

PA5004.182NLT Datasheet

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DiGi Electronics Part Number	PA5004.182NLT-DG
Manufacturer	Pulse Electronics
Manufacturer Product Number	PA5004.182NLT
Description	FIXED IND 1.8UH 14A 10.2MOHM SMD
Detailed Description	1.8 μ H Shielded Molded Inductor 14 A 10.2mOhm Max Nonstandard



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

PA5004.182NLT

Series:

PA5004.XXXNLT

Type:

Molded

Inductance:

1.8 μ H

Current Rating (Amps):

14 A

Shielding:

Shielded

Q @ Freq:

-

Ratings:

-

Inductance Frequency - Test:

100 kHz

Mounting Type:

Surface Mount

Supplier Device Package:

-

Height - Seated (Max):

0.118" (3.00mm)

Manufacturer:

Pulse Electronics

Product Status:

Active

Material - Core:

Ferrite

Tolerance:

\pm 20%

Current - Saturation (Isat):

18.2A

DC Resistance (DCR):

10.2mOhm Max

Frequency - Self Resonant:

-

Operating Temperature:

-40°C ~ 125°C

Features:

-

Package / Case:

Nonstandard

Size / Dimension:

0.268" L x 0.252" W (6.80mm x 6.40mm)

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8504.50.4000

Moisture Sensitivity Level (MSL):

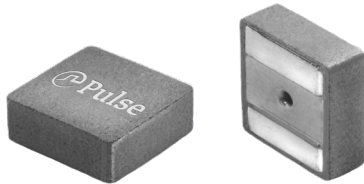
1 (Unlimited)

ECCN:

EAR99

SMT Power Inductors

High Current Composite Inductor - PA5004.XXXNLT and PM2204.XXXNLT



- Ⓟ **Height:** 3.0mm Max
- Ⓟ **Footprint:** 6.8mm x 6.6mm Max
- Ⓟ **Current Rating:** up to 40Apk
- Ⓟ **Inductance Range:** 0.18uH to 4.5uH
- Ⓟ High current, low DCR, and high efficiency
- Ⓟ Rated Voltage between Terminals: 60V
- Ⓟ Minimized acoustic noise and minimized leakage flux noise
- Ⓟ Available in Commercial (PA5004) and Automotive (PM2204) grades

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

Part Number		Inductance 100KHz, 0.1V uH±20%	Rated ³ Current A	DC Resistance		Saturation ² Current A	K Factor for Core Loss	Mechanical D ±0.3
Commerical	Automotive ⁶			TYP. mΩ	MAX. mΩ			
PA5004.181NLT	PM2204.181NLT	0.18	32	1.6	1.75	36	358.8	5.30
PA5004.331NLT	PM2204.331NLT	0.33	25	2.25	2.5	28	228.3	5.55
PA5004.561NLT	PM2204.561NLT	0.56	22	3	3.31	25	167.4	5.30
PA5004.681NLT	PM2204.681NLT	0.68	20	4.7	5.17	21	-	5.30
PA5004.102NLT	PM2204.102NLT	1	18	5.5	6.05	18	132.2	5.20
PA5004.122NLT	PM2204.122NLT	1.2	16	6.7	7.4	16	109.2	5.15
PA5004.152NLT	PM2204.152NLT	1.5	15	8.3	9.13	15.5	-	5.15
PA5004.182NLT	PM2204.182NLT	1.8	14	9.2	10.2	13	93	5.10
PA5004.222NLT	PM2204.222NLT	2.2	10	11	12.2	11	81	5.05
PA5004.332NLT	PM2204.332NLT	3.3	8	18.8	20.8	9	64.4	5.00
PA5004.452NLT	PM2204.452NLT	4.5	7	23	25.3	8	49.2	5.00

Notes:

- Actual temperature of the component during system operation (ambient plus temperature rise) must be within the standard operating range.
- 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.
- The rated current is the DC current required to raise the component temperature by approximately 40 °C. Take note that the components' performance 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.
- 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.
- Parts shown in bold are standard catalog parts and are available through sample stock and distribution. Parts in lighter font are available but are not necessarily held in sample stock or distribution and lead times may be longer. Please contact Pulse for availability.
- The PM2204.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.
- Special Characteristics Ⓟ

