后芮驷(上海)电子有限公司

Horus International Electronics Co., LTD.

承认书

SPECIFICATION FOR APPROVAL

编号:

品名 DESCRIPTION： SMD Type Metal Power Inductor

规格 SPEC : HRS-RCA-N252012A-SERIES

包装 PACKAGE: 卷装

客户 CUSTOMER：

客户料号 CUSTOMER P/N:

APPROVED BY	
CUSTOMER	HORUS

DATA SHEET

SMD Type Metal Power Inductor

P/N: RCA- N252012A-SERIES

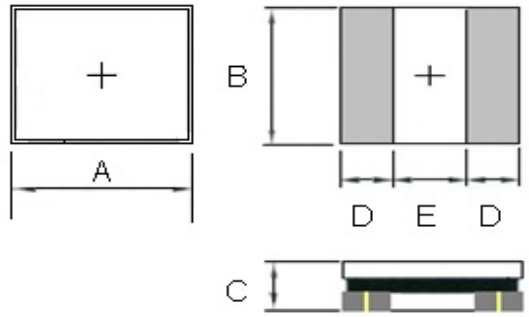
Moisture Sensitivity Level: 1

RoHS compliance.

Halogen Free available.

Qualification to AEC-Q200.

1. Outline Dimension/Structure (Unit: mm)



N252012A	Dimensions
A	2.5 ± 0.3
B	2.0 ± 0.3
C	1.3 MAX
D	0.85 REF
E	0.80 REF

2. Part Number

RCA	–	N252012A	–		M
A		B		C	D

A: Series (RCA: For Automotive Electronics)
B: Dimension A x B x C
C: Inductance uH
D: Induction Tolerance M= ± 20%

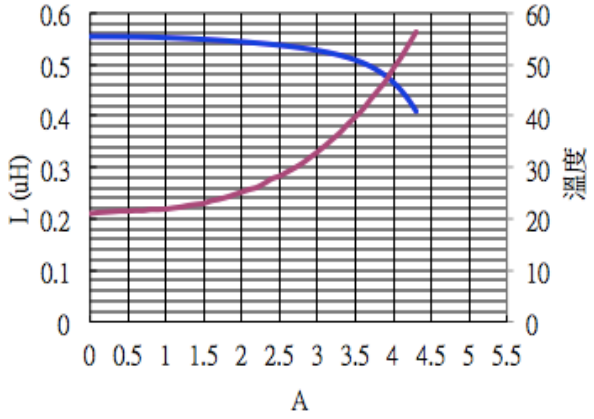
3. Electrical Characteristics:

Part Number	Inductance (uH)@1MHz/200mV	DCR(Ω) ±30%	Isat(A)		Irms(A)	
			Max	Typ.	Max.	Typ.
RCA-N252012A-R47M	0.47	0.048	4.60	4.10	3.96	3.60
RCA-N252012A-R56M	0.56	0.048	4.60	4.10	3.96	3.60
RCA-N252012A-R68M	0.68	0.055	3.85	3.50	3.30	3.00
RCA-N252012A-1R0M	1.0	0.085	3.40	3.10	3.00	2.75
RCA-N252012A-1R5M	1.5	0.110	2.50	2.25	2.20	2.00
RCA-N252012A-2R2M	2.2	0.130	2.30	2.10	2.05	1.90
RCA-N252012A-3R3M	3.3	0.190	1.70	1.50	1.43	1.30
RCA-N252012A-4R7M	4.7	0.250	1.50	1.35	1.32	1.20
RCA-N252012A-5R6M	5.6	0.350	1.30	1.15	1.10	1.03
RCA-N252012A-6R8M	6.8	0.385	1.20	1.05	0.99	0.92
RCA-N252012A-100M	10	0.520	1.10	0.99	0.97	0.89
RCA-N252012A-220M	22	1.100	0.70	0.63	0.60	0.54

●Operating Temperature Range -40°C to +125°C(Including self-temperature rise)

