

SPECIFICATION FOR APPROVAL

承 認 書

CUSTOMER

客戶名稱：

NUMBER

编号: Y-23062901

PART NO.

品 名： CPQ2014-4R7M

QUANTITY

數量：10PCS

DESCRIPTION

型 號： SMD CPQ2014

DATE

日期：2024-09-27

CUSTOMER PART NO.

客戶料號：

NOTE

注解：

APPROVAL SIGNATURE

客戶承認簽章

Approved By 核 准	Checked By 审 查	Drawn By 制 作
李 庆 辉	苏 高 峰	劳 水 花

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SPECIFICATIONS

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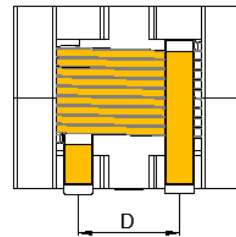
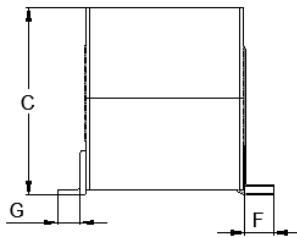
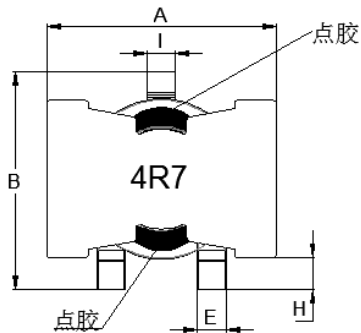
CPQ2014-4R7M

1. Scope

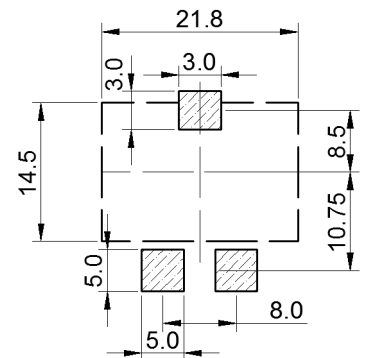
This specification apply for CPQ2014 of power inductors

2. Appearance

2-1.Dimensions(mm)



2-2.Recommended Land



A	B	C	D	E	F	G	H	I
21.8Max	22.5Max	14.5Max	8.0±0.5	3.5±0.3	3.0±0.5	1.66±0.3	5.0±0.5	2.5±0.2

※ Dimension without tolerance is approx.

3. Coils Specification

3-1. Connection (Bottom View)



“S” is winding start

3-2. Electronical characteristics

Part number 料号	Inductance ¹ 电感量 uH	DCR(mΩ) ²		Isat (A) ³ Drop=30% Typ.	Irms (A) ⁴ Rise=40℃ Typ.
		Typ.	Max		
CPQ2014-4R7M	4.7±20%	3.0	3.8	35.0	24.0

Remark

1.Measurement Frequency for Inductance: 100KHz/1.0V

2.DCR Measured on a HIOKI3540 ohm-meter

3.The saturation current: Value of inductance decrease within 30%

4.Temperature rise current: Arise in temperature of core surface is within 40℃.

Note :

产品顶部白色丝印

产品平贴度管控≤0.15mm

Spec. No.

Y-23062901

2/6

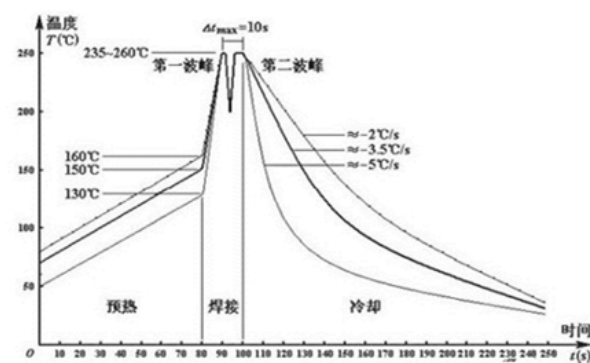
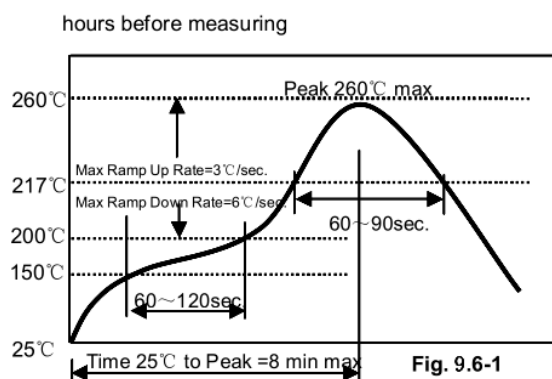
SPECIFICATIONS

