



**SPECIFICATION FOR APPROVAL**

产品规格承认书

**High Current Power Inductor**

大电流功率电感

CUSTOMER.

\_\_\_\_\_

MODEL NO.

**MTP2920-3R3MC-QZ**

\_\_\_\_\_

CUSTOMER'S PART NO.

\_\_\_\_\_

LILE NO.

\_\_\_\_\_

DATE.

**2023.06.13**

\_\_\_\_\_

REVISION.

**A/0**

\_\_\_\_\_

<b>CUSTOMER APPROVE</b>		
DATE:		
<b>DRAWING</b>		
<b>DRAWN BY</b>	<b>CHECK BY</b>	<b>APPROVAL BY</b>
林思思	陈健波	曾伟
DATE: 2023.06.13		



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CUSTOMER		MODEL NO.	MTP2920-3R3MC-QZ	REVISION	A/0
FILE NO.		PART NO.		DATE	2023.06.13
<b>1.PRODUCT DIMENSION</b>				<b>UNIT:mm</b>	
				A	28MAX
				B	27MAX
				C	21.5MAX
				D	10±0.2
				备注	印字只印感量
<b>2.ELECTRICAL REQUIREMENTS</b>					
<b>PARAMETER</b>	<b>SPECIFICATION</b>	<b>CONDITION</b>	<b>TEST INSTRUMENTS</b>		
L(uH)	3.3 ± 20%	100KHz/0.25V	MICROTEST 6377		
DCR(mΩ)	2.5MAX	At 25℃	TH16502		
I sat(A)	>90A TYP L0A*70%	100KHz/0.25V	MICROTEST 6377+6220		
I rms(A)	33A TYP ΔT≤40℃	100KHz/0.25V	MICROTEST 6377+6220		
<b>3.MATERIAL LIST</b>					
<b>ITEM</b>	<b>MATERIAL</b>	<b>SUPPLIER</b>			
CORE	DR:(P95)27*19*7.5*B12	YUEFENG/DONGYANGGUANG/TIANTONG			
WIRE	扁平线(1.0*4.0*7.75TS)	TAIYI-JIATENG-SONGYE			
SOLDER	TIN-Sn99.95	QIANDAO/HONGXINGWEI			
<b>4.CHARACTERISTICS</b>					
(1). All test data is based on 25℃ ambient.					
(2). DC current(A)that will cause an approximate ΔT40℃					
(3). DC current(A)that will cause L0 to drop approximately 20%Typ					
(4). Operating temperature range: -55℃~+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					
<b>5.SPECIAL REQUEST</b>					
(1)Lettering 3R3 on top of the body.					

<b>CUSTOMER</b>		<b>MODEL NO.</b>	MTP2920-3R3MC-QZ	<b>REVISION</b>	A/0
<b>FILE NO.</b>		<b>PART NO.</b>		<b>DATE</b>	2023.06.13

**6.PRODUCT IDENTIFICATION**

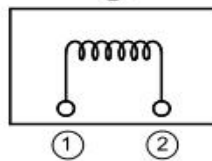
XX XXXX - XXX X

① ② ③ ④

①、 Product Symbol ②、 Dimensions ③、 Inductance

④、 Tolerance: M±20%, N±30%.

**7.ELECTRICAL SCHEMATICS**



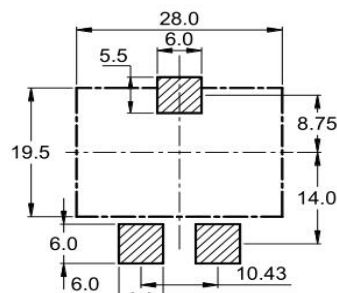
**8.APPLICATION**

- (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.

