

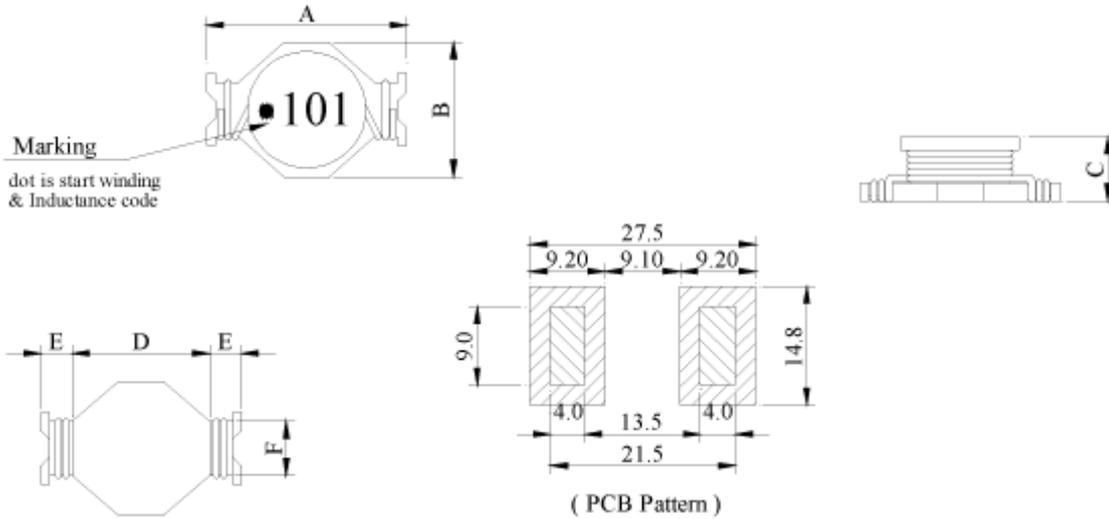
PNN5022A & PNN5022B

SMD Power Inductors Unshielded



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1. Configuration & Dimensions



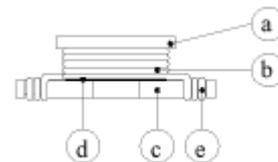
Series	Dimensions [mm]					
	A	B	C	D(typ.)	E(typ.)	F(typ.)
PNN5022A	22.0±0.3	15.0±0.3	6.8±0.5	15.0	2.3	8.0
PNN5022B	22.0±0.3	15.0±0.3	7.0±0.4	15.0	2.3	8.0

2. Schematic Diagram



3. Materials

- a.- Core : Ferrite DR Core
- b.- Wire : Enamelled copper wire (class F)
- c.- Base : Hitachi phenolic CP-J-8700
- d.- Adhesive : Epoxy resin
- e.- Terminal : Cu / Sn
- f.- Remark : Lead content 200ppm max. include ferrite



PNN5022A & PNN5022B

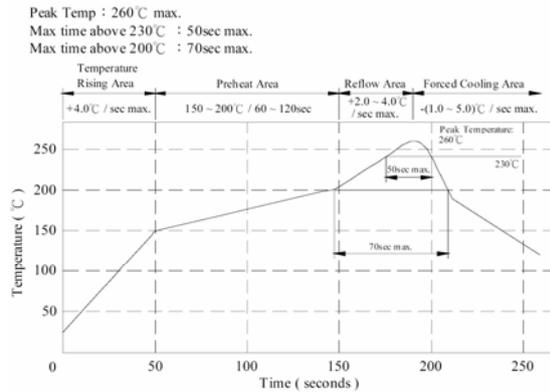
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4. General Specification

- a.- Temp. rise : 40°C max.
- b.- Storage temp. : -40°C ~ +125°C
- c.- Operating temp. : -40°C ~ +105°C
- d.- Resistance to solder heat : 260°C. 10 secs



5. Electrical Characteristics

PNN5022A (120µH - 1000µH)