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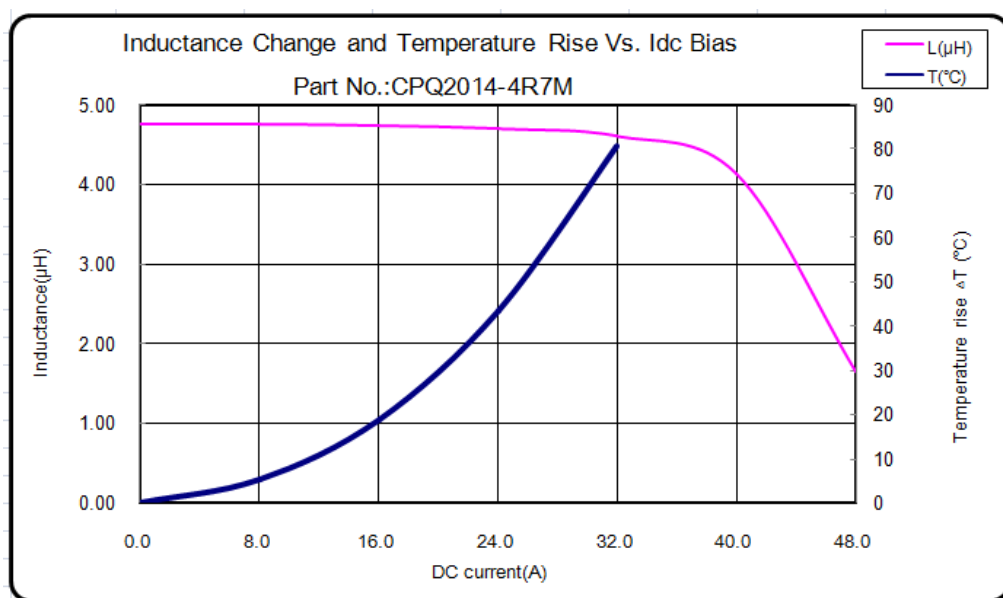
CPQ2014-4R7M

4. Recommended reflow condition

推荐波峰焊曲线



5. Inductance Change and Temperature Rise Vs. Idc Bias



6. Material List

No	Part	Material
1	Core	Ferrite HE6 PQ20-7
2	Wire	Copper Wire 0.6*3.5mm AIW 220°C 线材漆膜厚度: $\geq 0.02\text{mm}$ 线材击穿电压: $\geq 700\text{V}$
3	Epoxy	6020H胶 BLACK

Note :

Spec. No.

Y-23062901

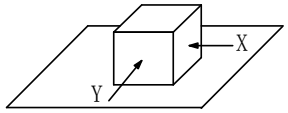
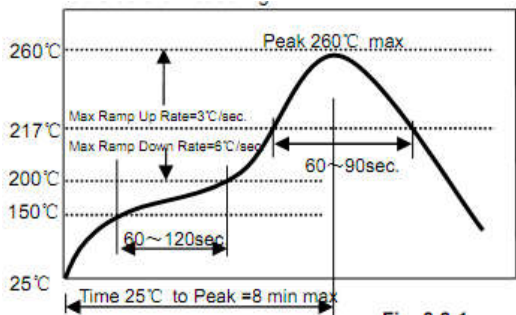
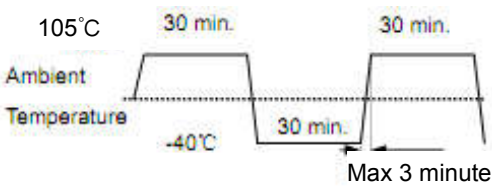
3/6

SPECIFICATIONS

TYPE:

CPQ2014-4R7M

7. Reliability Test

Items	Requirements	Test Methods and Remarks
7.1 Terminal Strength	No removal or split of the termination or other defects shall occur.  Fig.7.1-1	1) Solder the inductor to the testing jig (glass epoxy board shown in Fig.7.1-1) using eutectic solder. Then apply a force in the direction of the arrow. 2) 10N force. 3) Keep time: 5±2s
7.2 High Temperature	1. No visible mechanical damage. 2. Inductance change: Within ±10%	1) Storage Temperature :125+/-5℃ 2) Duration : 96 ±4 Hours 3) Recovery : then measured at room ambient temperature after placing 24 hours.
7.3 Low Temperature	1. No visible mechanical damage 2. Inductance change: Within ±10%	1) Temperature and time: -40±5℃ 2) Duration: 96±4 hours 3) Recovery : then measured at room ambient temperature after placing 24 hours.
7.4 Vibration test	1. No visible mechanical damage. 2. Inductance change: Within ±10%	1) Frequency range:10Hz~55Hz~10Hz 2) Amplitude:1.5mm p-p 3) Direction:X,Y,Z 4) Time:1 minute/cycle,2hours per axis
7.5 High Temperature Storage Tested	1. No visible mechanical damage. 2. Inductance change: Within ±10%	1) Storage Temperature :60+/-2℃ 2) Relative Humidity :90-95% RH 3) Duration : 96 ±4 Hours 4) Recovery : then measured at room ambient temperature after placing 24 hours.
7.6 Resistance to Soldering Heat	1. No visible mechanical damage. 2. Inductance change: Within ±10%  Fig.7.6-1	1) Re-flowing Profile: Please refer to Fig.7.6-1 2) Test board thickness: 1.0mm 3) Test board material: glass epoxy resin 4) The chip shall be stabilized at normal condition for 1~2 hours before measuring
7.7 Thermal Shock	1. No visible mechanical damage. 2. Inductance change: Within ±10% 	1) Temperature and time: -40±3℃ for 30±3 min →105℃ for 30±3min, please refer to Fig.7.7-1. 2) Transforming interval: Max, 3 minute 3) Tested cycle: 100 cycles 4) The chip shall be stabilized at normal condition for 1~2 hours before measuring

Note :

Spec. No.