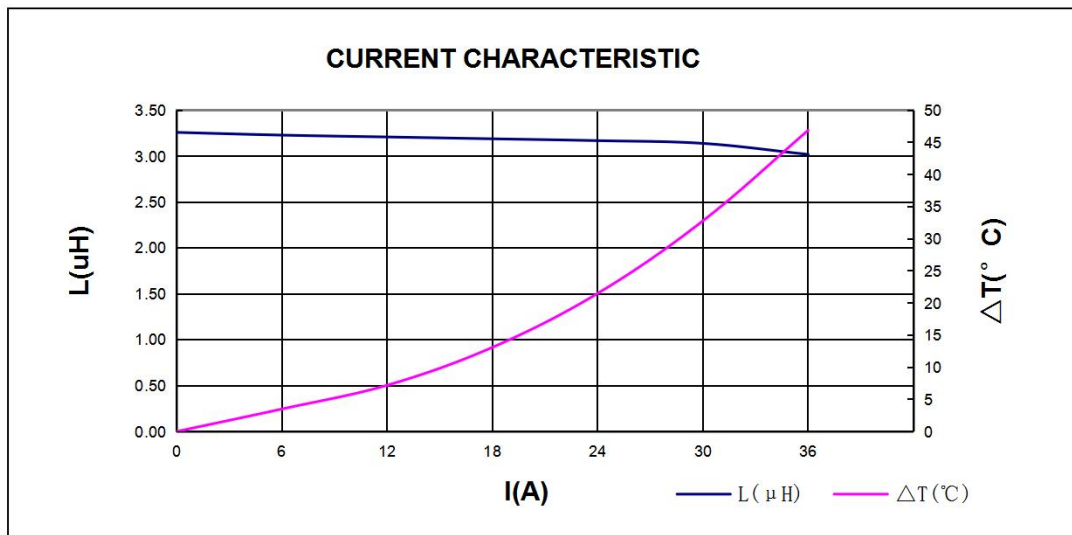
**9.FEATURES**

- (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**



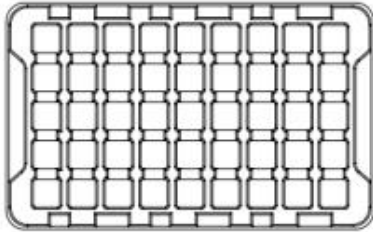
CUSTOMER		MODEL NO.	MTP2920-3R3MC-QZ			REVISION	A/0		
FILE NO.		PART NO.				DATE	2023.06.13		
SORT	ITEM	A	B	C	D				
PRODUCT & DIMENSION	SPEC	28MAX	27MAX	21.5MAX	10±0.2				
	1	27.56	26.50	20.46	10.02				
	2	27.56	26.50	20.45	10.03				
	3	27.60	26.56	20.53	10.05				
	4	27.56	26.58	20.57	10.02				
	5	27.65	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	3.3 ± 20%	2.5MAX	>90A TYP L0A*70%	降幅 %	33A TYP ΔT≤40℃			
	1	3.25	2.06	2.76	-15.1%	OK			
	2	3.23	2.02	2.75	-14.9%	OK			
	3	3.16	2.01	2.72	-13.9%	OK			
	4	3.20	2.06	2.73	-14.7%	OK			
	5	3.15	2.04	2.64	-16.2%	OK			
	X	3.20	2.04	2.72	-14.9%				
	R	0.10	0.05	0.12	2.3%				



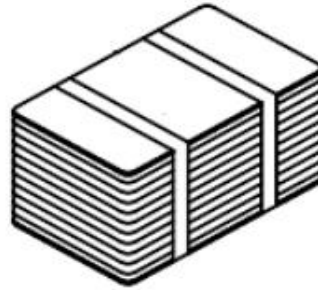
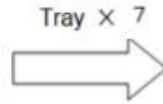
CUSTOMER		MODEL NO.	MTP2920-3R3MC-QZ	REVISION	A/0
FILE NO.		PART NO.		DATE	2023.06.13
<b>11.可靠性Reliability</b>					
项目Item	规格与需求 Specification and Requirement	测试方法Test Method			
可焊性 Solder ability test	沾锡面积不得小于95%上锡面 Terminals area must have 95% min solder coverage	上锡升温曲线Solder heat proof: (1) 预热: 160±10℃持续90s Preheating: 160±10℃ for 90 seconds (2) 恒温时段: 245±5℃持续2±0.5s Retention time: 245±5℃ for 2±0.5 seconds			
振动测试 Vibration test	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break	(1) 振动频率(10Hz 55Hz 10Hz)60s为一个周期 Vibration frequency: (10Hz to 55Hz to 10Hz) in 60 seconds as a period (2) 振动时间 Vibration time: 三维正交坐标系每个方向振动(周期) 循环2小时 Period cycled for 2 hours in each of 3 mutual perpendicular directions (3) 振幅 Amplitude: 1.5 mm Max			
冲击测试 Shock test	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break	(1) 最大振幅 Peak value: 100G (2) 脉冲波长 Duration of pulse: 11ms (3) 三维正交坐标系每个方向正负方向冲击3次 Times in each positive and negative direction of 3 mutual perpendicular directions			
冷热冲击 Thermal shock	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break	(1)重复以上100个循环Repeat 100 cycle as follow (-55±2℃,30±3分钟) 室温5分钟 (-55±2℃,30±3 minutes) Room temperature,5 minutes (+125±2℃,30±3分钟) 室温5分钟 (+125±2℃,30±3 minutes) Room temperature,5 minutes (2)恢复: 测试于标准条件下恢复48+4/-0小时 (参考注释1) Recovery:48+4/-0 hours of recovery under the standard condition after the test. (see Note1)			
耐高温测试 High temperature life test	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break	(1)环境条件: 85±2℃ Environment condition : 85±2℃ 应用电流: 额定电流 Applied current: Rated current (2)持续时间: 1000+4/-0 小时 (参考注释1) Duration:1000+4/-0 hours (see Note1)			
耐湿测试 Humidity Resistance	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break	(1)环境条件: 60±2℃ Environment condition : 60±2℃ 湿度: 90~95% Humidity:90~95% 应用电流: 额定电流 Applied current: Rated current (2)持续时间: 1000+4/-0 小时 (参考注释1) Duration:1000+4/-0 hours (see Note1)			
低温存放测试 Low temperature life test	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break	(1)存储温度 Store temperature -55±2℃下存放 1000+4/-0 小时 -55±2℃ for total 1000+4/-0 hours			
高温存放测试 High temperature life test	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break	(1)存储温度 Store temperature +125±2℃下存放 1000+4/-0 小时 +125±2℃ for total 1000+4/-0 hours			