DWG No.	Inductance (µH)	Q ref.	Test Freq. L,Q (KHz)	SRF (MHz) nom.	RDC (mΩ) max.	Irms (A) max.	Ipk (A) typ.
PNN5022A - 121K	120±10%	20	100	5.00	230	1.60	3.0
PNN5022A - 151K	150±10%	19	100	4.87	250	1.50	2.6
PNN5022A - 181K	180±10%	17	100	4.65	300	1.30	2.5
PNN5022A - 221K	220±10%	19	100	3.97	380	1.20	2.4
PNN5022A - 271K	270±10%	22	100	3.37	470	1.10	2.2
PNN5022A - 331K	330±10%	20	100	3.15	560	1.00	1.9
PNN5022A - 391K	390±10%	21	100	3.00	680	0.90	1.7
PNN5022A - 471K	470±10%	25	100	2.55	850	0.82	1.4
PNN5022A - 561K	560±10%	23	100	2.40	1000	0.78	1.3
PNN5022A - 681K	680±10%	25	100	2.50	1100	0.72	1.2
PNN5022A - 821K	820±10%	25	100	1.97	1400	0.64	1.1
PNN5022A - 102K	1000±10%	25	100	1.60	1800	0.56	1.0

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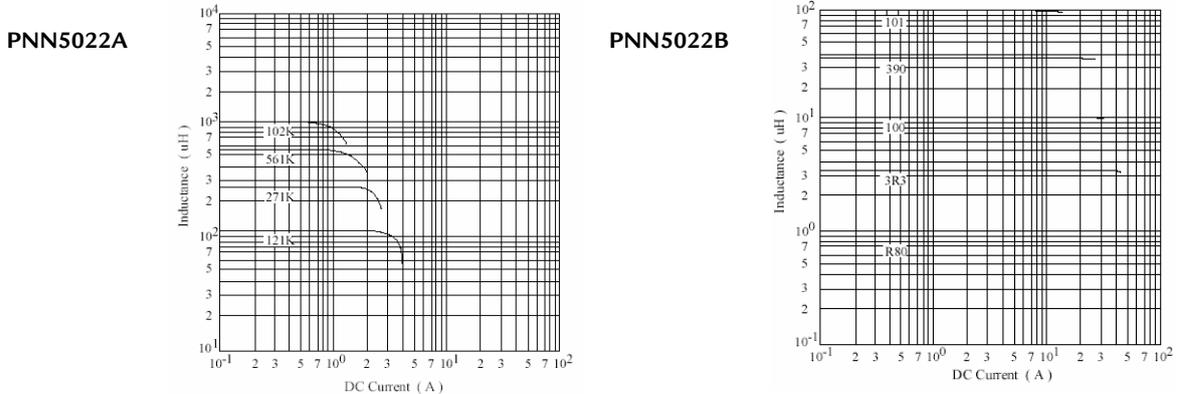
PNN5022B (0.8µH – 100µH)

DWG No.	Inductance (µH)	Test Freq. L,Q (KHz)	RDC (mΩ) ±20%	I _{rms} (A) max.	I _{sat} (A) typ.
PNN5022B – R80M	0.80±20%	100	2.3	16.0	35.0
PNN5022B – 1R2M	1.20±20%	100	3.2	15.0	30.0
PNN5022B – 1R8M	1.80±20%	100	4.5	13.0	25.0
PNN5022B – 2R7M	2.70±20%	100	7.0	10.0	20.0
PNN5022B – 3R3M	3.30±20%	100	7.8	9.0	17.0
PNN5022B – 4R7M	4.70±20%	100	8.8	8.5	15.0
PNN5022B – 5R6M	5.60±20%	100	12.4	7.8	14.0
PNN5022B – 6R8M	6.80±20%	100	14.2	7.5	12.0
PNN5022B – 8R2M	8.20±20%	100	15.5	7.0	11.0
PNN5022B – 100M	10.00±20%	100	17.2	6.5	10.0
PNN5022B – 120L	12.00±15%	100	23.6	5.5	9.5
PNN5022B – 150L	15.00±15%	100	28.8	5.0	9.0
PNN5022B – 180L	18.00±15%	100	33.0	4.6	8.0
PNN5022B – 220L	22.00±15%	100	39.4	4.0	6.5
PNN5022B – 270L	27.00±15%	100	43.5	3.8	6.0
PNN5022B – 330L	33.00±15%	100	58.4	3.4	5.5
PNN5022B – 390K	39.00±10%	100	65.0	3.2	5.2
PNN5022B – 470K	47.00±10%	100	91.2	2.8	5.0
PNN5022B – 560K	56.00±10%	100	96.5	2.6	4.5
PNN5022B – 680K	68.00±10%	100	112.0	2.4	4.0
PNN5022B – 820K	82.00±10%	100	144.0	2.2	3.5
PNN5022B – 101K	100.00±10%	100	168.0	2.0	3.0

