COILMX

SPECIFICATION FOR APPROVAL
High Current Power Inductor

CUSTOMER.	
MODEL NO.	MTP2920-100MC
CUSTOMER'S PART NO.	
LILE NO.	
DATE.	2023.06.13
REVISION.	A/0

CUSTOMER APPROVE		
DATE:		
DRAWING		
DRAWN BY	CHECK BY	APPROVAL BY
Sumi Lin	Jack Bai	Peter Zeng
DATE: 2023.06.13		

COILMX
Manufacturer of electronic magnetic components for new energy photovoltaic storage charging

HUIZHOU COILMX ELECTRONICS CO.,LTD
SHENZHEN MOTTO TECHNOLOGY CO., LTD

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COILMX HUIZHOU COILMX ELECTRONICS CO.,LTD SHENZHEN MOTTO TECHNOLOGY CO., LTD

CUSTOMER		MODEL NO.	MTP2920-100MC	REVISION	A/0
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REVISIONS

REW	PROJECT CHANGE	DESCRIPTION	Date

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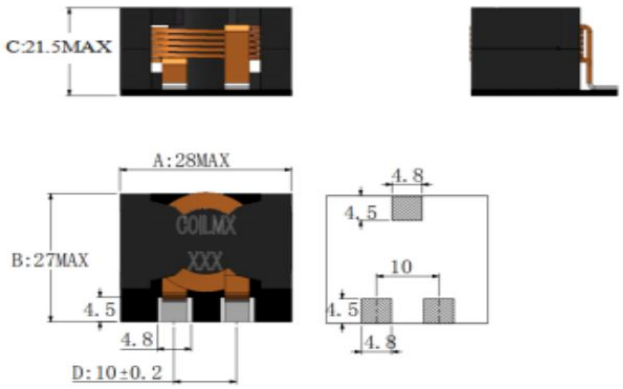
1.PRODUCT DIMENSION

UNIT:mm



A	28.0MAX
B	27.0MAX
C	21.5MAX
D	10.0±0.2

2.ELECTRICAL REQUIREMENTS

PARAMETER	SPECIFICATION	CONDITION	TEST INSTRUMENTS
L(uH)	10uH±20%	100KHz/0.25V	MICROTEST 6377
DCR(mΩ)	2.5mΩ MAX	At 25℃	TH16502
I sat(A)	32A TYP L0A*70%	100KHz/0.25V	MICROTEST 6377+6220
I rms(A)	33A TYP △T≤40℃	100KHz/0.25V	MICROTEST 6377+6220

3.MATERIAL LIST

ITEM	MATERIAL	SUPPLIER
CORE	DR:(P95)27*19*7.5*B12	YUEFENG/DONGYANGGUANG/TIANTONG
WIRE	AIW 220℃(1.0*4.0*7.75TS)	TAIYI-JIATENG-SONGYE
SOLDER	TIN-Sn99.95	QIANDAO/HONGXINGWEI

4.CHARACTERISTICS

(1). All test data is based on 25℃ ambient.

(2). DC current(A)that will cause an approximate △T40℃

(3). DC current(A)that will cause L0 to drop approximately 30%Typ

(4). Operating temperature range: -40℃~+125℃

(5).The part temperature (ambient + temp rise)should not exceed 125℃ under worst case operating conditions. circuit design, component.PWB trace size and thickness,airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the den application

5.SPECIAL REQUEST

(1)Lettering COILMX 100 on top of the body.

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6.PRODUCT IDENTIFICATION

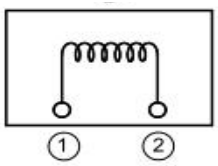
XX XXXX - XXX X

① ② ③ ④

①、 Product Symbol ②、 Dimensions ③、 Inductance

④、 Tolerance: M±20%, N±30%.

7.ELECTRICAL SCHEMATICS



8.APPLICATION

(1)Low profile,high current power supplies.

(2)Battery powered devices.

(3)DC/DC converters in distributed power systems.

(4)DC/DC converters for field programmable gate array.

9.FEATURES

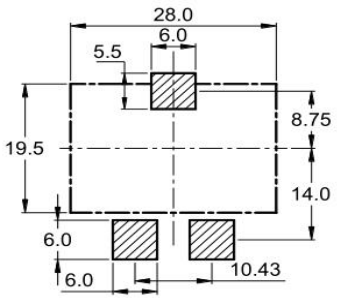
(1)Assemblage design, sturdy structure.

(2)High inductance, high current, low magnetic loss,low ESR, small parasitic capacitance.

(3)Flat wire winding, achieve a low D.C. Resistance.

(4)Temperature rise current and saturation current is less influenced by environment.