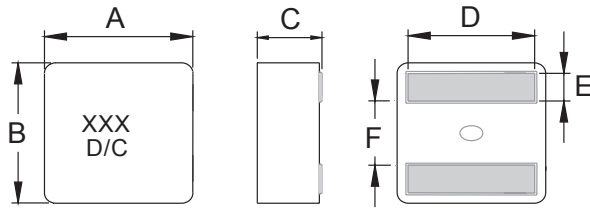
SMT Power Inductors

High Current Composite Inductor - PA5004.XXXNLT and PM2204.XXXNLT

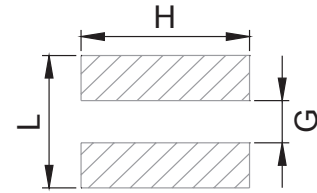


Mechanical

PA5004.XXXNLT and PM2204.XXXNLT



FINAL LAYOUT

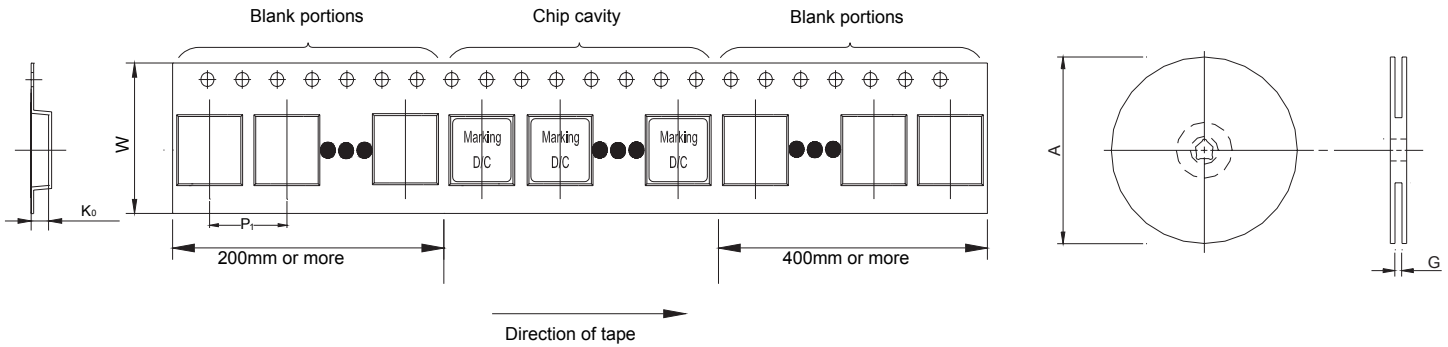


SUGGESTED PAD LAYOUT

Series	Mechanical	A	B	C	D	E	F	L	G	H
PA5004/PM2204	1.2uH & below	6.6±0.2	6.4±0.2	2.8±0.2	SEE SPEC TABLE	1.4±0.2	2.6±0.25	5.6 (REF)	2.5 (REF)	5.6 (REF)
	1.5uH & below			2.8±0.2						

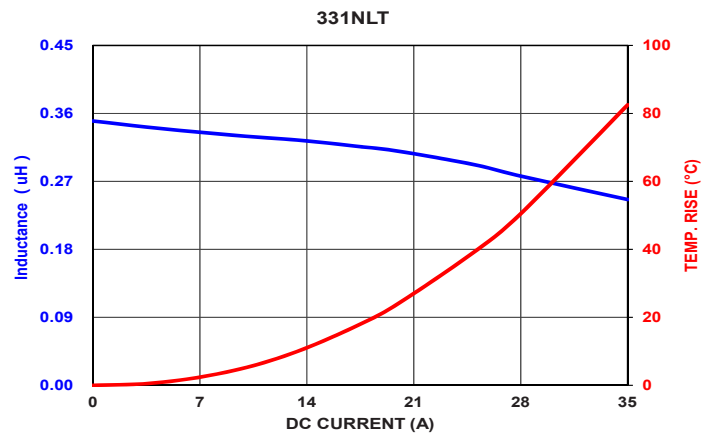
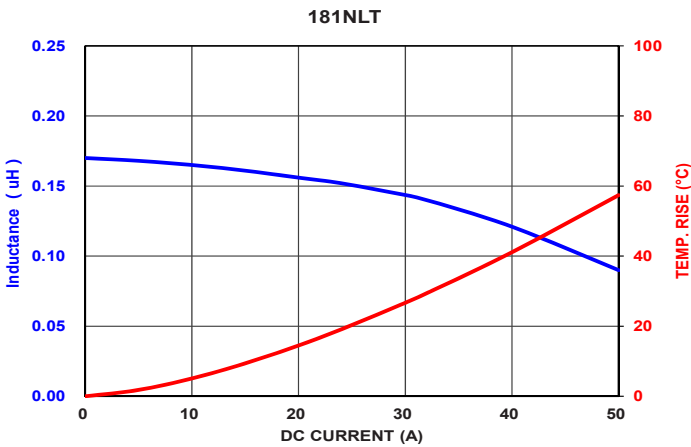
All Dimensions in mm.