[L,Q tested at 0.1V] [I_{rms} base on temp. rise 40°C max.] [I_{pk} base on ΔL/L0A = 10% typ.]

6. Curve

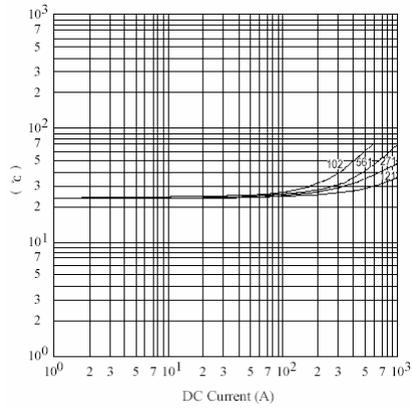
Inductance VS. DC Current Curve



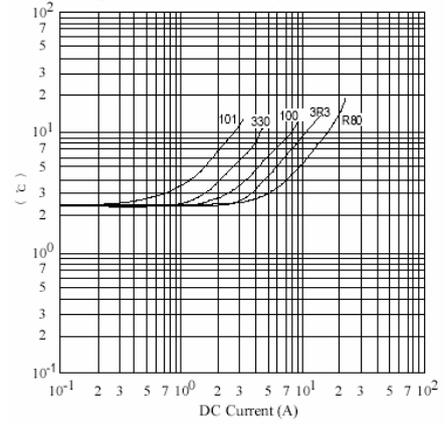
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DC Current VS. Temp. Rise Curve