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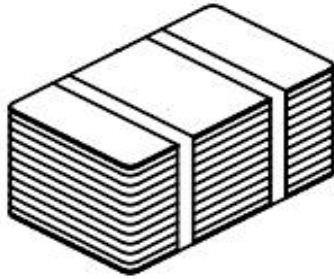
12、包装 Packaging



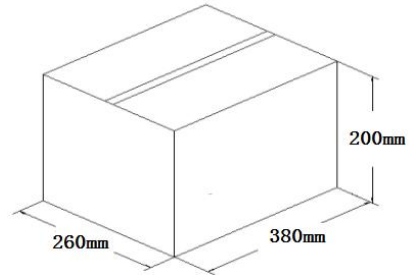
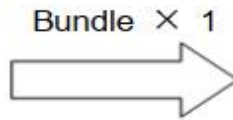
Quantity/Tray:40PCS



Quantity/Bundle:280PCS



Quantity/Bundle:280PCS



Quantity/Carton:280PCS

包装数量 packing quantity

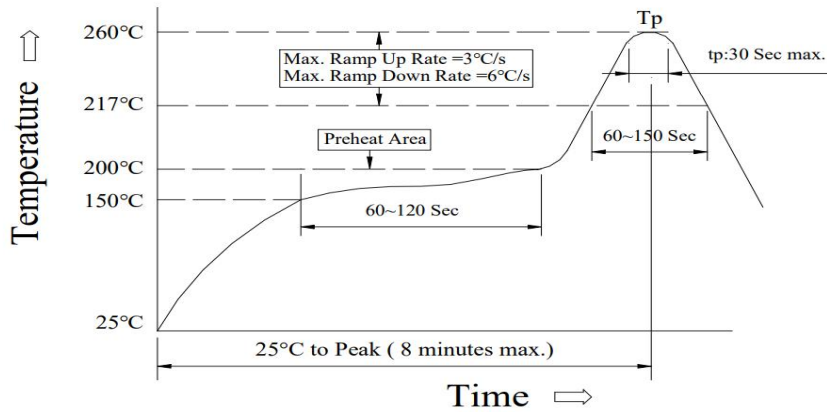
Product Series 产品系列	Quantity/Tray 数量/盘	Quantity/Bundle 数量/捆	Quantity/Carton 数量/箱
MTP2920	40PCS	280PCS	280PCS

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Reflow curve

※ Reflow Profile

Power Choke Coil Type



1. Reflow Soldering Method

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

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



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[1812LS-224XJ](#) [1812LS-563XJ](#) [1812LS-683XJ](#) [1812LS-824XJ](#) [NIN-FB101JTR110F](#) [NIN-FB471JTR62F](#) [NIN-FC1R5JTR220F](#) [NIN-](#)  
[HCR15JTRF](#) [NIN-HCR33JTRF](#) [NIN-HDR22JTRF](#) [NIN-HDR82JTRF](#) [NIN-HK2N7STRF](#) [NIN-PA150KTR370F](#) [NIN-PB100KTR550F](#)