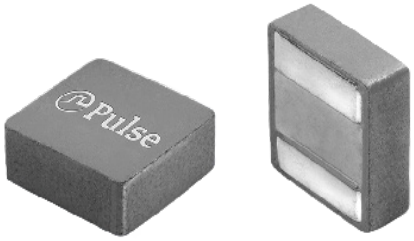
SMT Power Inductors

High Current Composite Inductor - PA2248.XXXNLT and PM2248.XXXNLT



- ***Height:*** *13.0mm Max*
- ***Footprint:*** *17.8mm x 16.8mm Max*
- ***Current Rating:*** *up to 31Arms*
- ***Inductance Range****: 4.7uH to 33uH*
- *High current, low DCR, and high efficiency*
- *High reliability*
- *Minimized acoustic noise and minimized leakage flux noise*
- *Available in Commercial (PA2248) and Automotive (PM2248) grades*

Electrical Specifications @ 25°C, Operating Temperature Range per Below[4,5]

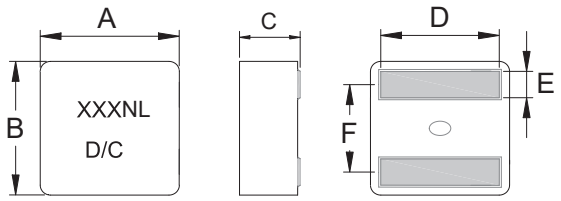
Part Number		▽Inductance 100KHz, 0.1V	Rated[3] Current	DC Resistance		Saturation[2] Current (25°C)	K Factor for Core Loss
Commerical	Automotive[6]			TYP.	MAX.		
(-40°C to 125°C)	(-55°C to 155°C)	uH±20%	A	mΩ	mΩ	A	
PA2248.472NLT	PM2248.472NLT	4.7	31.0	3.0	3.3	44.0	10.9
PA2248.562NLT	PM2248.562NLT	5.6	29.0	3.5	3.9	40.0	9.6
PA2248.682NLT	PM2248.682NLT	6.8	27.0	3.8	4.2	37.0	8.6
PA2248.822NLT	PM2248.822NLT	8.2	26.0	5.1	5.7	33.0	7.8
PA2248.103NLT	PM2248.103NLT	10.0	25.0	6.3	7.0	30.0	7.2
PA2248.153NLT	PM2248.153NLT	15.0	22.0	6.8	7.5	25.5	5.7
PA2248.223NLT	PM2248.223NLT	22.0	17.0	12.6	13.86	22.0	4.7
PA2248.333NLT	PM2248.333NLT	33.0	14.0	18.5	22.2	19.0	3.7

Notes:

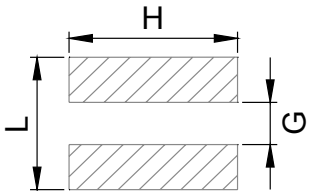
1. Actual temperature of the component during system operation (ambient plus temperature rise) must be within the standard operating range.
2. The saturation current is the current at which the initial inductance drops by approximately 30% at the stated ambient temperature. The maximum allowable drop at this stated current is 40% of the initial inductance. This current is determined by placing the component in the specified ambient environment and applying a short duration pulse current (to eliminate self-heating effect) to the component.
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 the upper operating temperature range 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 PMxxxx.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.
6. Special Characteristics ▽

