

PA5003.821NLT Datasheet

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DiGi Electronics Part Number	PA5003.821NLT-DG
Manufacturer	Pulse Electronics
Manufacturer Product Number	PA5003.821NLT
Description	FIXED IND 820NH 12.9A 5.78 MOHM
Detailed Description	820 nH Shielded Molded Inductor 12.9 A 5.78mOhm Max Nonstandard



Tel: +00 852-30501935

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DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

PA5003.821NLT

Series:

PA5003.XXXNLT

Type:

Molded

Inductance:

820 nH

Current Rating (Amps):

12.9 A

Shielding:

Shielded

Q @ Freq:

-

Ratings:

-

Inductance Frequency - Test:

100 kHz

Mounting Type:

Surface Mount

Supplier Device Package:

-

Height - Seated (Max):

0.122" (3.10mm)

Manufacturer:

Pulse Electronics

Product Status:

Active

Material - Core:

Ferrite

Tolerance:

±20%

Current - Saturation (Isat):

19.7A

DC Resistance (DCR):

5.78mOhm Max

Frequency - Self Resonant:

-

Operating Temperature:

-40°C ~ 125°C

Features:

-

Package / Case:

Nonstandard

Size / Dimension:

0.217" L x 0.209" W (5.50mm x 5.30mm)

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8504.50.4000

Moisture Sensitivity Level (MSL):

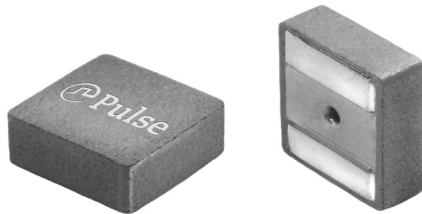
1 (Unlimited)

ECCN:

EAR99

SMT Power Inductors

High Current Composite Inductor - PA5003.XXXNLT and PM2203.XXXNLT



- Ⓟ **Height:** 3.1mm Max
- Ⓟ **Footprint:** 5.7mm x 5.5mm Max
- Ⓟ **Current Rating:** up to 36Apk
- Ⓟ **Inductance Range:** 0.15uH to 4.7uH
- Ⓟ High current, low DCR, and high efficiency
- Ⓟ Rated Voltage between Terminals: 60V
- Ⓟ Minimized acoustic noise and minimized leakage flux noise
- Ⓟ Available in Commercial (PA5003) and Automotive (PM2203) 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
Commerical	Automotive ⁶			TYP. mΩ	MAX. mΩ		
PA5003.151NLT	PM2203.151NLT	0.15	22.2	2.10	2.31	32.5	458.5
PA5003.161NLT	PM2203.161NLT	0.16	22.2	2.12	2.33	32.0	458.5
PA5003.331NLT	PM2203.331NLT	0.33	19.2	3.20	3.52	26.0	291.7
PA5003.471NLT	PM2203.471NLT	0.47	18.4	3.75	4.13	24.0	213.9
PA5003.561NLT	PM2203.561NLT	0.56	17.7	4.05	4.52	20.2	213.9
PA5003.601NLT	PM2203.601NLT	0.6	17.7	4.11	4.52	20.0	213.9
PA5003.801NLT	PM2203.801NLT	0.8	13.1	5.14	5.65	18.0	168.9
PA5003.821NLT	PM2203.821NLT	0.82	12.9	5.25	5.78	17.6	168.9
PA5003.102NLT	PM2203.102NLT	1.0	12.2	6.90	7.60	14.3	139.5
PA5003.122NLT	PM2203.122NLT	1.2	11	8.80	9.70	13.5	118.9
PA5003.152NLT	PM2203.152NLT	1.5	10.5	10.10	11.20	12.5	103.5
PA5003.182NLT	PM2203.182NLT	1.8	10.1	11.50	12.70	11.3	103.5
PA5003.222NLT	PM2203.222NLT	2.2	9.7	13.20	14.50	9.0	91.7
PA5003.332NLT	PM2203.332NLT	3.3	8.1	21.00	23.10	8.7	74.6
PA5003.472NLT	PM2203.472NLT	4.7	5.9	33.00	36.30	7.0	58.3

