML160808H-56N□-LRHGT	56	J	12	100	900	0.75	500
ML160808H-68N□-LRHGT	68	J	12	100	700	0.85	400
ML160808H-82N□-LRHGT	82	J	12	100	600	0.95	300
ML160808H-R10□-LRHGT	100	J	12	100	600	1.00	300
ML160808H-R12□-LRHGT	120	J	8	50	500	1.20	300

TEST INSTRUMENT: Agilent E4991A+16192A、Agilent 4338B

□Tolerance: S=±0.3nH/J=±5%

※Irms: Full rated current 5min,temperature rise should be less than 25°C.

※MSL: LEVEL 1



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4. RELIABILITY PERFORMANCE

Item	Test Condition	Standard Source
High Temperature Exposure	1. Temperature : $125^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 2. Test time : 1000 hrs Measurement: at ambient temperature 24 hrs after test completion	1. No mechanical damage 2. Inductance value should be within $\pm 10\%$ of the initial value 3. Q value should be within $\pm 20\%$ of the initial value
Temperature Cycle	1. Temperature : $-55 \sim +125^{\circ}\text{C}$ 2. Cycle : 1000 cycles 3. Dwell time : 30 minutes Measurement : at ambient temperature 24 hrs after test completion	1. No mechanical damage 2. Inductance value should be within $\pm 10\%$ of the initial value 3. Q value should be within $\pm 20\%$ of the initial value
Biased Humidity	1. Temperature : $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 2. Humidity : 85 % RH 3. Test time : 1000 hrs 4. Apply current : full rated current Measurement: at ambient temperature 24 hrs after test completion	1. No mechanical damage 2. Inductance value should be within $\pm 10\%$ of the initial value 3. Q value should be within $\pm 20\%$ of the initial value
Operational Life	1. Temperature : $125^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 2. Test time : 1000 hrs 3. Apply current : full rated current Measurement : at ambient temperature 24 hrs after test completion	1. No mechanical damage 2. Inductance value should be within $\pm 10\%$ of the initial value 3. Q value should be within $\pm 20\%$ of the initial value
Mechanical Shock	Condition F: 1500g's/0.5ms/Half sine	1. No mechanical damage 2. Inductance value should be within $\pm 10\%$ of the initial value 3. Q value should be within $\pm 20\%$ of the initial value
Vibration Test	5g's for 20 minutes, 12 cycles each of 3 orientations Test from 10-2000Hz, 12 cycles each of 3 orientations	1. No mechanical damage 2. Inductance value should be within $\pm 10\%$ of the initial value 3. Q value should be within $\pm 20\%$ of the initial value
Resistance to Solder Heat	1. Solder temperature : $260 \pm 5^{\circ}\text{C}$ 2. Flux : Rosin 3. DIP time : 10 ± 1 sec	1. More than 95 % of terminal electrode should be covered with new solder 2. No mechanical damage 3. Inductance value should be within $\pm 10\%$ of the initial value 4. Q value should be within $\pm 20\%$ of the initial value
ESD	Classification Levels 1C	1. No mechanical damage 2. Inductance variation within 10%. 3. Q value should be within $\pm 20\%$ of the initial value

SPECIFICATION FOR APPROVAL

Item	Test Condition	Standard Source						
Solderability Test	1.Solder temperature : $235 \pm 5^{\circ}\text{C}$ 2.Flux : Rosin 3.DIP time : 5 ± 1 sec	1.More than 95 % of terminal electrode should be covered with new solder 2.No mechanical damage						
Board Flex	Epoxy-PCB(1.6mm) Deflection 2mm(min) 60s minimum holding time	No mechanical damage.						
Terminal Strength	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="text-align: center;">Size</th> <th style="text-align: center;">Apply Force(F)</th> <th style="text-align: center;">Test Time</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1608</td> <td style="text-align: center;">10 N</td> <td style="text-align: center;">10 ± 1 sec.</td> </tr> </tbody> </table>	Size	Apply Force(F)	Test Time	1608	10 N	10 ± 1 sec.	No mechanical damage
Size	Apply Force(F)	Test Time						
1608	10 N	10 ± 1 sec.						

NOTE:

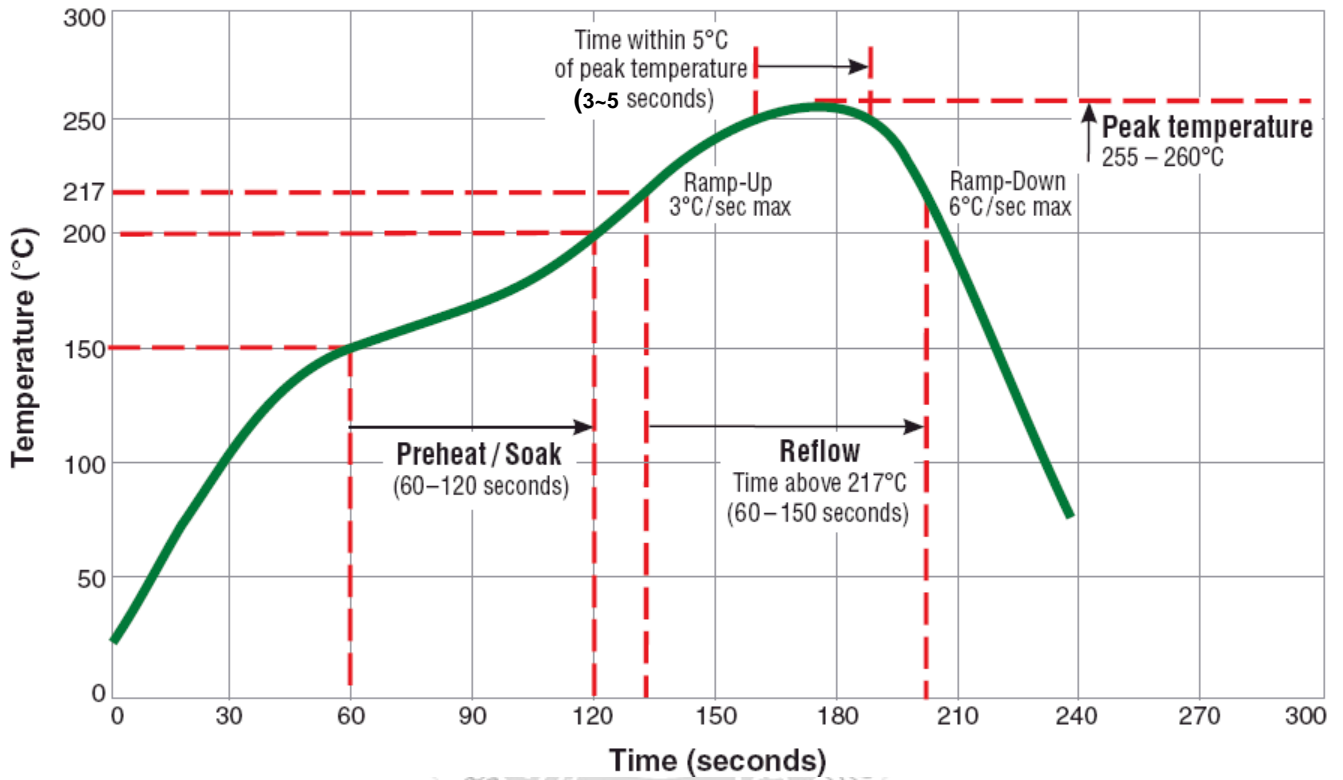
The storage atmosphere must be free of gas containing sulfur and chlorine. Also, avoid exposing the product to saline moisture. If the product is exposed to such atmospheres, the terminals will oxidize and solderability will be affected.



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5. REFLOW CHART

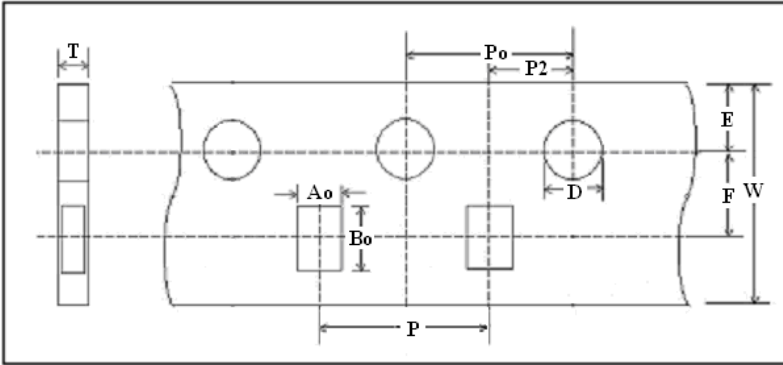
Typical RoHS Reflow Profile



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6. PACKING

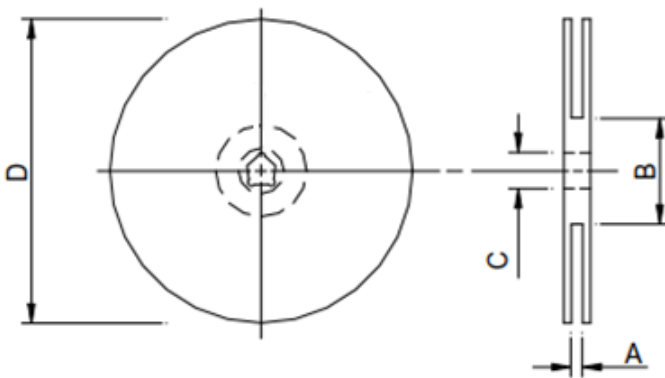
6.1 Type : Paper Carrier



UNIT : mm

W	P	E	F	D	Po	P2	Ao	Bo	T
8.00±0.10	4.00±0.10	1.75±0.05	3.50±0.05	1.55±0.05	4.00±0.10	2.00±0.05	0.98±0.03	1.80±0.05	0.95±0.05

7.2 REEL DIMENSION



UNIT : mm

A	B	C	D
10±1.5	50 OR MORE	13.2±1.0	178±2.0

7" Reel Packaging Quantity	
Qty.(pcs)	4,000
BOX	5 reels / inner box