PERFORMANCE CURVES

RCA-N252012A-R47M



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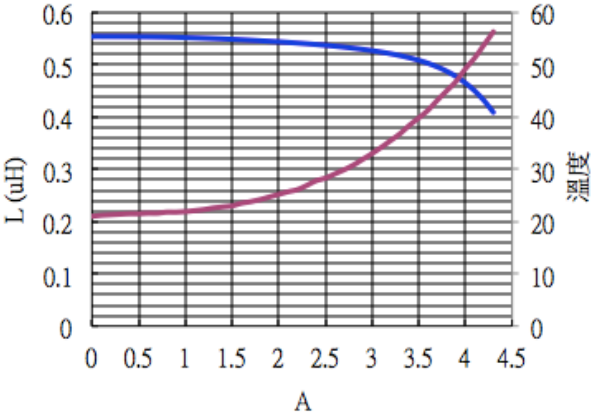

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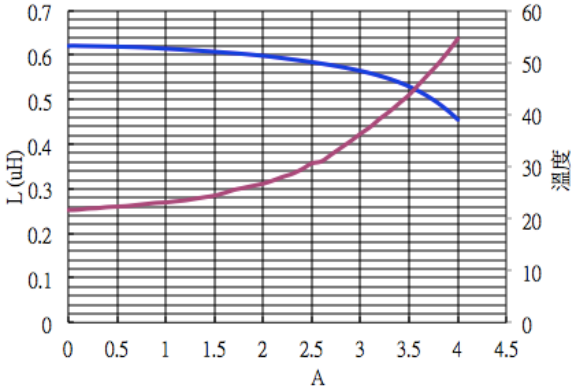

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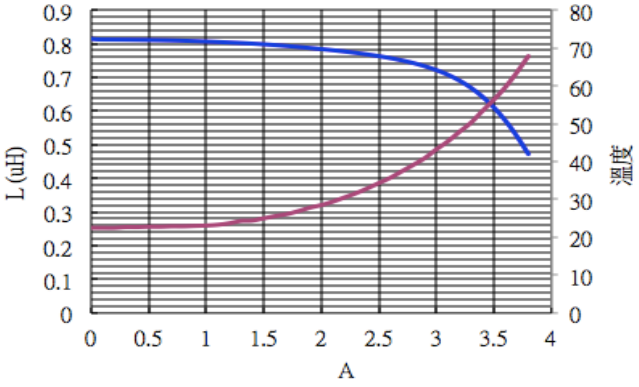

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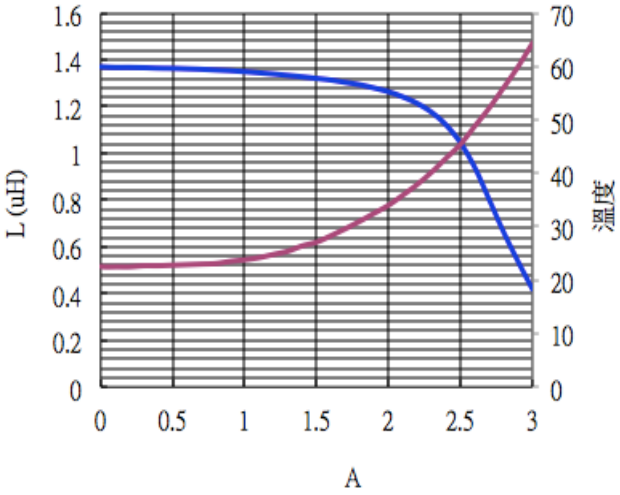

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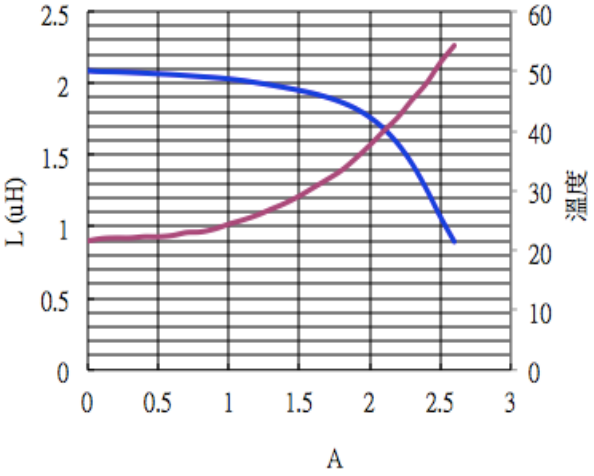