TAPE & REEL INFO



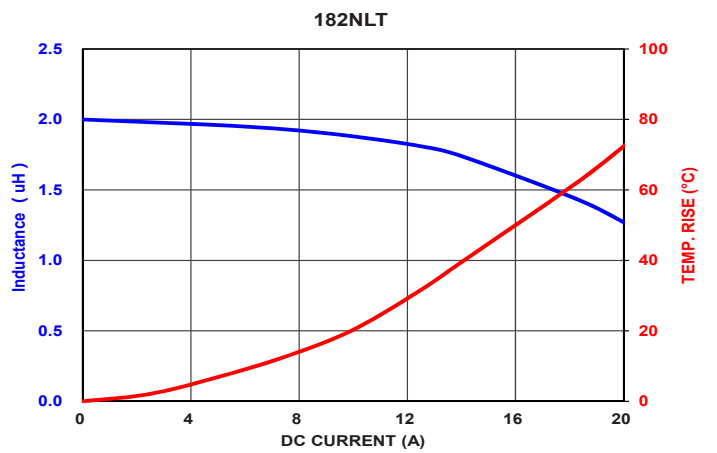
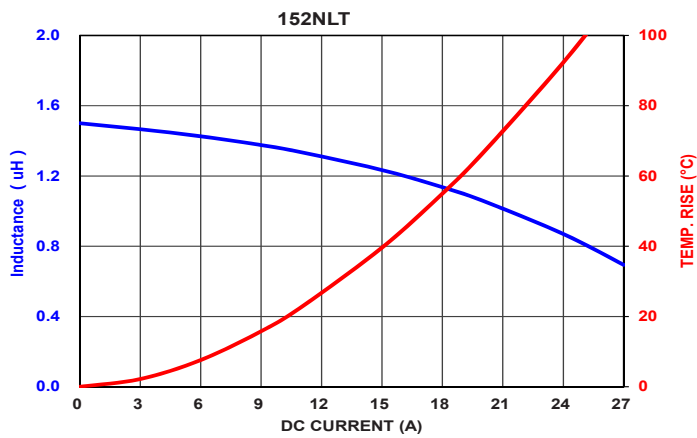
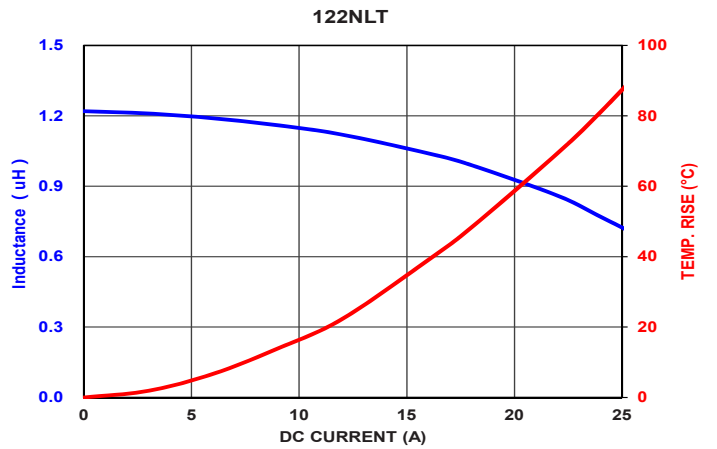
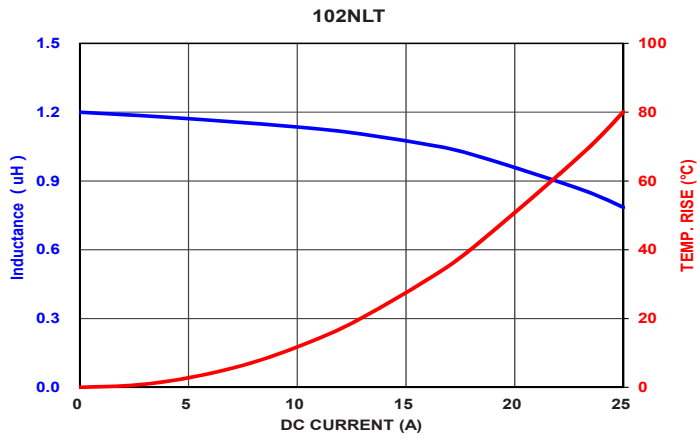
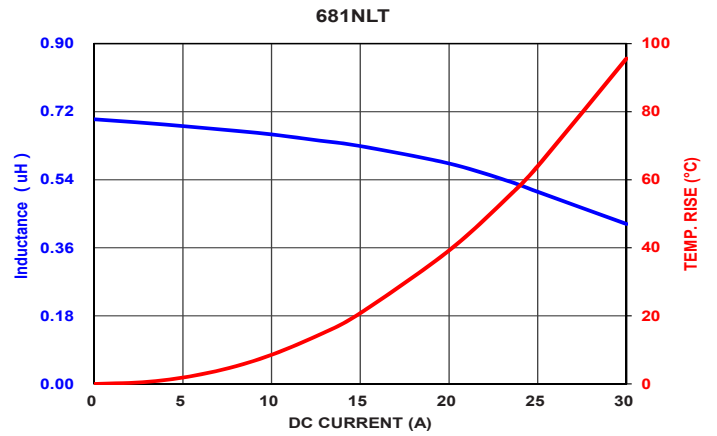
