PA5001.102NLT Datasheet

www.digi-electronics.com

DiGi Electronics Part Number	PA5001.102NLT-DG
Manufacturer	Pulse Electronics
Manufacturer Product Number	PA5001.102NLT
Description	FIXED IND 1UH 9.6A 14.6MOHM SMD
Detailed Description	1 µH Shielded Molded Inductor 9.6 A 14.6mOhm Max Nonstandard

https://www.DiGi-Electronics.com

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:	Manufacturer:
PA5001.102NLT	Pulse Electronics
Series:	Product Status:
PA5001.XXXNLT	Active
Type:	Material - Core:
Molded	Ferrite
Inductance:	Tolerance:
1 µH	±20%
Current Rating (Amps):	Current - Saturation (Isat):
9.6 A	9.6A
Shielding:	DC Resistance (DCR):
Shielded	14.6mOhm Max
Q @ Freq:	Frequency - Self Resonant:
-	-
Ratings:	Operating Temperature:
-	-40°C ~ 125°C
Inductance Frequency - Test:	Features:
100 kHz	-
Mounting Type:	Package / Case:
Surface Mount	Nonstandard
Supplier Device Package:	Size / Dimension:
-	0.161" L x 0.161" W (4.10mm x 4.10mm)
Height - Seated (Max):	
0.083" (2.10mm)	

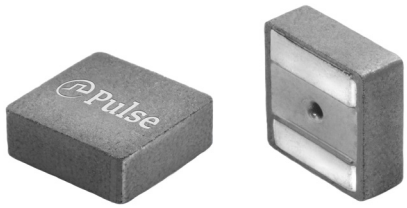
Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8504.50.4000	

SMT Power Inductors

High Current Composite Inductor - PA5001.XXXNLT and PM2201.XXXNLT

Pulse
a YAGEO company



- ***Height:*** *2.1mm Max*
- ***Footprint:*** *4.3mm x 4.3mm Max*
- ***Current Rating:*** *up to 38Apk*
- ***Inductance Range****: 0.10uH to 2.20uH*
- *High current, low DCR, and high efficiency*
- *Rated Voltage between Terminals: 60V*
- *Minimized acoustic noise and minimized leakage flux noise*
- *Available in Commercial (PA5001) and Automotive (PM2201) 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	
PA5001.101NLT	**PM2201.101NLT**	**0.10**	**18**	**2.2**	**2.42**	**33**	**947.4**
PA5001.221NLT	**PM2201.221NLT**	**0.22**	**16.8**	**4.1**	**4.6**	**18.8**	**602.9**
PA5001.361NLT	**PM2201.361NLT**	**0.36**	**14.5**	**5.6**	**6.3**	**15.0**	**442.1**
PA5001.401NLT	**PM2201.401NLT**	**0.40**	**14**	**6.9**	**7.73**	**13.5**	**442.1**
PA5001.471NLT	PM2201.471NLT	0.47	12.5	7.8	8.58	13.0	-
PA5001.561NLT	**PM2201.561NLT**	**0.56**	**12**	**8.4**	**9.3**	**12.6**	**349**
PA5001.601NLT	PM2201.601NLT	0.60	11.7	8.6	9.52	12.3	-
PA5001.721NLT	**PM2201.721NLT**	**0.72**	**10.5**	**10.4**	**11.6**	**10.6**	**288.3**
PA5001.102NLT	**PM2201.102NLT**	**1.00**	**9.6**	**13.3**	**14.6**	**8.8**	**245.6**
PA5001.122NLT	**PM2201.122NLT**	**1.20**	**9**	**16.2**	**17.9**	**7.8**	**213.9**
PA5001.152NLT	**PM2201.152NLT**	**1.50**	**7.6**	**21.0**	**23.5**	**7.4**	**189.5**
PA5001.182NLT	**PM2201.182NLT**	**1.80**	**7**	**25.0**	**28**	**7.0**	**170**
PA5001.222NLT	PM2201.222NLT	2.20	5.6	35.2	38.7	6.0	-

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. 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 availablity.
6. The PM2201.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.
7. Special Characteristics ▽