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 PM2203.XXXNLT part numbers are AEC-Q200 and IATF16949 certified. The Inductance and 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

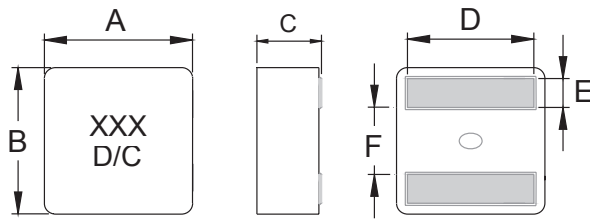
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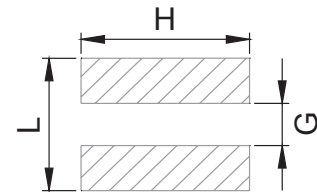


Mechanical

PA5003.XXXNLT and PM2203.XXXNLT



FINAL LAYOUT

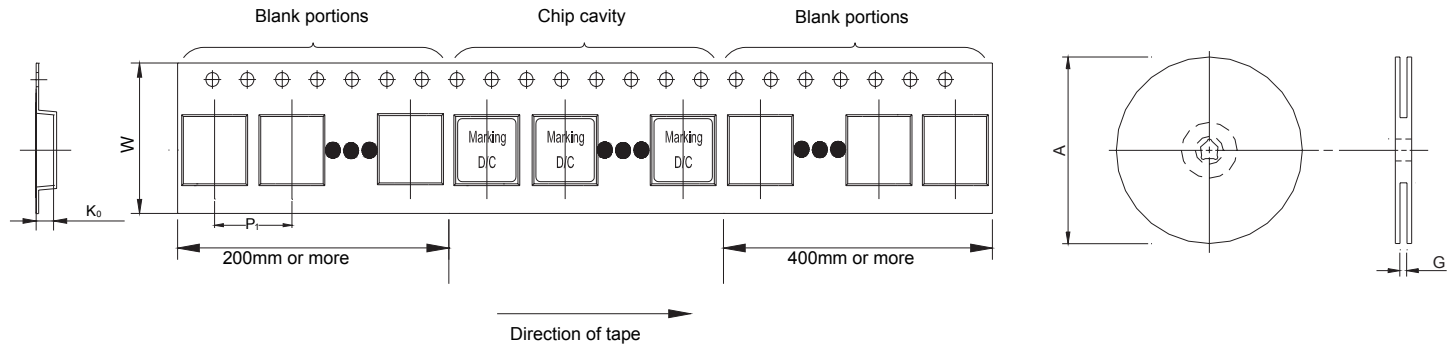


SUGGESTED PAD LAYOUT

Series	A	B	C	D	E	F	L	G	H
PA5003/PM2203	5.5±0.2	5.3±0.2	2.9±0.2	4.3±0.3	1.1±0.3	2.3±0.3	4.5 (REF)	2.0 (REF)	4.7 (REF)

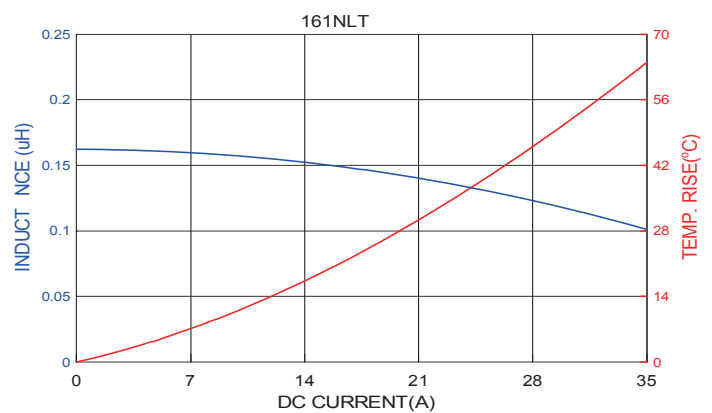
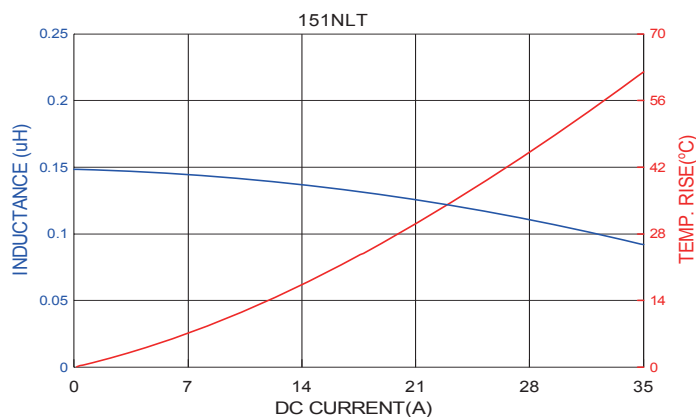
All Dimensions in mm.

