

PIN Power Inductor RCH8011



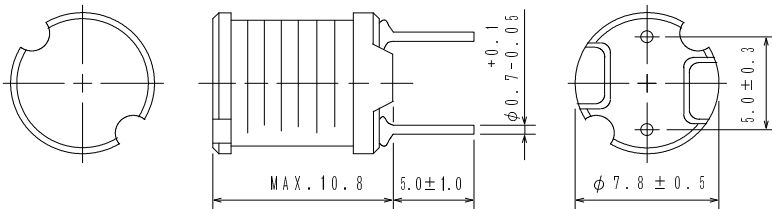
Halogen
Free



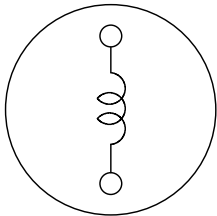
Description

- Ferrite drum core construction.
- Magnetically unshielded.
- L × W × H: 8.3 × 8.3 × 10.8mm Max.
- Product weight: 1.6 g(Ref.)
- Moisture Sensitivity Level: 1
- RoHS compliance.
- Halogen Free available.

Dimension - [mm]



Schematics - [mm]



Environmental Data

- Operating temperature range: $-30^{\circ}\text{C} \sim +100^{\circ}\text{C}$ (including coil's self temperature rise)
- Storage temperature range: $-30^{\circ}\text{C} \sim +100^{\circ}\text{C}$

Packaging

- Box packaging.

Applications

- Ideally used in Printers, LCD TV, DVD, Copy Machine, Mainboard of the compounding machines etc. as DC-DC Converter inductors.

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Electrical Characteristics

PART NAME	STAMP	INDUCTANCE [WITHIN] ※1	D. C. R. [MAX.] (TYP.) (at 20°C) (mΩ)	THE SATURATION CURRENT (mA) ※2	TEMPERATURE RISE CURRENT (mA) ※3
RCH8011NP-100L	100	10 μH ±15%	35 (28)	4400	4100
RCH8011NP-120L	120	12 μH ±15%	40 (32)	4000	3950
RCH8011NP-150L	150	15 μH ±15%	47 (38)	3600	3750
RCH8011NP-180L	180	18 μH ±15%	53 (42)	3300	3600
RCH8011NP-220L	220	22 μH ±15%	56 (45)	2800	3050
RCH8011NP-270L	270	27 μH ±15%	65 (52)	2600	2800
RCH8011NP-330L	330	33 μH ±15%	75 (60)	2400	2700
RCH8011NP-390L	390	39 μH ±15%	84 (67)	2200	2550
RCH8011NP-470L	470	47 μH ±15%	110 (88)	2000	2150
RCH8011NP-560L	560	56 μH ±15%	123 (98)	1850	2000
RCH8011NP-680L	680	68 μH ±15%	138 (111)	1700	1900
RCH8011NP-820L	820	82 μH ±15%	190 (154)	1600	1550
RCH8011NP-101L	101	100 μH ±15%	215 (172)	1500	1500
RCH8011NP-121L	121	120 μH ±15%	275 (222)	1200	1300
RCH8011NP-151L	151	150 μH ±15%	310 (250)	1100	1200
RCH8011NP-181L	181	180 μH ±15%	360 (288)	1000	1100
RCH8011NP-221L	221	220 μH ±15%	440 (354)	950	1050
RCH8011NP-271L	271	270 μH ±15%	590 (472)	900	900
RCH8011NP-331L	331	330 μH ±15%	640 (512)	800	820
RCH8011NP-391L	391	390 μH ±15%	710 (570)	700	780
RCH8011NP-471L	471	470 μH ±15%	900 (720)	650	700
RCH8011NP-561L	561	560 μH ±15%	1125 (903)	600	640
RCH8011NP-681L	681	680 μH ±15%	1280 (1025)	560	540
RCH8011NP-821L	821	820 μH ±15%	1660 (1329)	520	500
RCH8011NP-102L	102	1000 μH ±15%	1915 (1532)	490	470

※1: Inductance measuring condition: 100kHz

※2. Saturation current: The value of D.C. current when the inductance decreases to 90% of it's nominal value.

