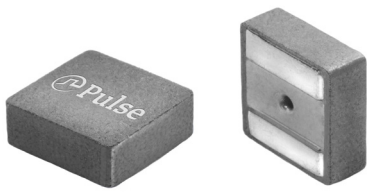
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SMT Power Inductors

High Current Composite Inductor - PA5002.XXXNLT and PM2202.XXXNLT

Pulse
a YAGEO company





- ***Height:*** *2.0mm Max*
- ***Footprint:*** *5.7mm x 5.5mm Max*
- ***Current Rating:*** *up to 30Apk*
- ***Inductance Range****: 0.15uH to 1.5uH*
- *High current, low DCR, and high efficiency*
- *Rated Voltage between Terminals: 60V*
- *Minimized acoustic noise and minimized leakage flux noise*
- *Available in Commercial (PA5002) and Automotive (PM2202) grades*

Electrical Specifications @ 25°C, Operating Temperature Range -55°C to +155°C

Part Number		▽ Inductance 100KHz, 0.1V	Rated[3] Current	DC Resistance		Saturation[2] Current	K Factor for Core Loss
Commerical	Automotive[6]			TYP.	MAX.		
		uH±20%	A	mΩ	mΩ	A	
PA5002.151NLT	PM2202.151NLT	0.15	18.8	4	4.6	27	458.5
PA5002.161NLT	PM2202.161NLT	0.16	18.8	4	4.6	27	-
PA5002.331NLT	PM2202.331NLT	0.33	14.4	6.1	7	24	291.7
PA5002.471NLT	PM2202.471NLT	0.47	14.1	7	8.05	20	213.9
PA5002.561NLT	PM2202.561NLT	0.56	13.9	8.7	9.54	16	213.9
PA5002.681NLT	PM2202.681NLT	0.68	13.4	8.9	10.2	14	168.9
PA5002.801NLT	PM2202.801NLT	0.8	13	10.3	11.8	13.5	168.9
PA5002.821NLT	PM2202.821NLT	0.82	12	11	12.7	13	168.9
PA5002.102NLT	PM2202.102NLT	1	10.5	12	13.8	12.8	139.5
PA5002.122NLT	PM2202.122NLT	1.2	9.4	14.2	16.3	12.2	118.9
PA5002.152NLT	PM2202.152NLT	1.5	8.8	16.2	18.7	11.7	118.9

Notes:

1. Actual temperature of the component during system operation (ambient plus temperature rise) must be within the standard operating range.
2. The saturation current is the current at which the initial inductance is guaranteed to drop by no more than 40%. The typical inductance at a specified current can be found on the typical performance curves.
3. The rated current is the DC current required to raise the component temperature by approximately 40 ˚ C. Take note that the components' performanc varies depending on the system condition. It is suggested that the component be tested at the system level, to verify the temperature rise of the component during system operation.
4. The part temperature (ambient+temp rise) should not exceed 155 ˚ C under worst case operating conditions. Circuit design, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
5. The PM2202.XXXNLT part numbers are AEC-Q200 and IATF16949 certified. The mechanical dimensions are 100% tested in production but do not necessarily meet a product capability index (Cpk) >1.33 and therefore may not strictly conform to PPAP.
6. Special Characteristics ▽

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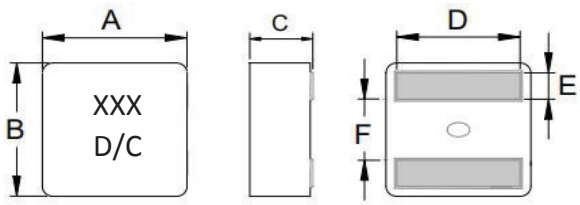
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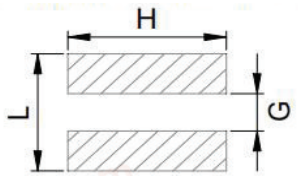
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Mechanical