TAPE & REEL INFO



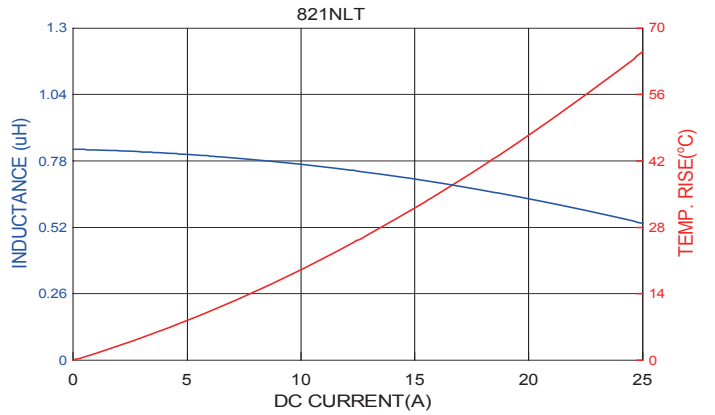
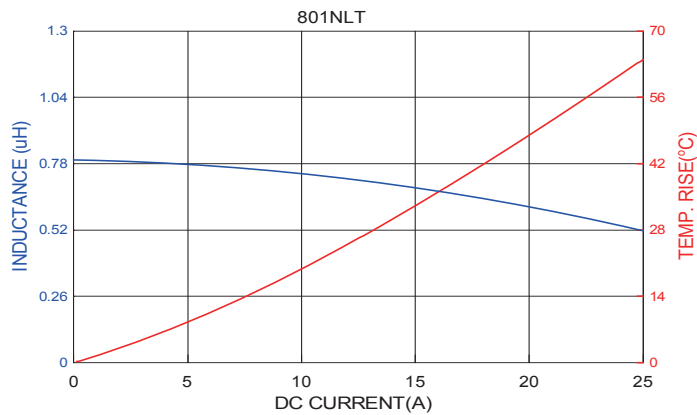
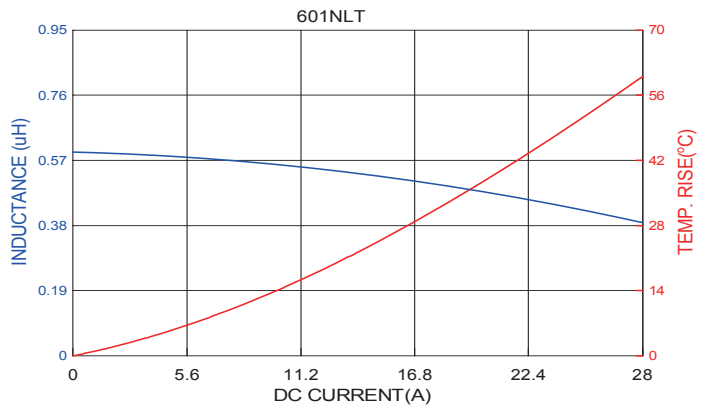
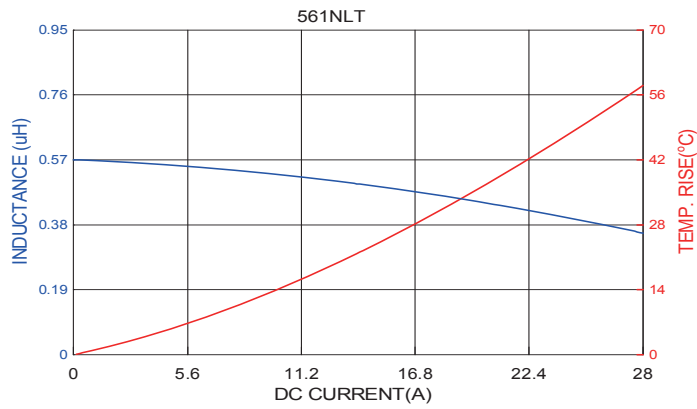
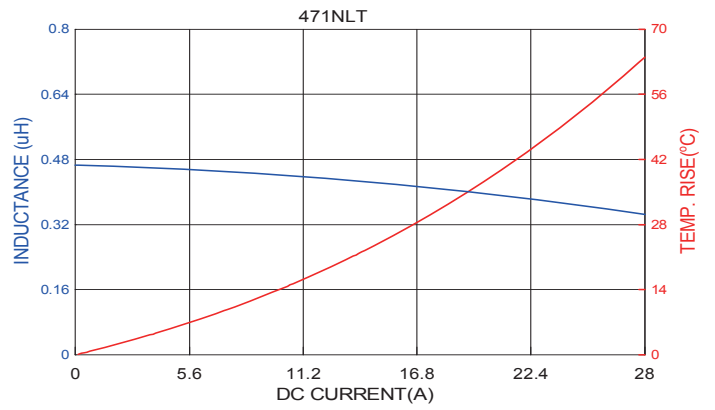
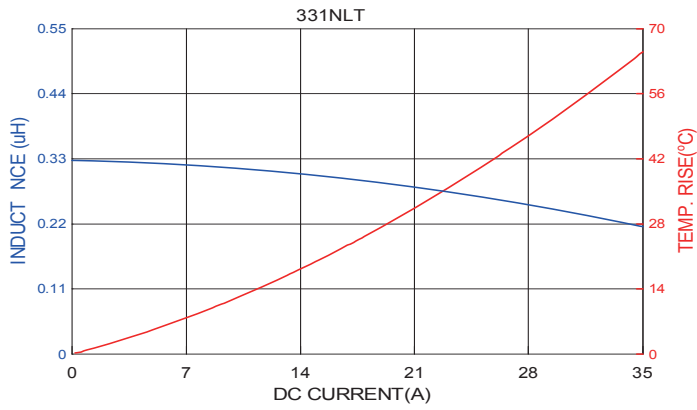
SURFACE MOUNTING TYPE, REEL/TAPE LIST						
	REEL SIZE (mm)		TAPE SIZE (mm)			QTY
	A	G	P ₁	W	K ₀	PCS/REEL
PA5003/PM2203	Ø330	16.4	8	16	3.3	2000