※3. Temperature rise current: The value of D.C. current when the temperature rise is $\Delta T=40^{\circ}\text{C}$ ($T_a=20^{\circ}\text{C}$).



Figure 10 displays 12 graphs showing the relationship between DC current (A), inductance L (μH), and temperature rise ΔT ($^{\circ}\text{C}$) for various RCH8011NP series components. The graphs are numbered 1 through 12, corresponding to different component models.

Each graph plots three curves: a blue curve for L , a red curve for ΔT , and a green curve for an unlabeled parameter. The x-axis represents DC current (A), the left y-axis represents L (μH), and the right y-axis represents ΔT ($^{\circ}\text{C}$).

The graphs are arranged in a 4x3 grid:

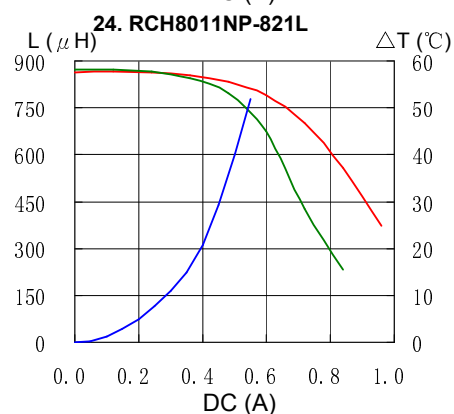
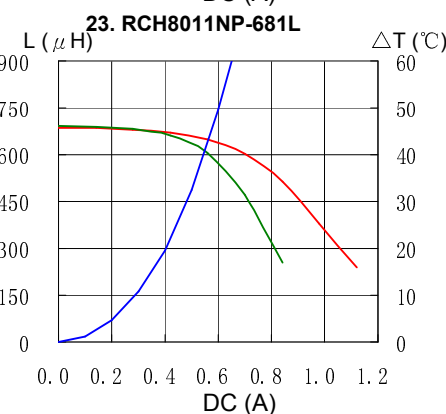
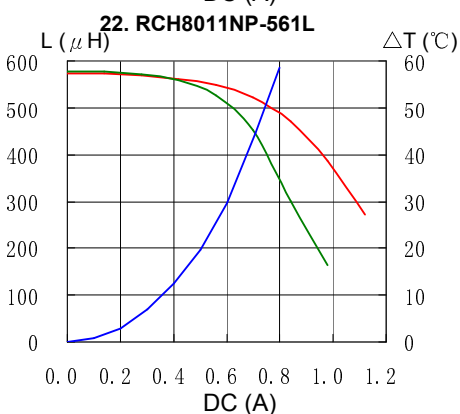
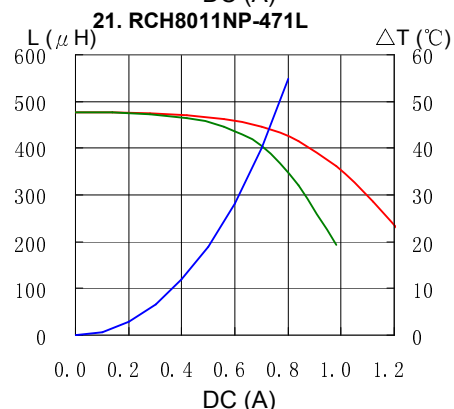
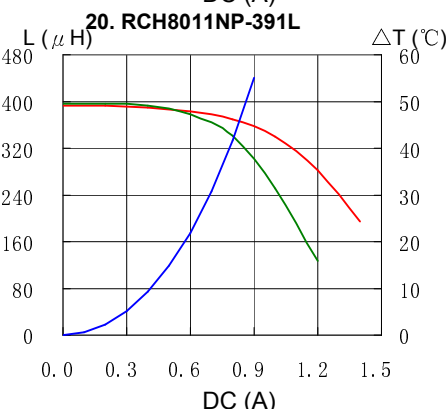
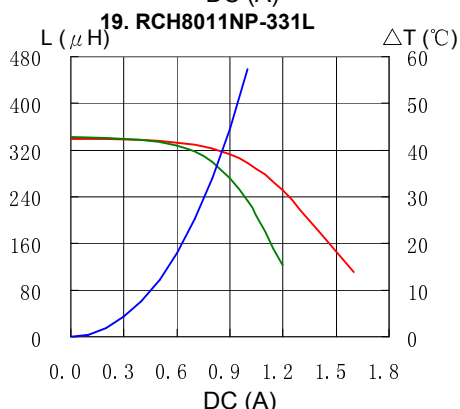
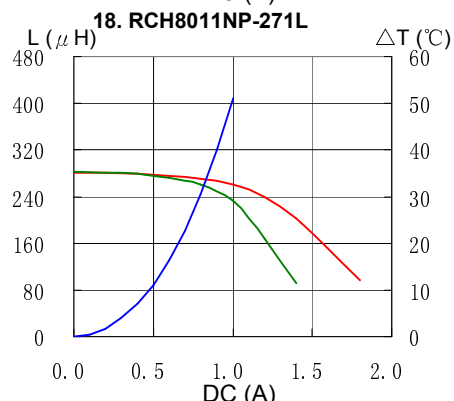
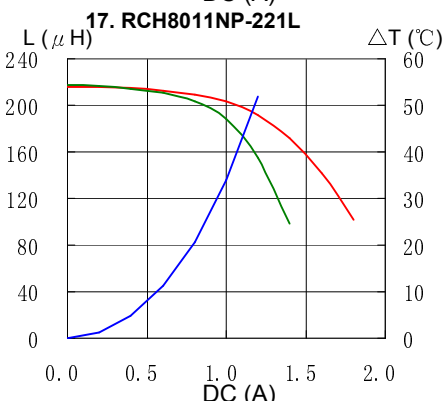
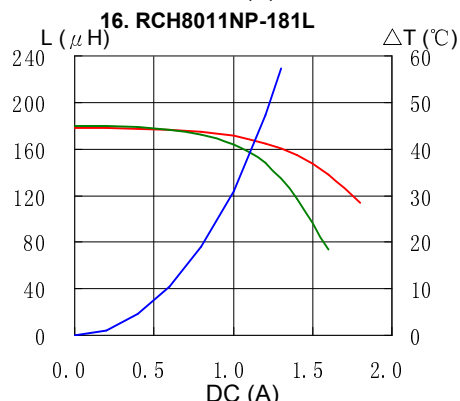
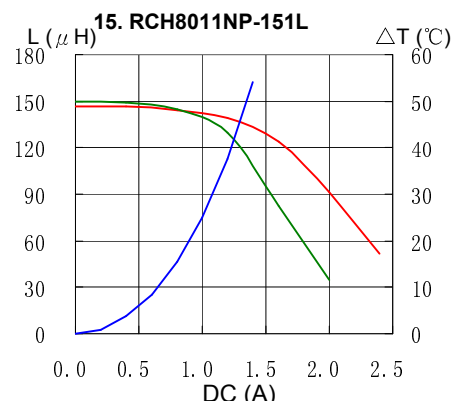
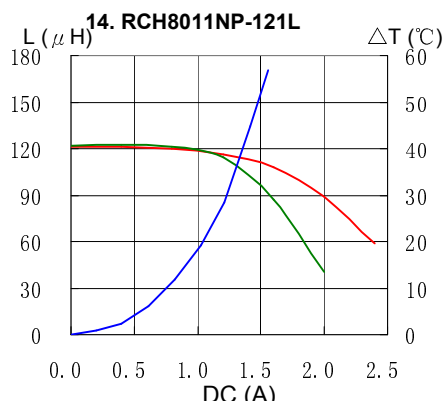
- Row 1: 1. RCH8011NP-100L, 2. RCH8011NP-120L, 3. RCH8011NP-150L
- Row 2: 4. RCH8011NP-180L, 5. RCH8011NP-220L, 6. RCH8011NP-270L
- Row 3: 7. RCH8011NP-330L, 8. RCH8011NP-390L, 9. RCH8011NP-470L
- Row 4: 10. RCH8011NP-560L, 11. RCH8011NP-680L, 12. RCH8011NP-820L