PA5002.XXXNLT and PM2202.XXXNLT



FINAL LAYOUT

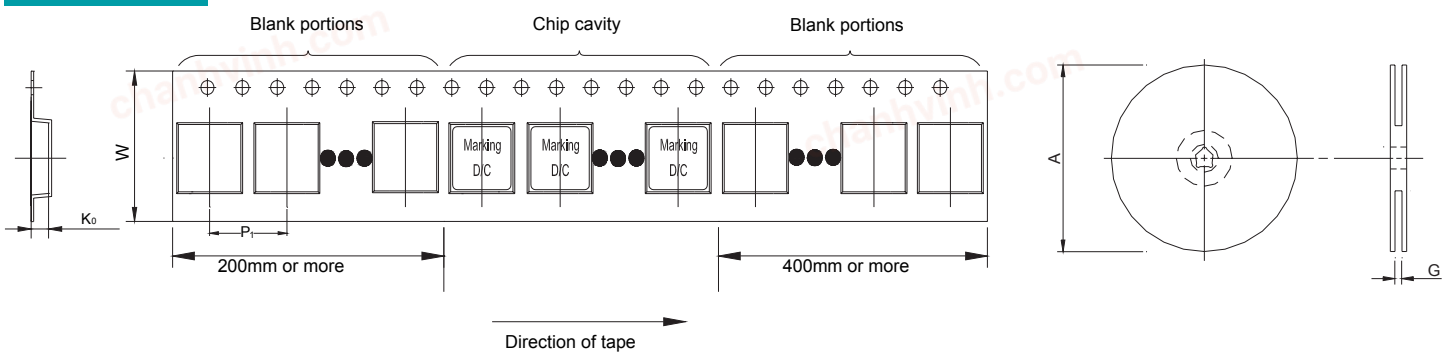


SUGGESTED PAD LAYOUT

Series	A	B	C	D	E	F	L	G	H
PA5002/PM2202	5.5±0.2	5.3±0.2	1.8±0.2	4.3±0.3	1.1±0.2	2.3±0.25	4.5 (REF)	2.0 (REF)	4.7 (REF)

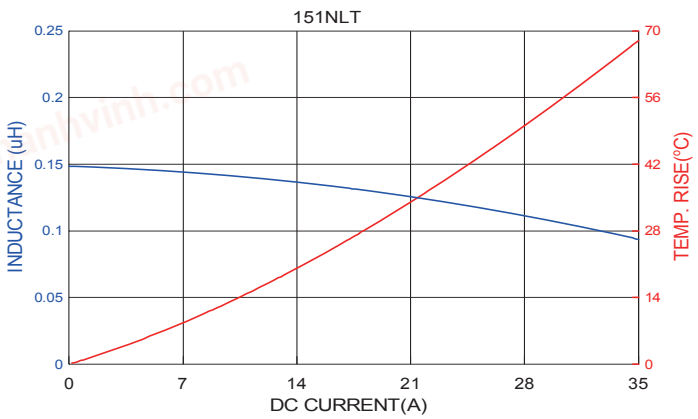
All Dimensions in mm.

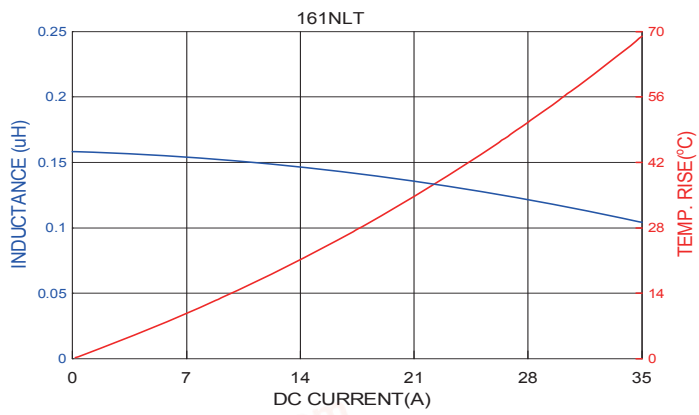
TAPE & REEL INFO



SURFACE MOUNTING TYPE, REEL/TAPE LIST						
	REEL SIZE (mm)		TAPE SIZE (mm)			QTY
	A	G	P_1	W	K_0	PCS/REEL
PA5002/PM2202	Ø330	12.4	8	12	2.3	3000