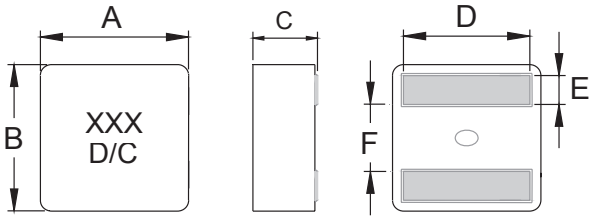
SMT Power Inductors

High Current Composite Inductor - PA5001.XXXNLT and PM2201.XXXNLT

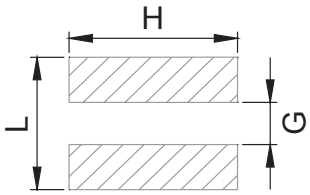
Pulse a YAGEO company

Mechanical

PA5001.XXXNLT and PM2201.XXXNLT



FINAL LAYOUT

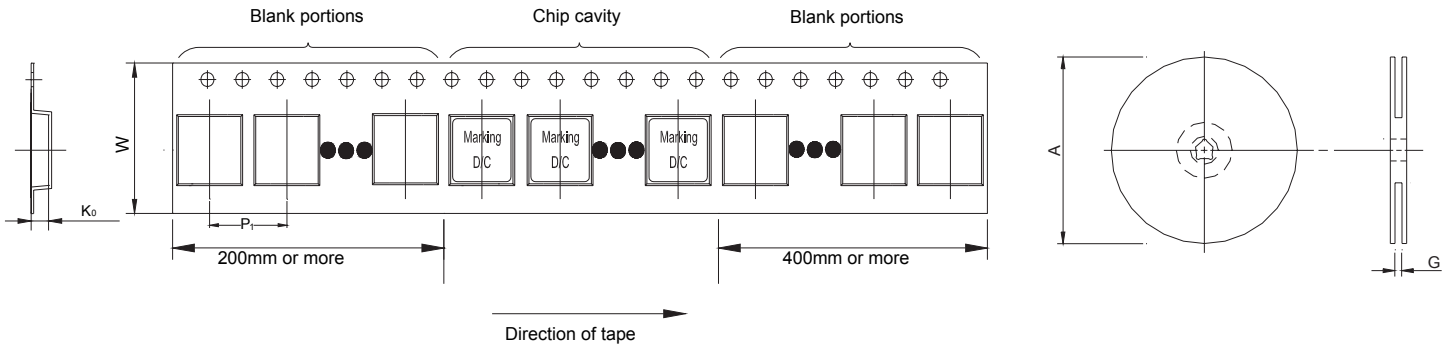


SUGGESTED PAD LAYOUT

Series	Mechanical	A	B	C	D	E	F	L	G	H
PA5001/PM2201	N/A	4.1±0.2	4.1±0.2	1.9±0.2	3.4±0.3	0.88±0.2	1.6±0.25	3.4 (REF)	1.4 (REF)	3.8 (REF)

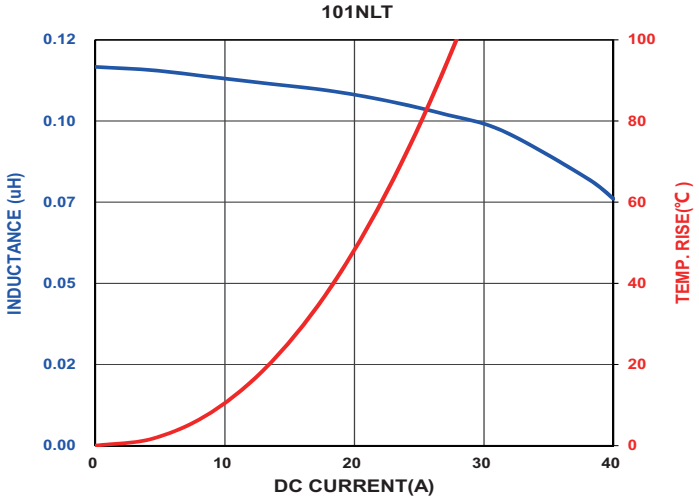
All Dimensions in mm.

