

PIN Power Inductor RCH8011



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.

Environmental Data

- Operating temperature range: -30°C~+100°C (including coil's self temperature rise)
- Storage temperature range: -30°C~+100°C

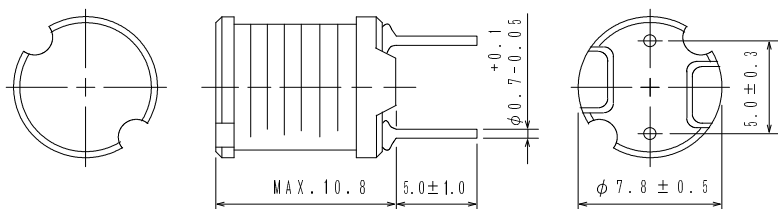
Packaging

- Box packaging.

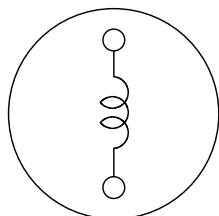
Applications

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

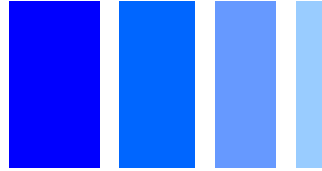
Dimension - [mm]



Schematics - [mm]



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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 $\Delta T=40^{\circ}\text{C}$ ($T_a=20^{\circ}\text{C}$).



12. RCH8011NP-820L

This graph shows the relationship between DC current, inductance, and temperature rise for the RCH8011NP-820L component. The x-axis represents DC current in Amperes (A), ranging from 0 to 4. The left y-axis represents inductance L in microhenries (μH), ranging from 0 to 90. The right y-axis represents temperature rise ΔT in degrees Celsius (°C), ranging from 0 to 60. The green curve shows that inductance remains relatively constant at approximately 85 μH until about 1.5 A, after which it decreases sharply. The red curve shows that temperature rise begins to increase significantly around 1.5 A, reaching approximately 55°C at 3.5 A. The blue line indicates the maximum allowable DC current is 1.8 A.