Typical Performance Curves



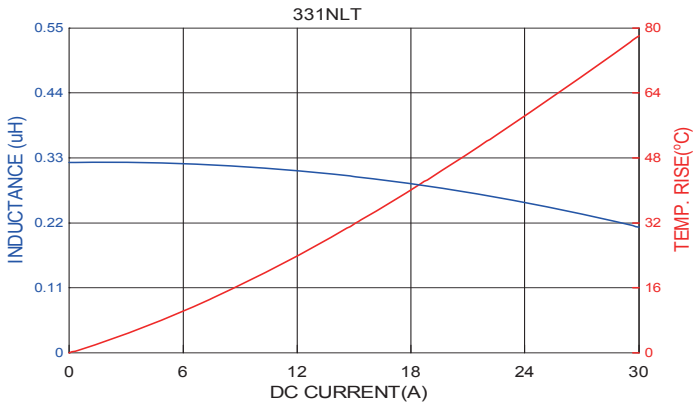


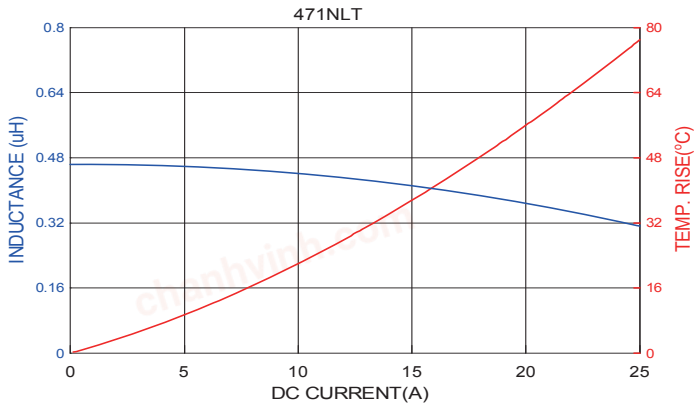
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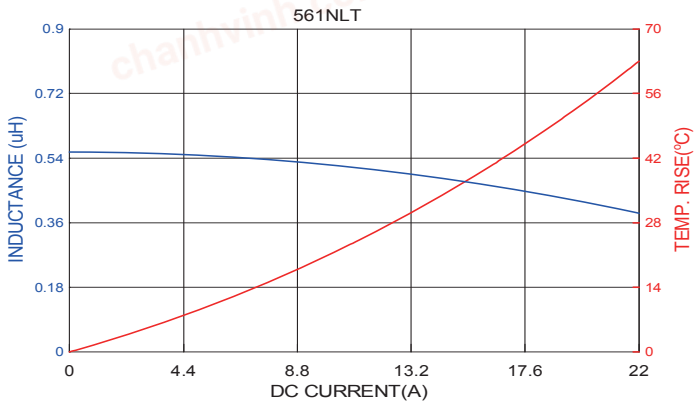
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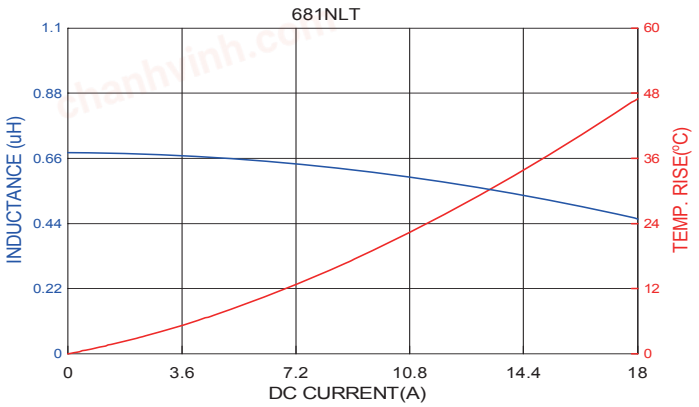
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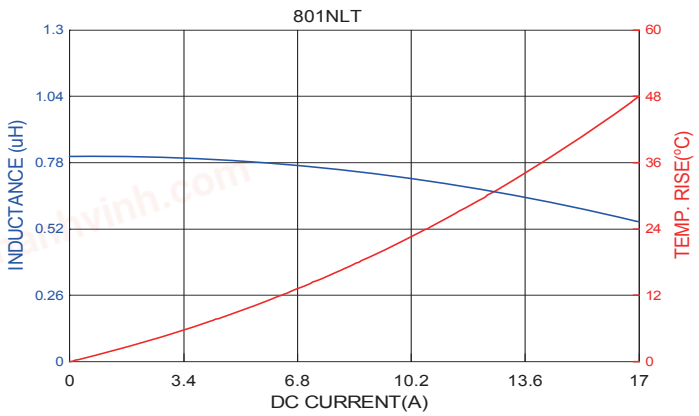
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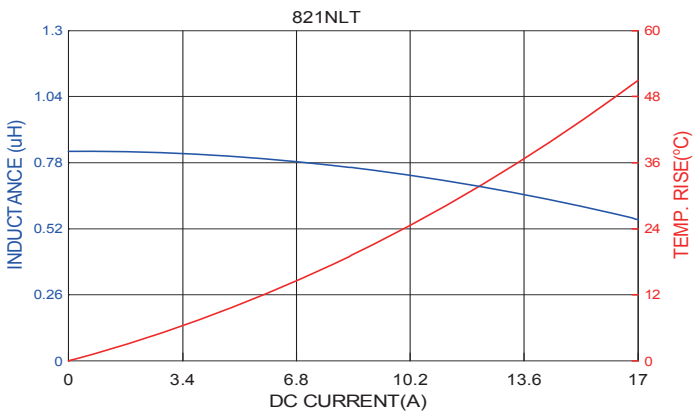