Mechanical

PA2248.XXXNLT and PM2248.XXXNLT



FINAL LAYOUT

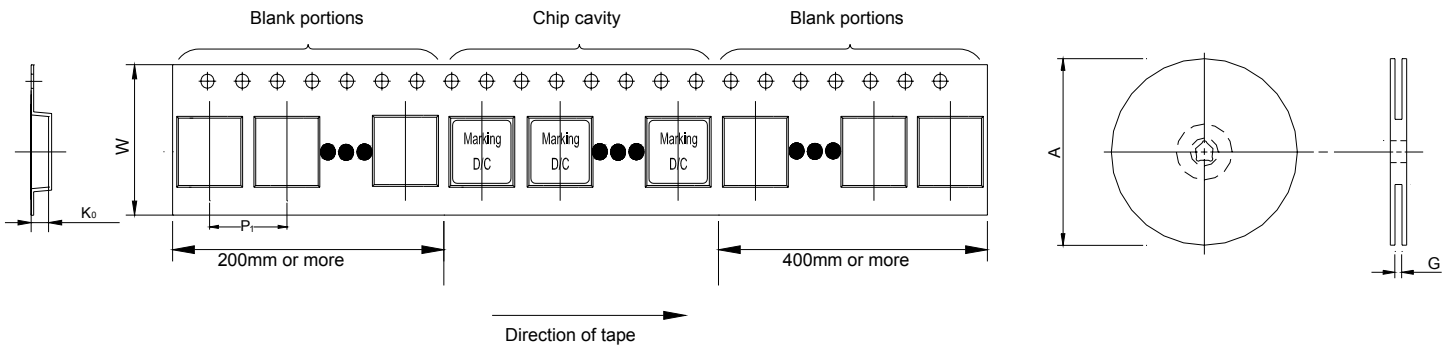


SUGGESTED PAD LAYOUT

Series	A	B	C	D	E	F	L	G	H
PA2248/PM2248 .472/.562/.682/.822NLT	16.5±0.3	15.5±0.3	12.7±0.3	13.2±0.5	3.2±0.2	10.4±0.3	15.0 (REF)	6.0(REF)	15.0(REF)
PA2248/PM2248 .103/.153/.223/.333NLT	17.5±0.3	16.5±0.3							

All Dimensions in mm.

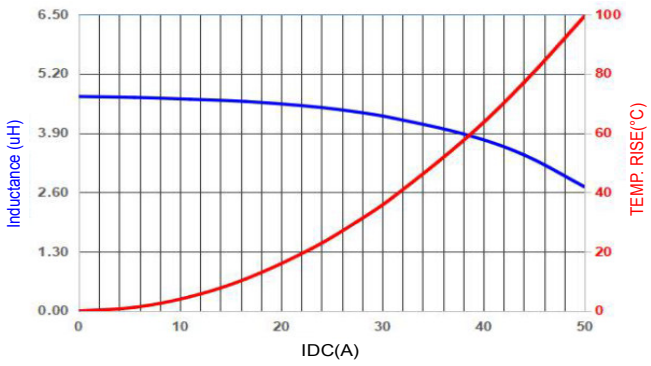
TAPE & REEL INFO



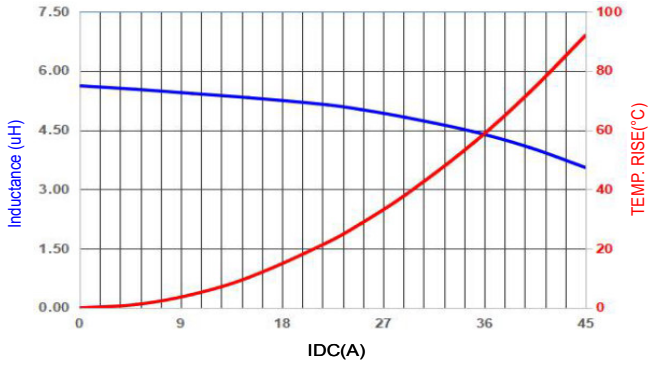
SURFACE MOUNTING TYPE, REEL/TAPE LIST						
	REEL SIZE (mm)		TAPE SIZE (mm)			QTY
	A	G	P_1	W	K_0	PCS/REEL
PA2248/PM2248	Ø330	32.4	24	32	13.6	100