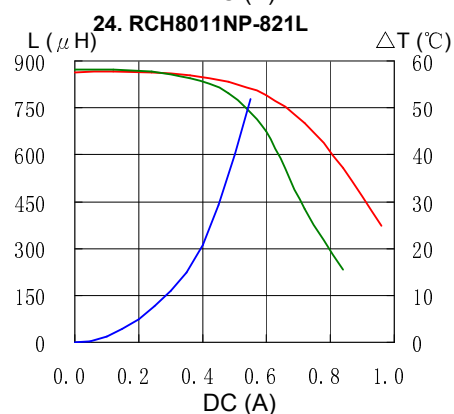
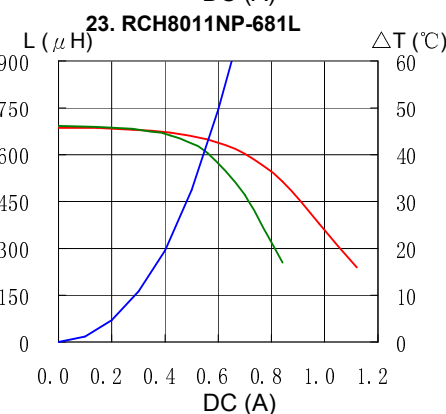
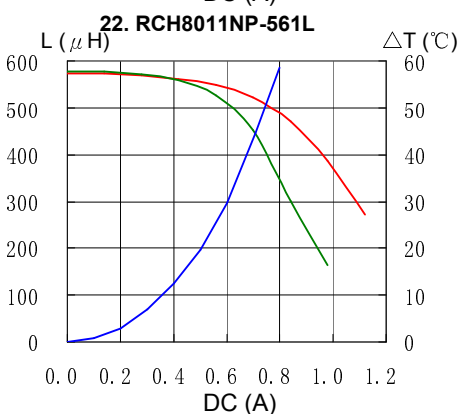
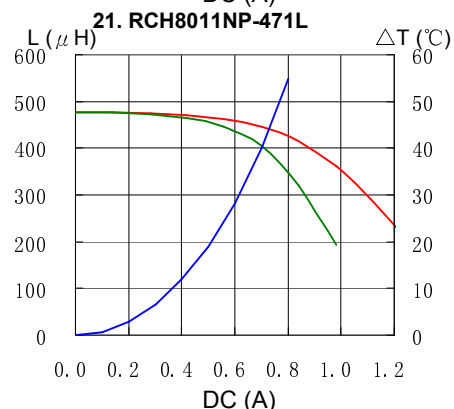
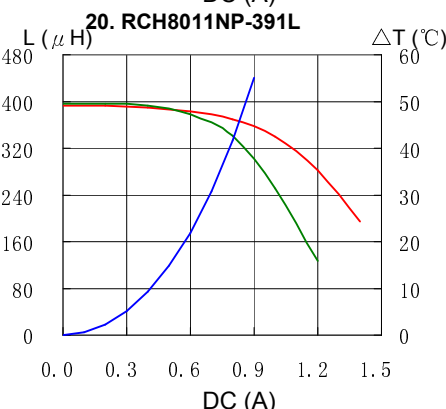
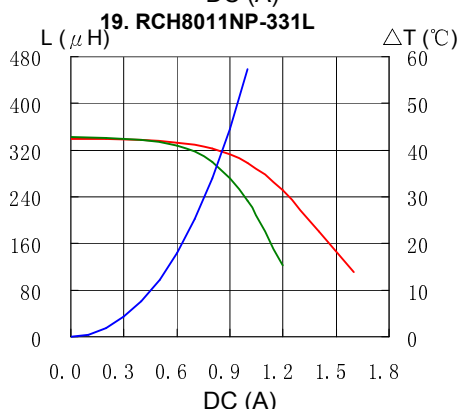
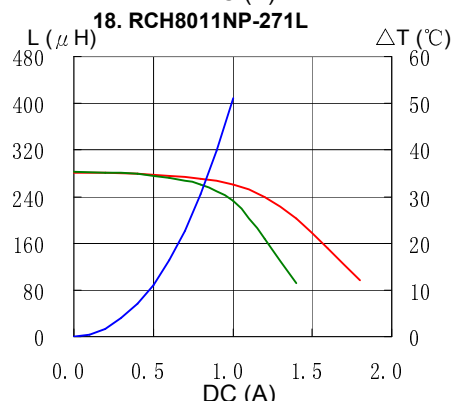
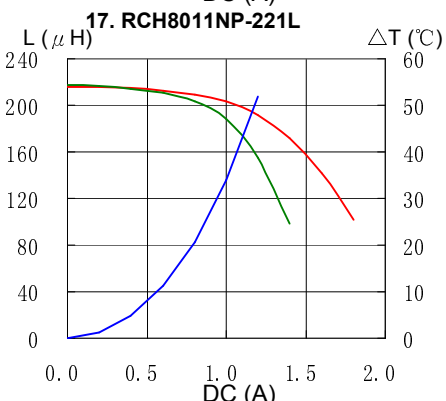
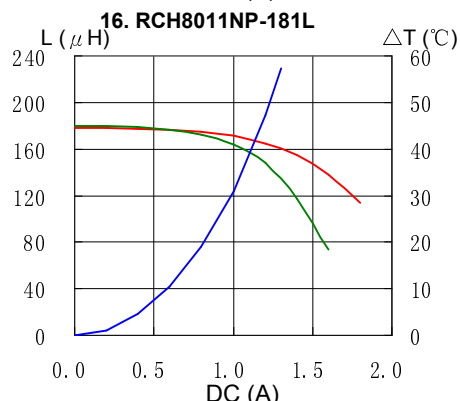
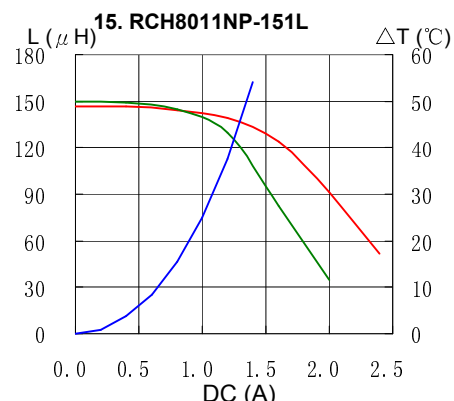
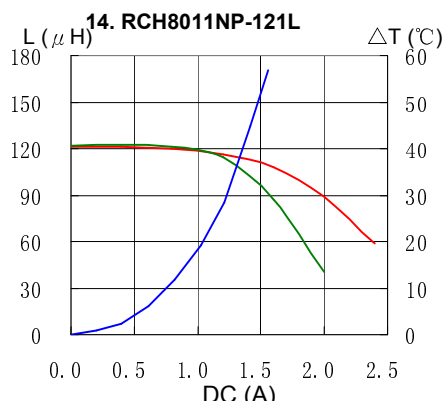
DC (A)	L (μH)	ΔT (°C)
0	85	0
0.5	85	0
1.0	85	0
1.5	85	0
1.8	75	10
2.0	60	20
2.5	35	40
3.0	-	50
3.5	-	55



13. RCH8011NP-101L

This graph shows the relationship between DC current, inductance, and temperature rise for the RCH8011NP-101L component. The x-axis represents DC current in Amperes (A), ranging from 0.0 to 3.0. The left y-axis represents inductance L in microhenries (μH), ranging from 0 to 120. The right y-axis represents temperature rise ΔT in degrees Celsius ($^{\circ}\text{C}$), ranging from 0 to 60. Three curves are plotted: a blue curve for inductance L , a red curve for temperature rise ΔT , and a green curve for resistance R .

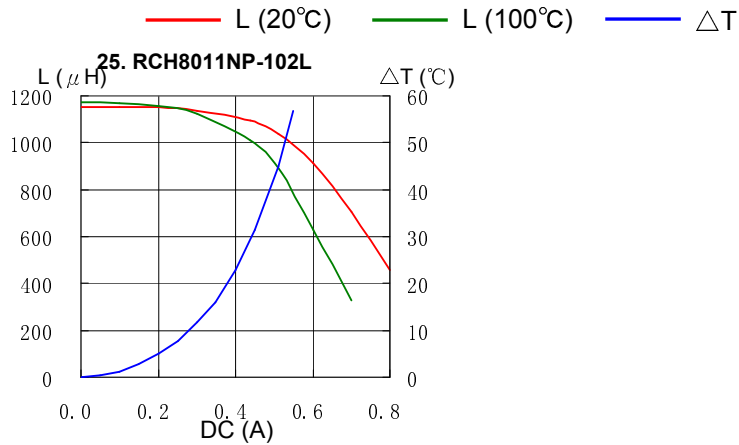
DC (A)	L (μH)	ΔT ($^{\circ}\text{C}$)	R ($\text{m}\Omega$)
0.0	0	0	100
0.5	5	0	100
1.0	20	0	98
1.5	80	10	85
2.0	120	25	55
2.5	-	40	30
3.0	-	55	-



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Saturation Current & Temperature Rise Graph



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