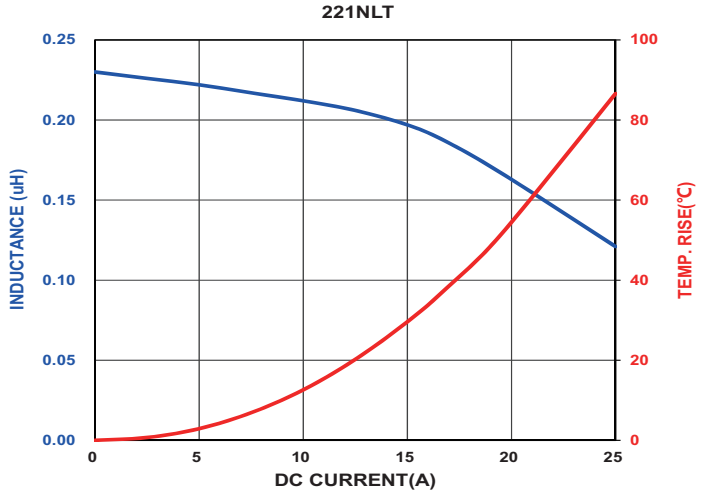
TAPE & REEL INFO



SURFACE MOUNTING TYPE, REEL/TAPE LIST						
	REEL SIZE (mm)		TAPE SIZE (mm)			QTY
	A	G	P_1	W	K_0	PCS/REEL
PA5001/PM2201	Ø330	12.4	8	12	2.3	3000

Typical Performance Curves



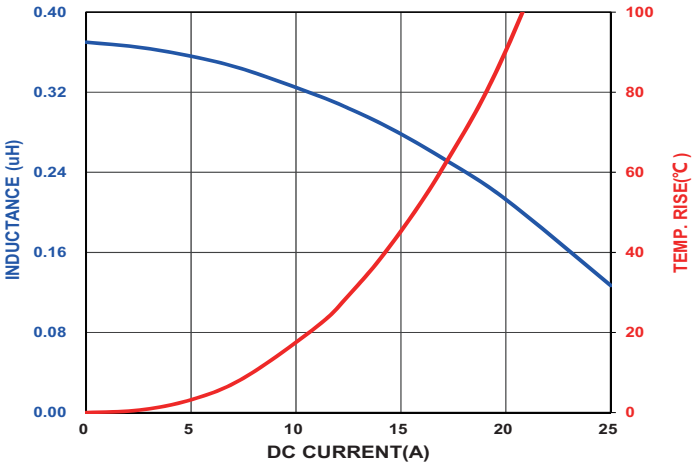


SMT Power Inductors

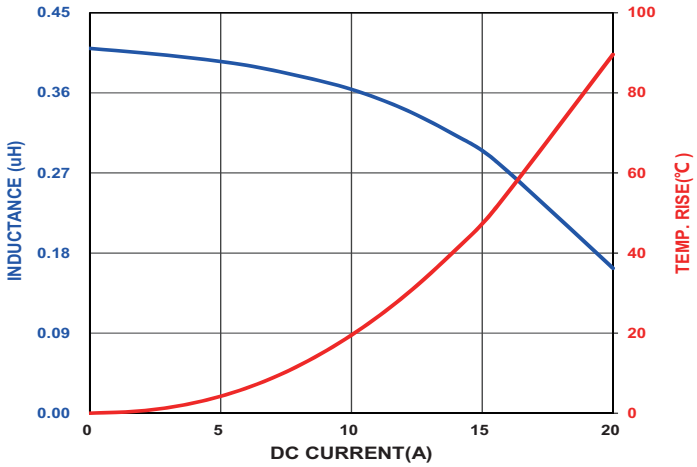
High Current Composite Inductor - PA5001.XXXNLT and PM2201.XXXNLT