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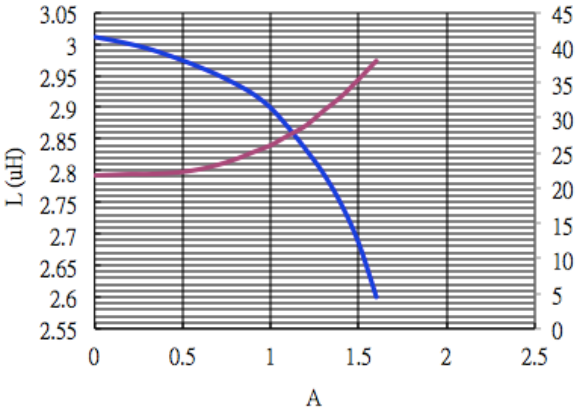

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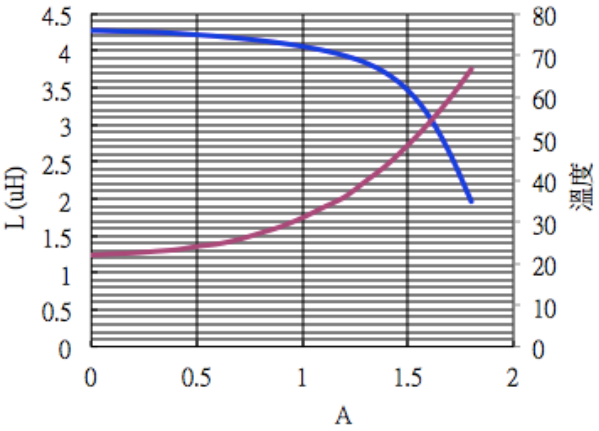

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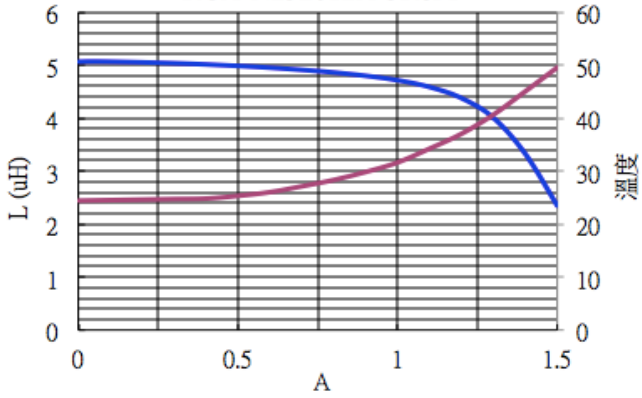

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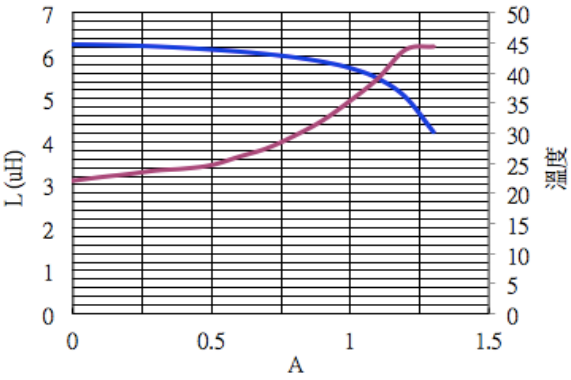
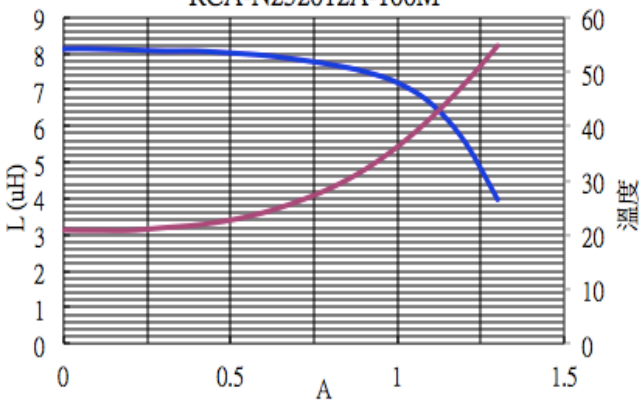
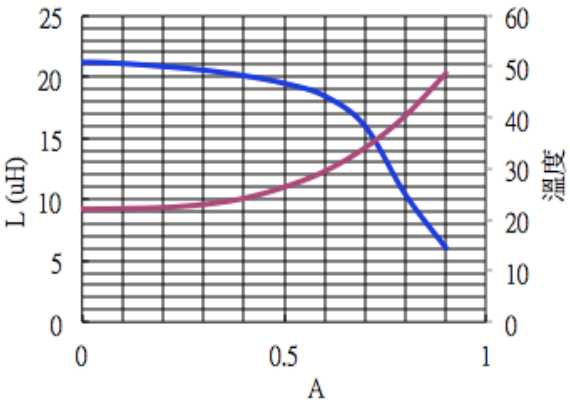