Y-23062901

4/6

SPECIFICATIONS

TYPE:

CPQ2014-4R7M**8. Sample Test Data**

TEST ITEM	L uH	DCR mΩ	L _{+35A} uH				
CONDITION	100KHz/1.0V	At 25℃	100KHz/1.0V				
SPEC	4.7±20%	3.8mΩ Max	$\Delta L/L_0 \leq 30\%$				
1	4.73	2.84	4.49				
2	4.67	2.84	4.51				
3	4.60	2.85	4.45				
4	4.65	2.84	4.53				
5	4.70	2.83	4.51				
X	4.67	2.84	4.50				
判定结果	OK	OK	OK				
REMARK:							
APPROVED BY 李庆辉		CHECKED BY 刘志坚		DRAWN BY 劳水花			

Note :

Spec. No.

Y-23062901

5/6

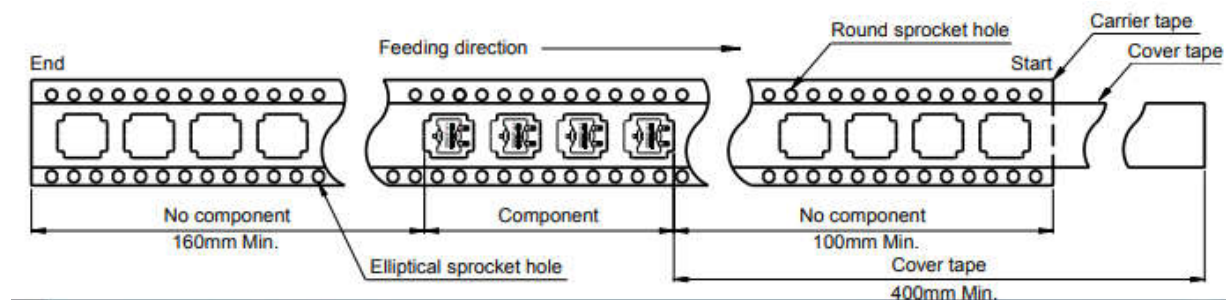
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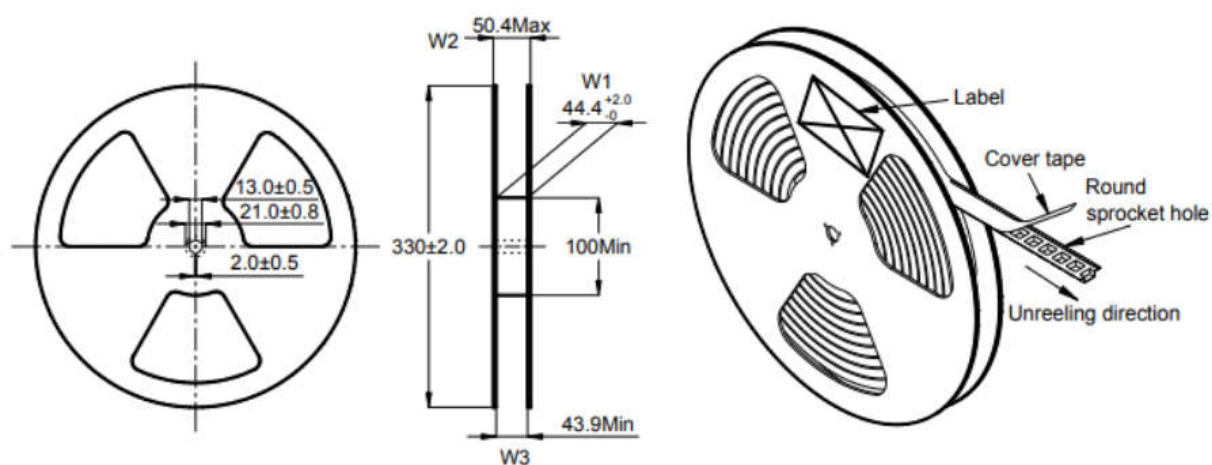
CPQ2014-4R7M

9. Packing specification

9.1 Tape Direction



9.2 Reel Dimensions (mm)



9.3 Packing Quantity 100Pcs/Reel

Note :

Spec. No.

Y-23062901

6/6