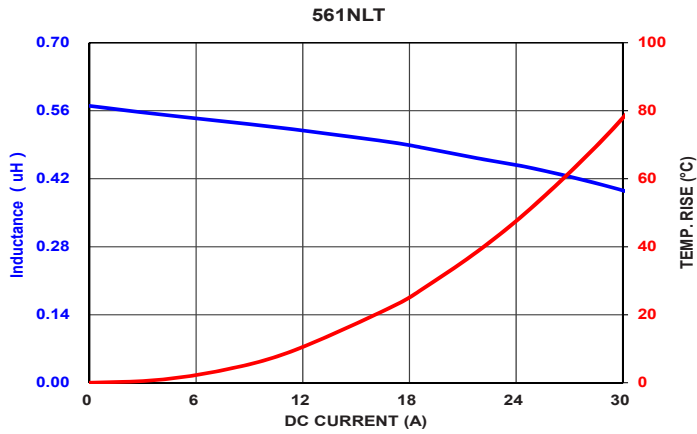
	SURFACE MOUNTING TYPE, REEL/TAPE LIST					
	REEL SIZE (mm)		TAPE SIZE (mm)			QTY
	A	G	P ₁	W	K ₀	PCS/REEL
PA5004/PM2204	Ø330	16.4	12	16	3.3	1000