RCA-N252012A-100M

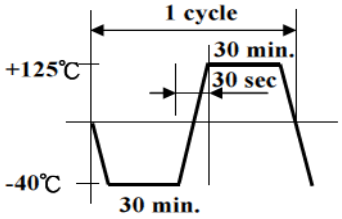


RCA-N252012A-220M



4. Reliabllity and Test Condition

Item	Specifications	Test conditions
Solderability	The metalized area must have 90% minimum solder coverage.	Dip pads in flux and dip in solder pot(96.5 Sn/3.5 Ag solder) at 255°C ±5°C.
Resistance to soldering heat	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be reflowed onto a PC board using 96.5 Sn/3.5 Ag solder paste. Solder process shall be at a maximum temperature of 260°C. For 96.5 Sn/3.5 Ag solder paste:>217°C for 90 seconds
Vibration	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Solder specimen inductor on the test printed circuit board. Apply vibrations in each of the x,y and z directions for 2 house for a total of 6 hours. Frequency : 10~50 Hz Amplitude : 1.5mm
High temperature resistance	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to temperature 125±2℃ for 50±12 hours. Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.
Static Humidity	Inductors must not have a shorted or openwinding.	Inductors shall be subjected to temperature 85±2℃ and 90 to 95%RH. for ten 24-hours. Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.
Component adhesion (push test)	Inductors shall be subjected to 0.9Kg	Inductors shall be reflow soldered (255°C ±5°C for 10 seconds) to a tinned copper substrate. A force gauge shall be applied to the side of the component. The device must withstand the stated force without a failure of the termination.

Item	Specifications	Test conditions
Low temperature storage	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to temperature -40±2℃ for 48±12 hours. Measure the test items after leaving the inductors at room temperature and humidity for 1 to 2 hours.
Resistance to solvent	There must be no case deformation, change in dimensions, or obliteration of marking.	Inductors must withstand 6 minutes of alcohol or water.
Thermal shock	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to 10 cycles to the the following temperature cycle:  Measure the test items after leaving the indu at room temperature and humidity for 2 hou

5. Soldering and Mounting

(1) Soldering

Mildly activated rosin fluxes are preferred. The minimum amount of solder can lead to damage from the stresses caused by the difference in coefficients of expansion between solder, chip and substrate. TAI-TECH terminations are suitable for re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

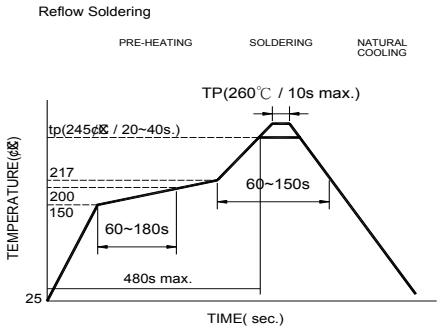
(2) Solder re-flow:

Recommended temperature profiles for re-flow soldering in Figure 1.