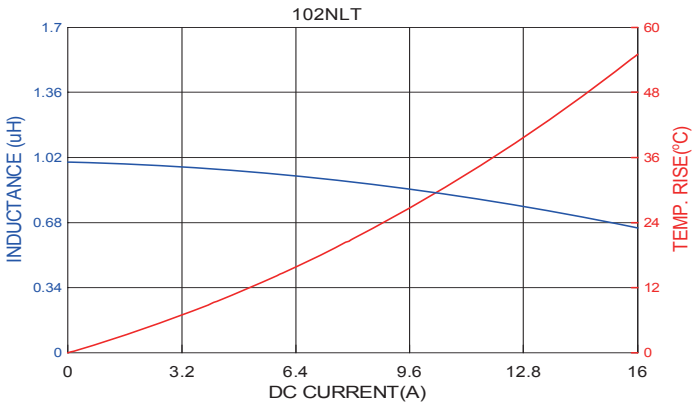


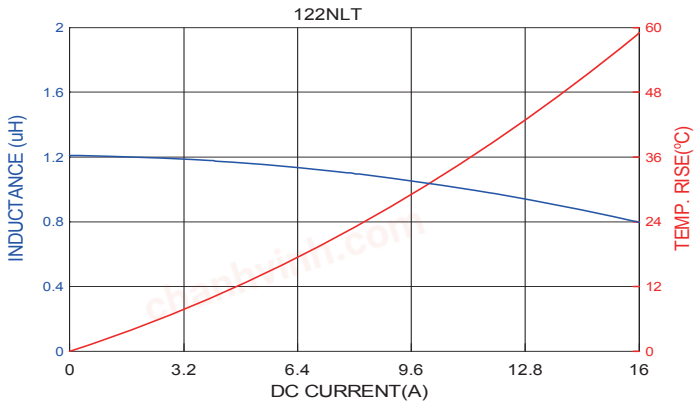


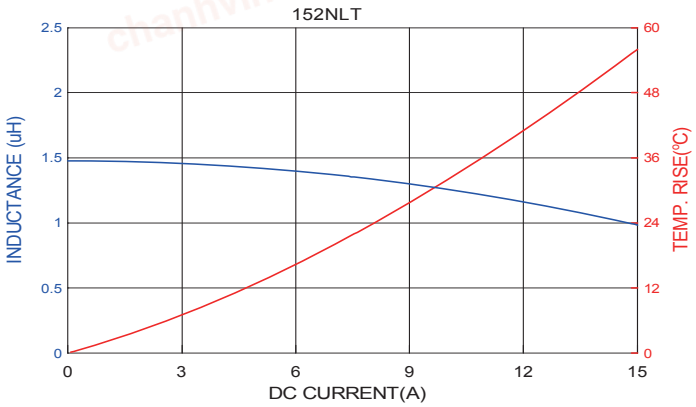
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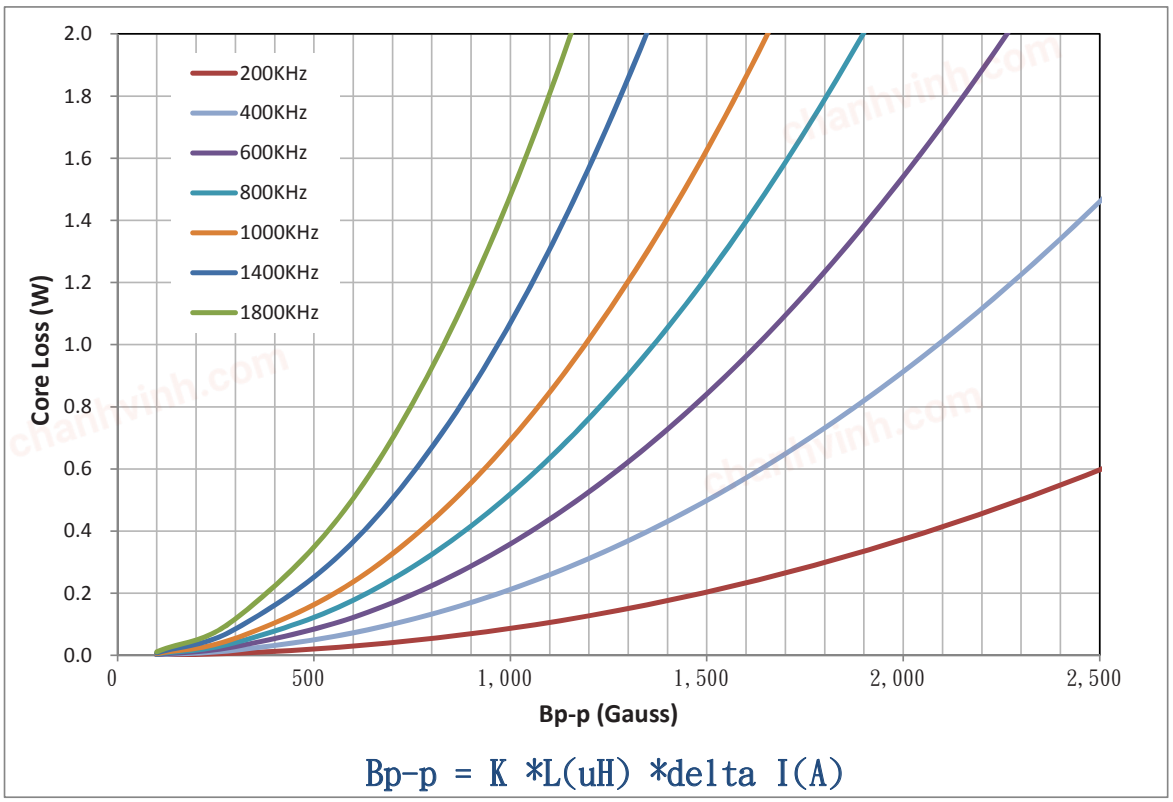


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CORE LOSS vs FLUX DENSITY



Bp-p = K *L(uH) *delta I(A)

For More Information:

Americas - prodinfo_power@pulseelectronics.com | **Europe -** power-apps-europe@pulseelectronics.com | **Asia -** power-apps-asia@pulseelectronics.com

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