Typical Performance Curves



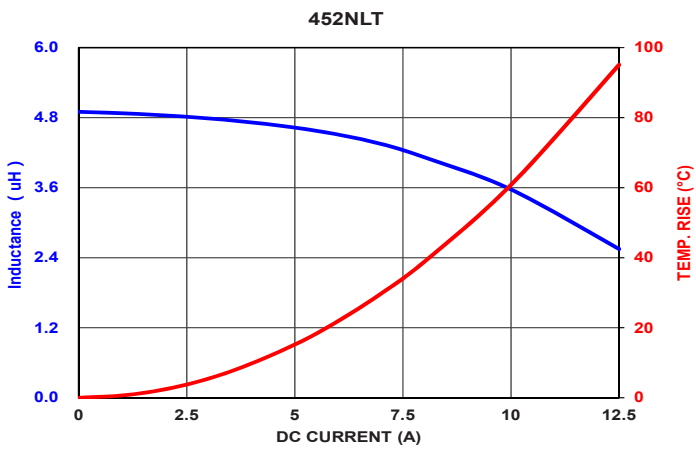
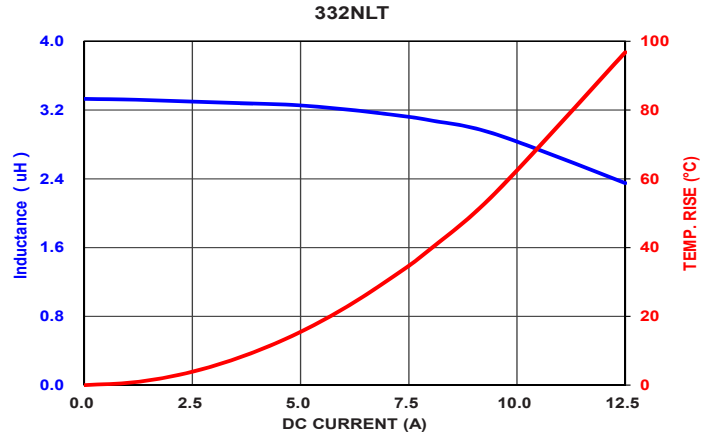
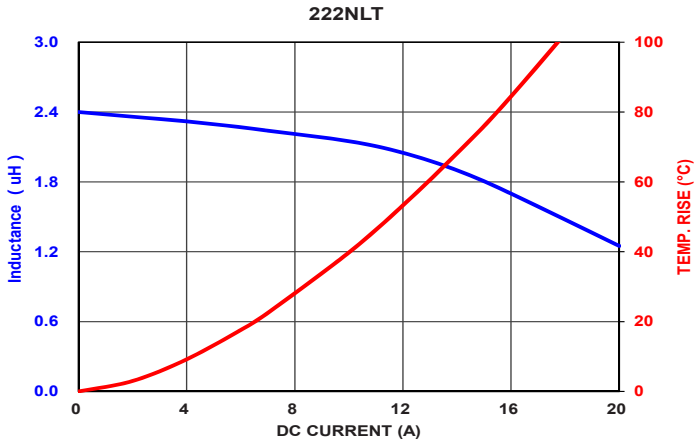
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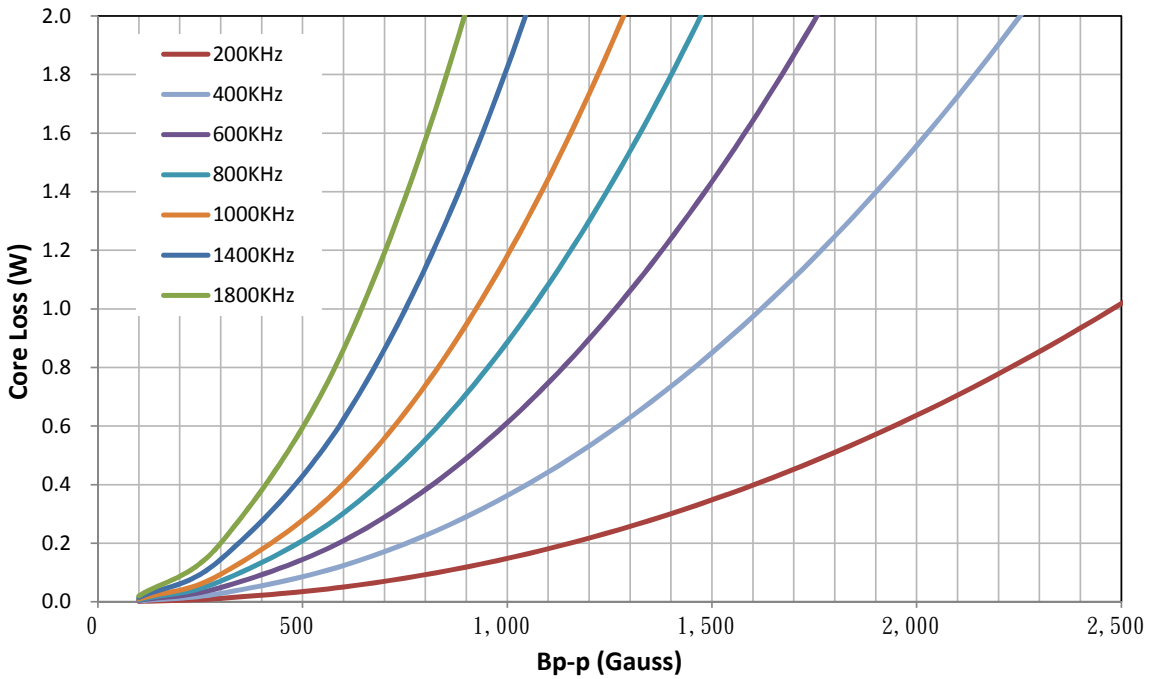
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SMT Power Inductors

High Current Composite Inductor - PA5004.XXXNLT and PM2204.XXXNLT

CORE LOSS vs FLUX DENSITY



$$B_{p-p} = K * L(\mu H) * \Delta I(A)$$

For More Information:

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

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