10.RECOMMENDED PCB LAYOUT



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CUSTOMER			MODEL NO.		MTP2920-100MC		REVISION		A/0	
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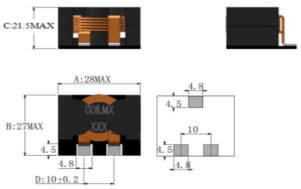
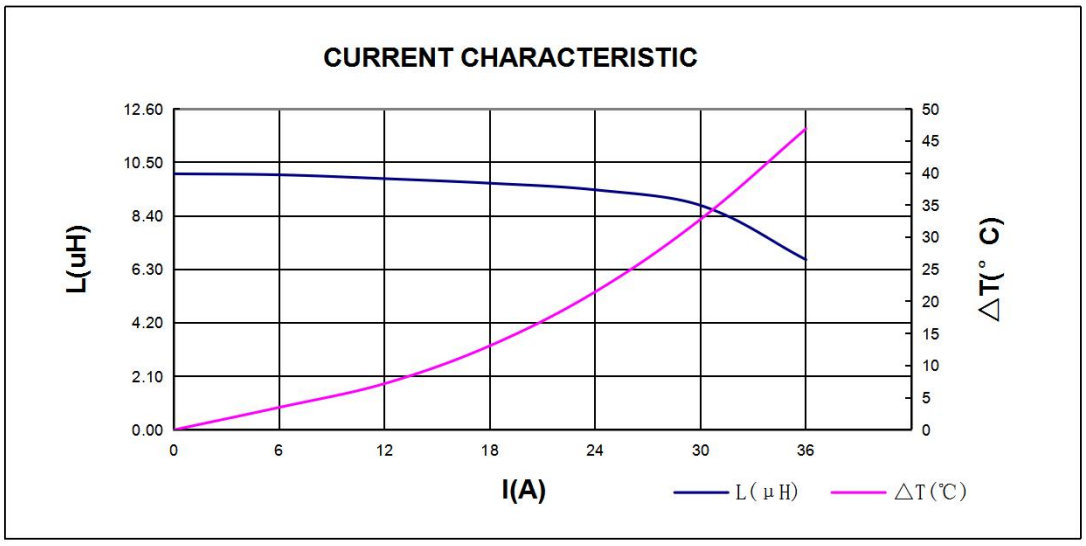
SORT	ITEM	A	B	C	D					
PRODUCT & DIMENSION	SPEC	28.0MAX	27.0MAX	21.5MAX	10.0±0.2					
	1	27.56	26.50	20.46	10.02					
	2	27.56	26.50	20.45	10.03					
	3	27.60	26.56	20.53	10.05					
	4	27.56	26.58	20.57	10.02					
	5	27.65	26.68	20.52	10.05					
	X	27.59	26.56	20.51	10.03					
	R	0.09	0.18	0.12	0.03					

ELECTRICAL & REQUIREMENTS	ITEM	L(μH)	DCR (mΩ)	I sat(A)	DC BIAS	Irms	SHAPE:
	SPEC	10uH±20%	2.5mΩ MAX	32A TYP L0A*70%		33A TYP △T≤40℃	
	1	9.98	2.06	8.52	-14.6%	OK	
	2	10.05	2.02	8.36	-16.8%	OK	
	3	9.95	2.01	8.33	-16.3%	OK	
	4	9.95	2.06	8.34	-16.2%	OK	
	5	9.68	2.04	8.32	-14.0%	OK	
	X	9.92	2.04	8.37	-15.6%		
	R	0.37	0.05	0.20	2.8%		





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11.Reliability

Item	Specification and Requirement	Test Method
Solder a bility test	Terminals area must have 95% min solder coverage	Solder heat proof: (1) Preheating: 160±10℃ for 90 seconds (2) Retention time: 245±5℃ for 2±0.5 seconds
Vibration test	Inductance change: Within±5% Without mechanical damage such as break	(1)Vibration frequency: (10Hz to 55Hz 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 test	Inductance change: Within±5% Without mechanical damage such as break	(1) Peak value: 100G (2) Duration of pulse: 11ms (3) Times in each positive and negative direction of 3 mutual perpendicular directions
Thermal shock	Inductance change: Within±5% Without mechanical damage such as break	(1)Repeat 100 cycle as follow (-40±2℃,30±3 minutes) Room temperature,5 minutes (+125±2℃,30±3 minutes) Room temperature,5 minutes (2)Recovery:48+4/-0 hours of recovery under the standard condition after the test. (see Note1)
High temperature life test	Inductance change: Within±5% Without mechanical damage such as break	(1)Environment condition : 85±2℃ Applied current: Rated current (2)Duration:1000+4/-0 hours (see Note1)
Humidity Resistance	Inductance change: Within±5% Without mechanical damage such as break	(1)Environment condition : 60±2℃ Humidity:90~95% Applied current: Rated current (2)Duration:1000+4/-0 hours (see Note1)
Low temperature life test	Inductance change: Within±5% Without mechanical damage such as break	(1)Store temperature -40±2℃for total 1000+4/-0 hours
High temperature life test	Inductance change: Within±5% Without mechanical damage such as break	(1)Store temperature +125±2℃for total 1000+4/-0 hours