Typical Performance Curves



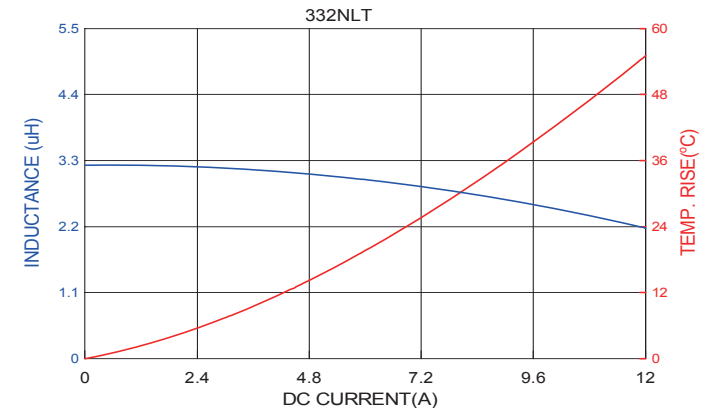
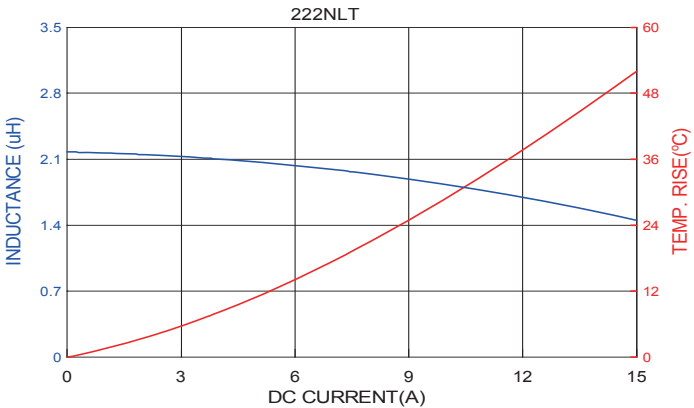
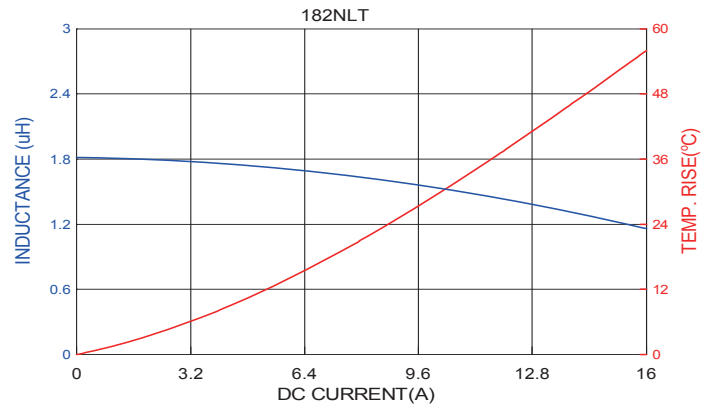
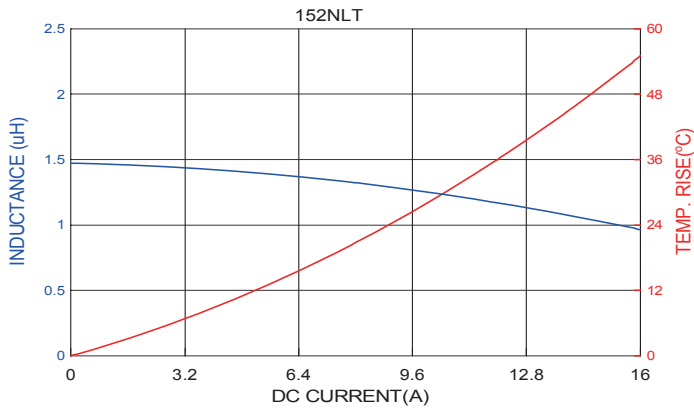
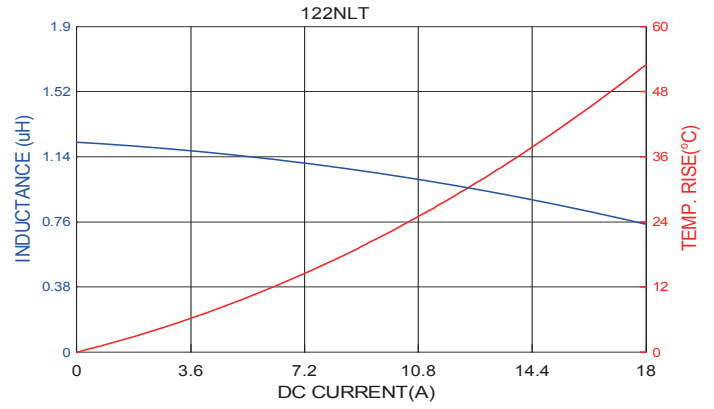
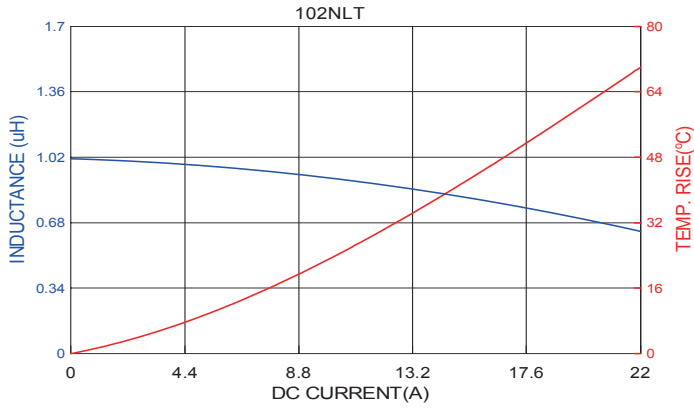
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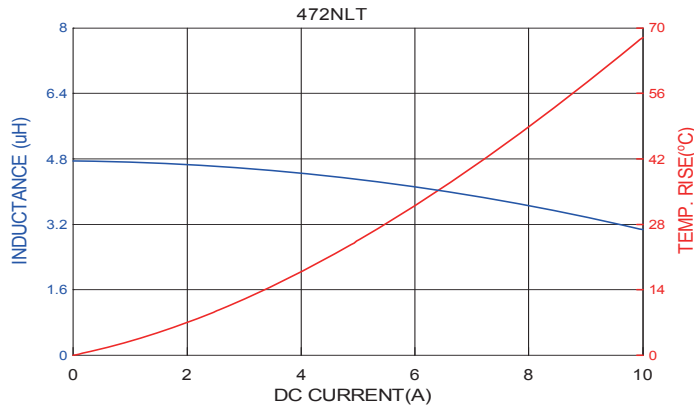