Pulse a YAGEO company

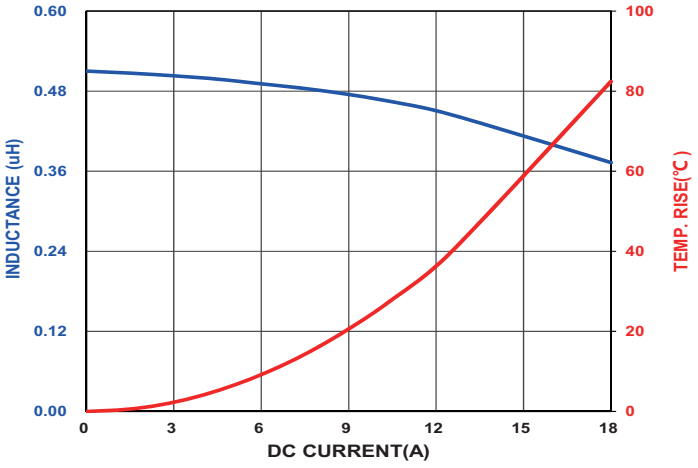
361NLT



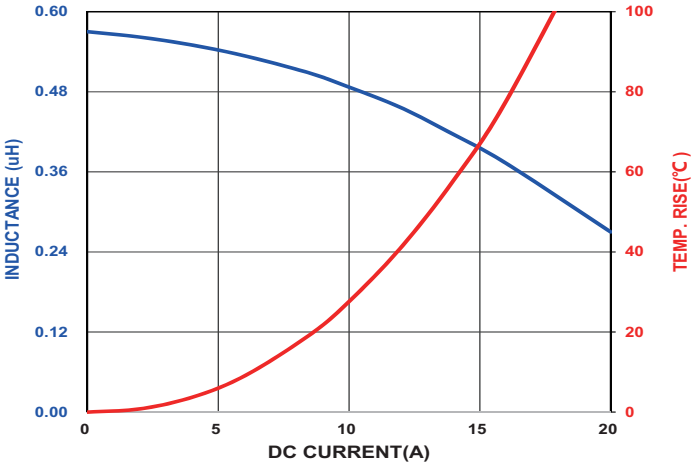
401NLT



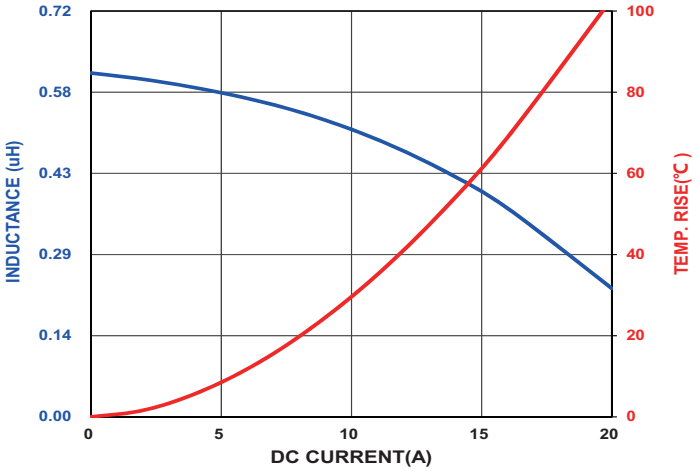
471NLT



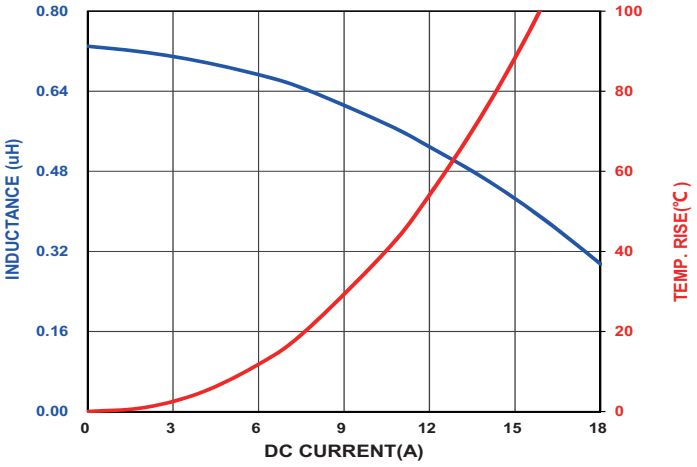
561NLT



601NLT



721NLT

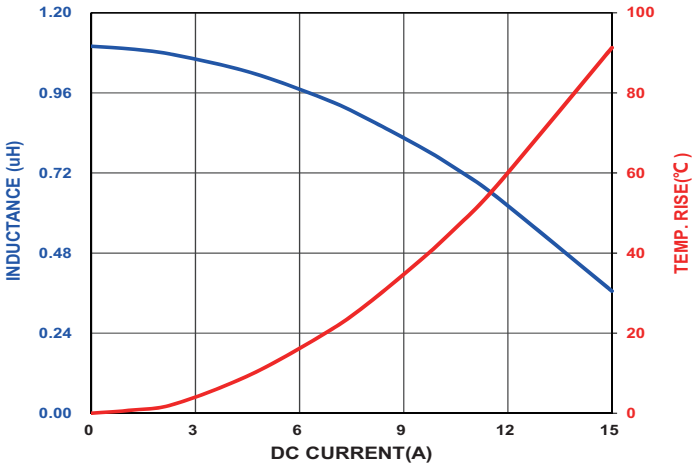


SMT Power Inductors

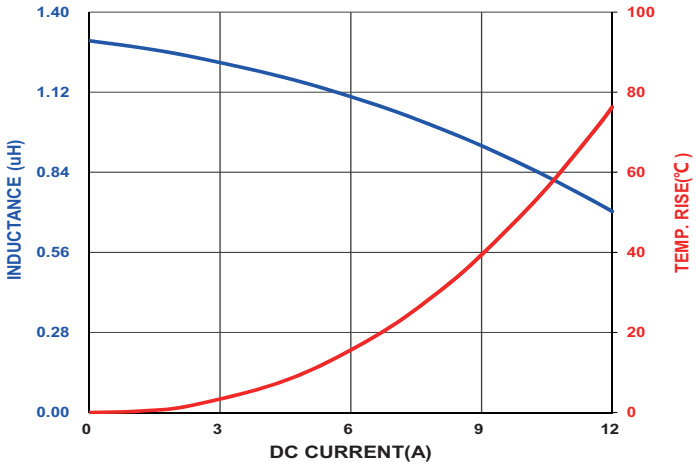
High Current Composite Inductor - PA5001.XXXNLT and PM2201.XXXNLT