13. RCH8011NP-101L

This graph shows the relationship between DC current (A) and three parameters: Inductance (L, μH), Temperature rise (ΔT , $^{\circ}\text{C}$), and Resistance (R, $\text{m}\Omega$). The x-axis represents DC current from 0.0 to 3.0 A. The left y-axis represents L (μH) from 0 to 120. The right y-axis represents ΔT ($^{\circ}\text{C}$) from 0 to 60. The blue curve (L) starts at 100 μH and decreases as current increases. The red curve (ΔT) starts at 0 $^{\circ}\text{C}$ and increases as current increases. The green curve (R) starts at 100 $\text{m}\Omega$ and increases as current increases.

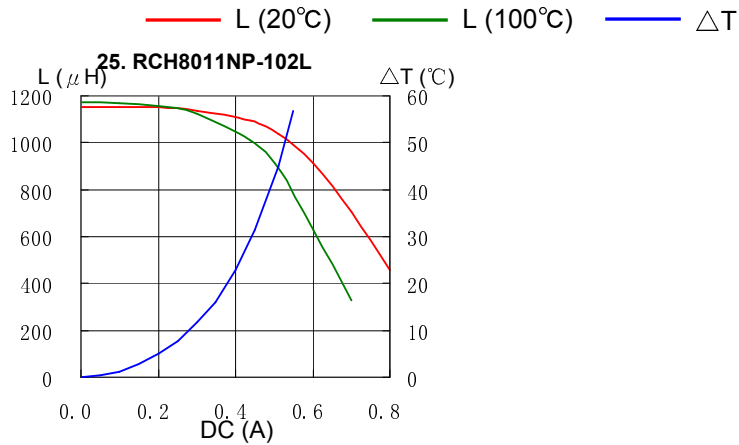
DC (A)	L (μH)	ΔT ($^{\circ}\text{C}$)	R ($\text{m}\Omega$)
0.0	100	0	100
0.5	98	2	102
1.0	95	5	105
1.5	85	15	115
2.0	65	30	130
2.5	45	45	150
3.0	25	60	170



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Saturation Current & Temperature Rise Graph



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Hong Kong

Tel. +852-2880-6781
FAX. +852-2565-9600
sales@hk.sumida.com

Saitama(Japan)

Tel. +81-48-691-7300
FAX. +81-48-691-7340
sales@jp.sumida.com

Chicago

Tel. +1-847-545-6700
FAX. +1-847-545-6720
sales@us.sumida.com

Shanghai

Tel. +86-21-5836-3299
FAX. +86-21-5836-3266
shanghai.sales@cn.sumida.com

Seoul

Tel. +82-2-6237-0777
FAX. +82-2-6237-0778
sales@kr.sumida.com

Obernzell

Tel. +49-8591-937-0
FAX. +49-8591-937-103
contact@eu.sumida.com

Shenzhen

Tel. +86-755-8291-0228
FAX. +86-755-8291-0338
shenzhen.sales@cn.sumida.com

Singapore

Tel. +65-6296-3388
FAX. +65-6841-4426
sales@sg.sumida.com

Neumarkt

Tel. +49-9181-4509-110
FAX. +49-9181-4509-310
infocomp@eu.sumida.com

Taipei

Tel. +886-2-8751-2737
FAX. +886-2-8751-2738
sales@tw.sumida.com

San Jose

Tel. +1-408-321-9660
FAX. +1-408-321-9308
sales@us.sumida.com

AMEYA360

Components Supply Platform

Authorized Distribution Brand :



Website :

Welcome to visit www.ameya360.com

Contact Us :

➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
Minhang District, Shanghai , China

➤ Sales :

Direct +86 (21) 6401-6692

Email amall@ameya360.com

QQ 800077892

Skype ameyasales1 ameyasales2

➤ Customer Service :

Email service@ameya360.com

➤ Partnership :

Tel +86 (21) 64016692-8333

Email mkt@ameya360.com