(3) Soldering Iron:

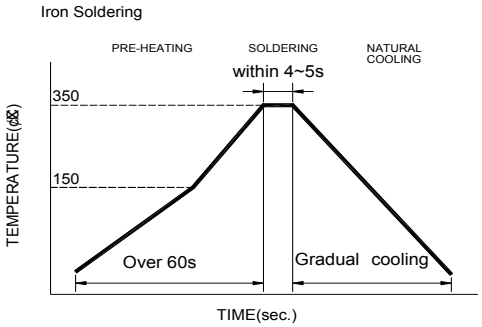
Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

- Preheat circuit and products to 150℃
- Never contact the ceramic with the iron tip
- Use a 20 watt soldering iron with tip diameter of 1.0mm
- 355℃ tip temperature (max)
- 1.0mm tip diameter (max)
- Limit soldering time to 4~5sec.



Reflow times: 3 times max.

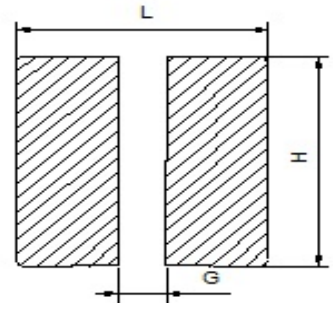
Fig.1



Iron Soldering times: 1 times max.

Fig.2

(4) Recommend PC Board Pattern

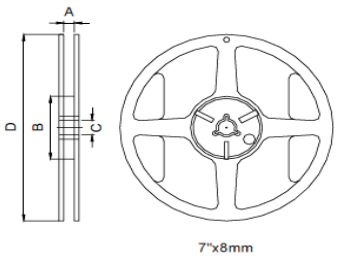


L(mm)	G(mm)	H(mm)
2.7	0.8	2.2

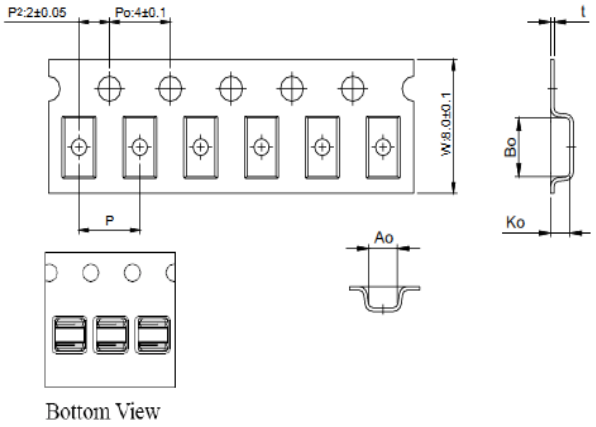
6. Packaging Information

Packaging Quantity: 2000pcs/Reel

Reel Dimension:



Type	A(mm)	B(mm)	C(mm)	D(mm)
7"x8mm	8.4±1.0	50 min.	13±0.8	178±2



Series	Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	t(mm)
PIN	252012	2.85±0.1	2.40±0.1	1.35±0.1	4.0±0.1	0.23±0.05

Application Notice

- Storage Conditions

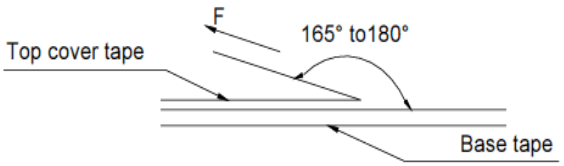
  To maintain the solderability of terminal electrodes:

  1. products meet IPC/JEDEC J-STD-020D standard-MSL, level 1.
  2. Temperature and humidity conditions: Less than 40℃ and 60% RH.
  3. Recommended products should be used within 12 months form the time of delivery.
  4. The packaging material should be kept where no chlorine or sulfur exists in the air.

- Transportation

  1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
  2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
  3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

Tearing Off Force



The force for tearing off cover tape is 15 to 80 grams in the arrow direction under the following conditions.

Room Temp. (℃)	Room Humidity (%)	Room atm (hPa)	Tearing Speed mm/min
5~35	45~85	860~1060	300

Modify records

Version	Page	Description
V01	N/A	New issued