Pulse a YAGEO company

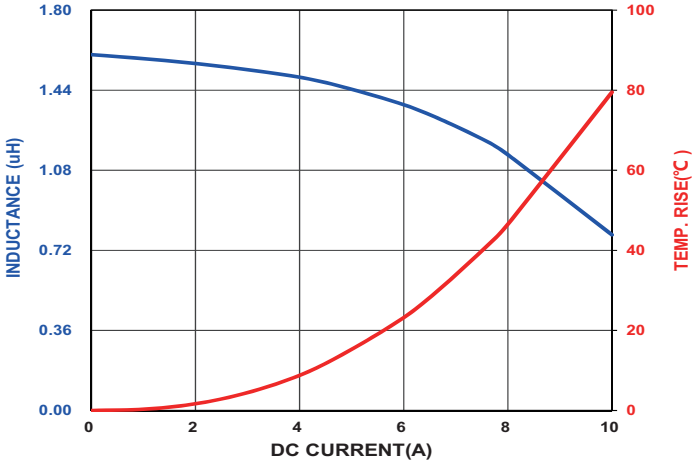
102NLT



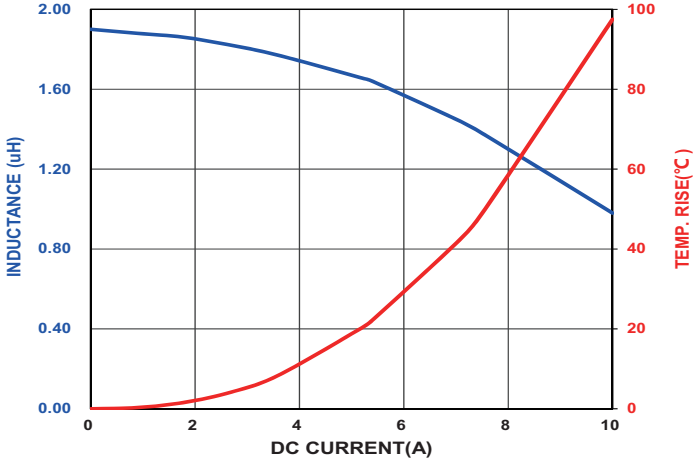
122NLT



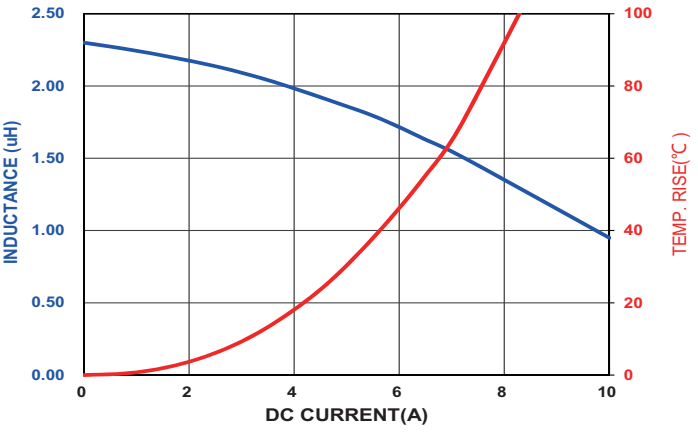
152NLT



182NLT



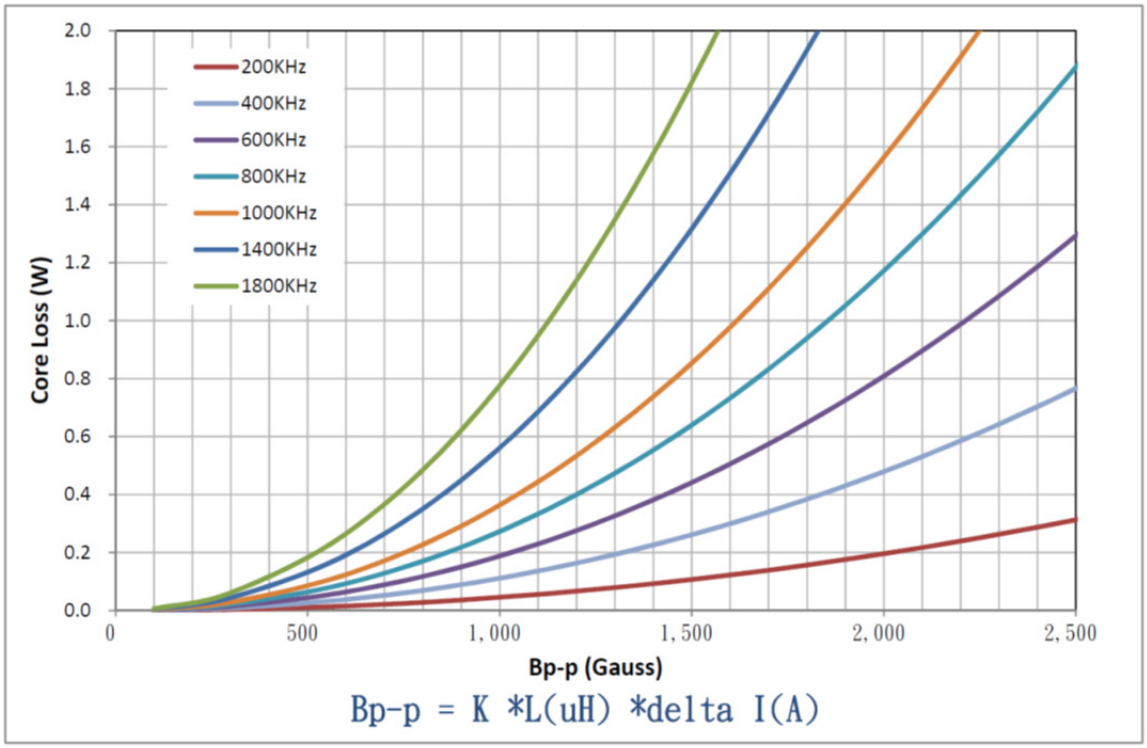
222NLT



SMT Power Inductors

High Current Composite Inductor - PA5001.XXXNLT and PM2201.XXXNLT

CORE LOSS vs FLUX DENSITY



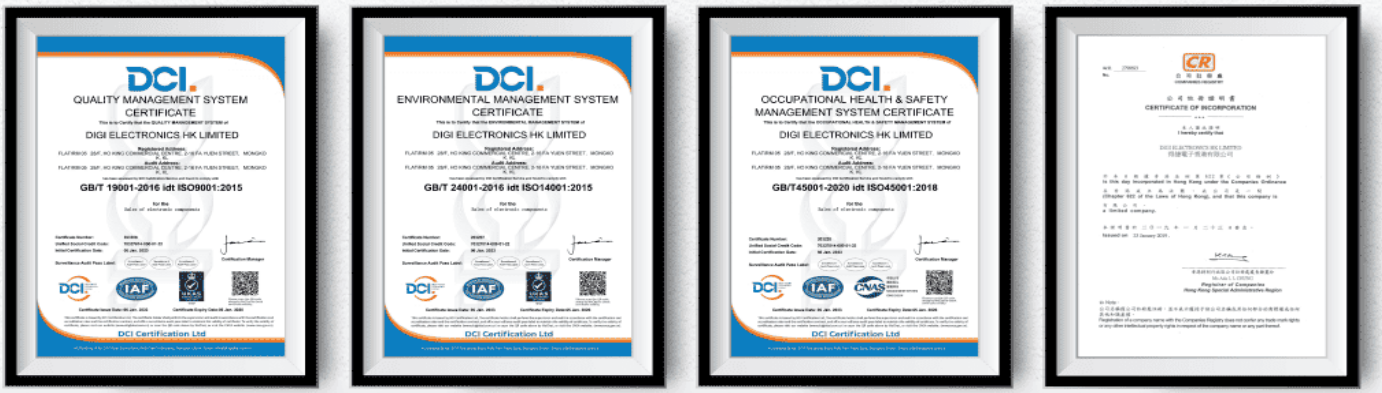
For More Information:

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

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright, 2021. Pulse Electronics, Inc. All rights reserved.

OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we striciy control the quality of products and services. Welcome your RFQ to Email: Info@DiGi-Electronics.com



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.