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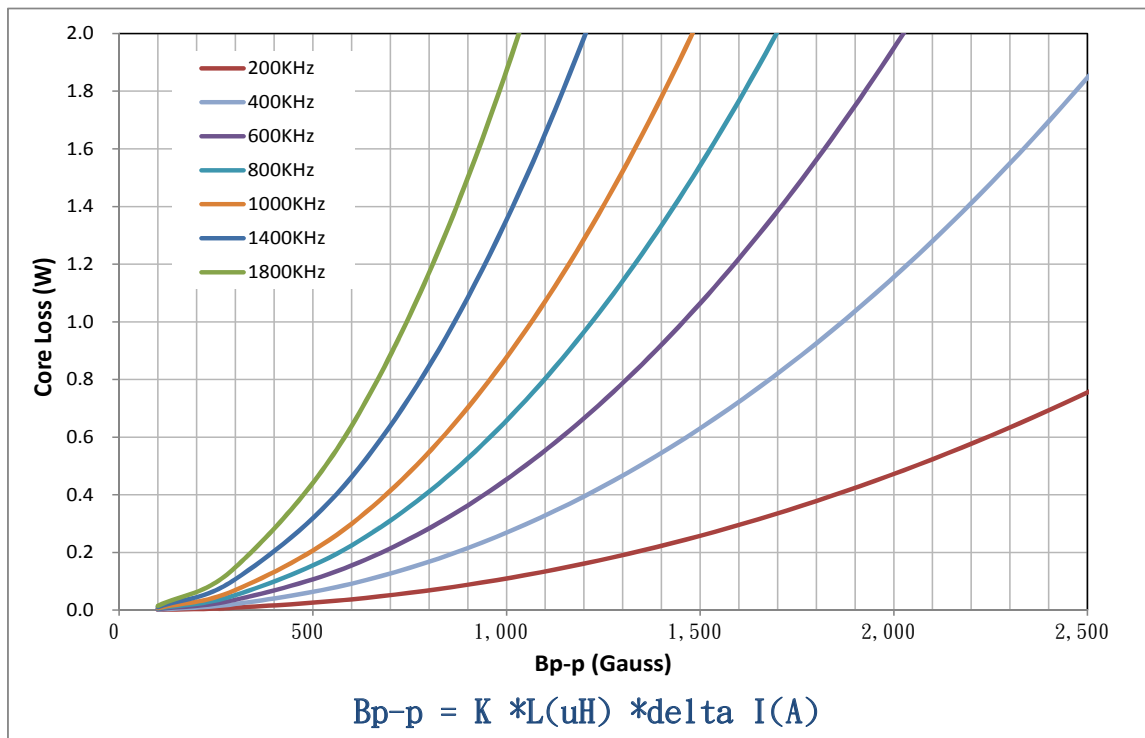


SMT Power Inductors

High Current Composite Inductor - PA5003.XXXNLT and PM2203.XXXNLT



CORE LOSS vs FLUX DENSITY



For More Information:

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

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