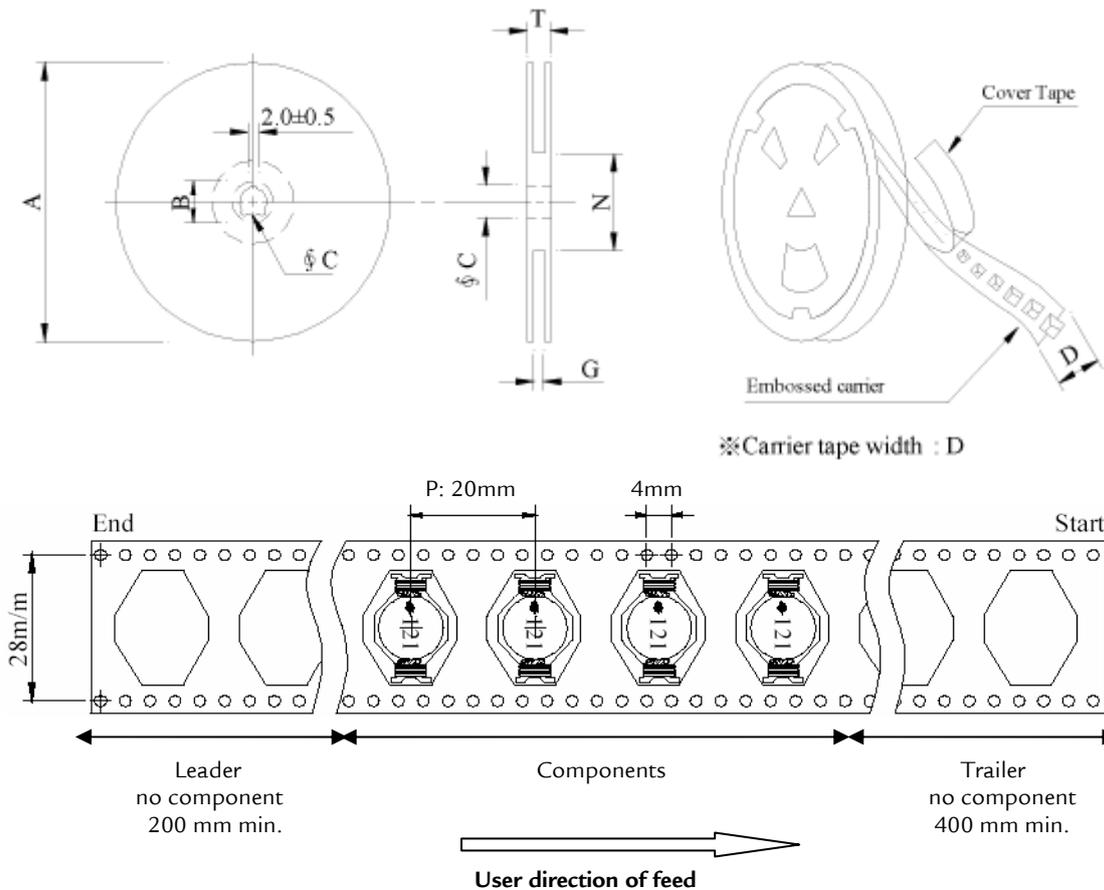
PNN5022A



PNN5022B



7. Packaging Information



PNN5022A & PNN5022B

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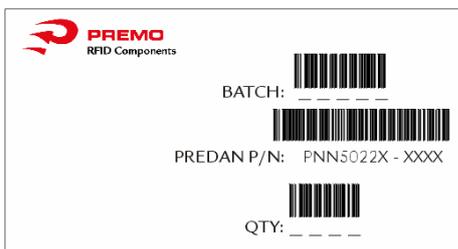


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Style	Dimensions [mm]						
	A	B	C	D	G	N	T
13 - 32	330	21±0.8	13±0.5	32	34 ⁺⁰	100 ⁻⁰	38.4

Series	Inner : Reel			Outer : Carton		
	Q'TY(pcs)	G.W.(gw)	Style	Q'TY(pcs)	G.W.(Kg)	Size(cm)
PNN5022A	250	1,250	13 - 32	1,000	6.8	40 x 40 x 24
PNN5022B	250	1,250	13 - 32	1,000	6.8	40 x 40 x 24

8. Labelling



9. Reliability Test

Test item	Specification	Test condition															
Solderability	More than 90% of the terminal electrode shall be covered with fresh solder	Preheat : 150±25% for 60 seconds Solder : Sn96.5 / Ag3 / Cu0.5 or equivalent Solder temp. : 235±5°C Flux : Rosin Dip time : 4±1 seconds															
Thermal shock test (Temp. cycle)	Inductance shall not change more than ±20%	<table border="0"> <tr> <td>Room temp.</td> <td>→</td> <td>-25±2°C</td> </tr> <tr> <td>15 minutes</td> <td></td> <td>30 minutes</td> </tr> <tr> <td colspan="3"> </td> </tr> <tr> <td>Room temp.</td> <td>→</td> <td>85±2°C</td> </tr> <tr> <td>15 minutes</td> <td></td> <td>30 minutes</td> </tr> </table> <p>Total : 50 cycles</p>	Room temp.	→	-25±2°C	15 minutes		30 minutes				Room temp.	→	85±2°C	15 minutes		30 minutes
Room temp.		→	-25±2°C														
15 minutes			30 minutes														
Room temp.	→	85±2°C															
15 minutes		30 minutes															
Humidity Resistance test	Temperature : 40±2°C Humidity : 90 ~ 95% Applied current : Per specifications Time : 500 hours																
High temp. Resistance test	Temperature : 105±2°C Applied current : Per specifications Time : 500 hours																

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10. Edition Control

Edition	Date	Change description	Made by
1 st	31/08/06	Update Specification	Pablo Pozo