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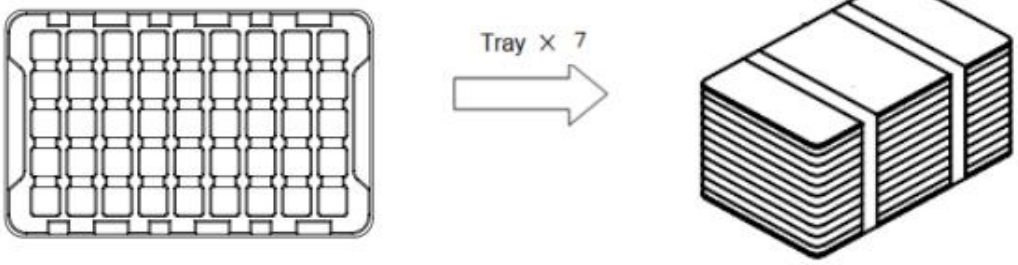
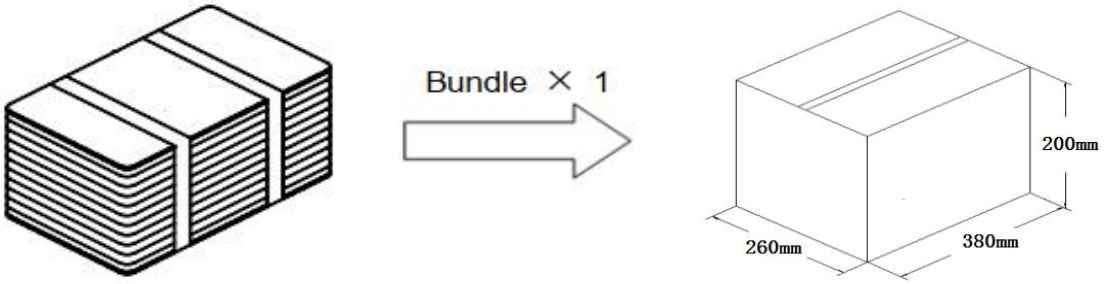
12、 Packaging



Quantity/Tray:40PCS

Quantity/Bundle:280PCS



Quantity/Bundle:280PCS

Quantity/Carton:280PCS

packing quantity

Product Series	Quantity/Tray	Quantity/Bundle	Quantity/Carton
MTP2920	40PCS	280PCS	280PCS

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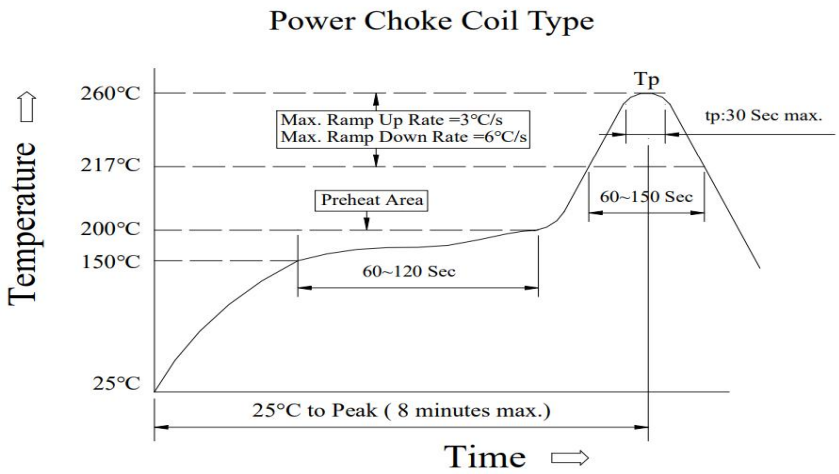
Reflow curve

※ Reflow Profile



1. Reflow Soldering Method

Reflow Soldering	Tp:255~260℃	Max.30 seconds (tp)
	217℃	60~150 seconds
Pre-Heat	150 ~ 200℃	60~120 seconds
Time 25℃ to peak temperature	8 minutes max.	

2. Soldering iron method： 350±5℃ Max.3 seconds.