Typical Performance Curves

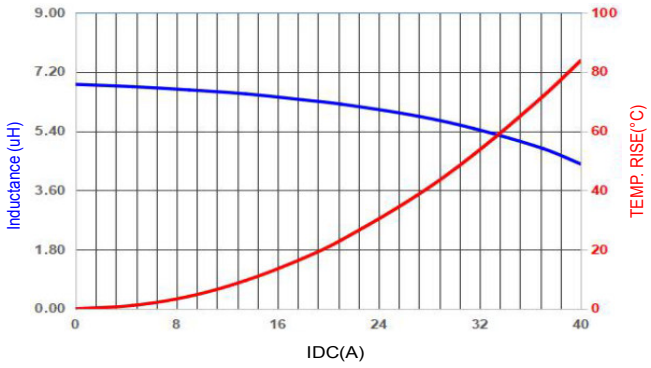
472NLT



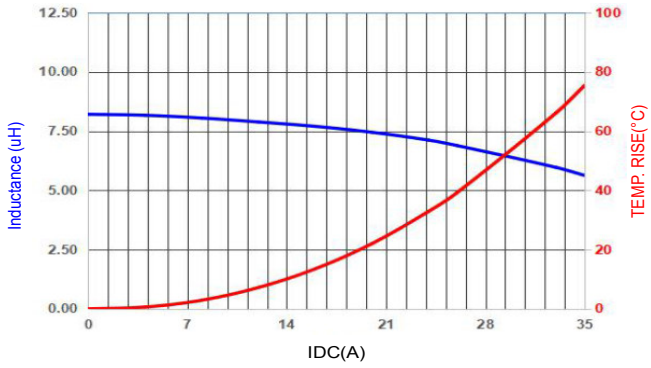
562NLT



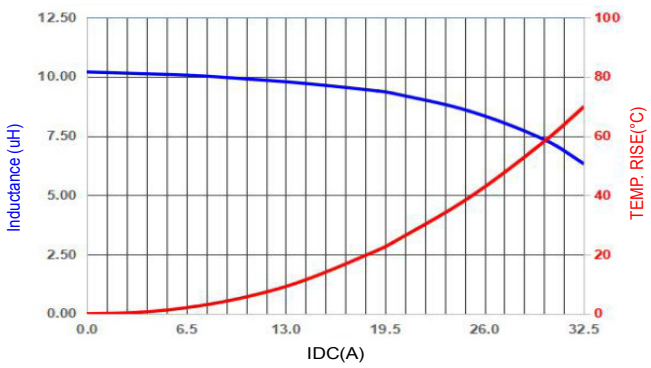
682NLT



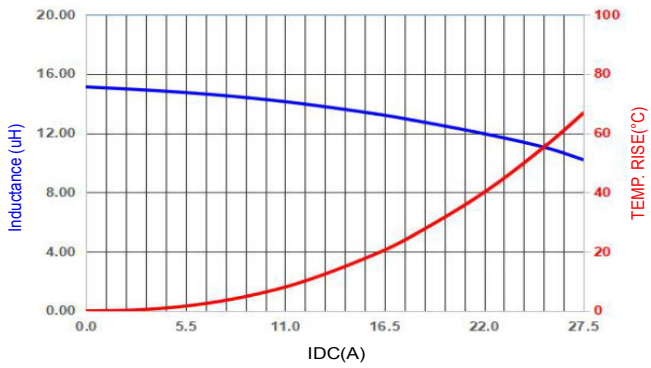
822NLT



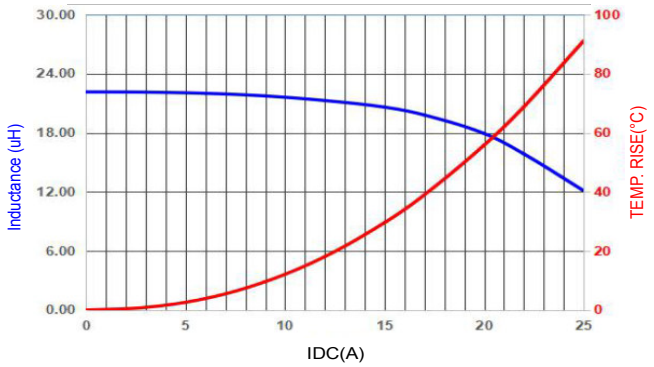
103NLT



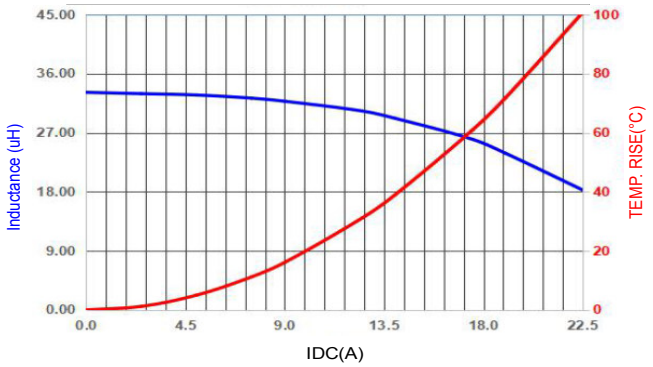
153NLT



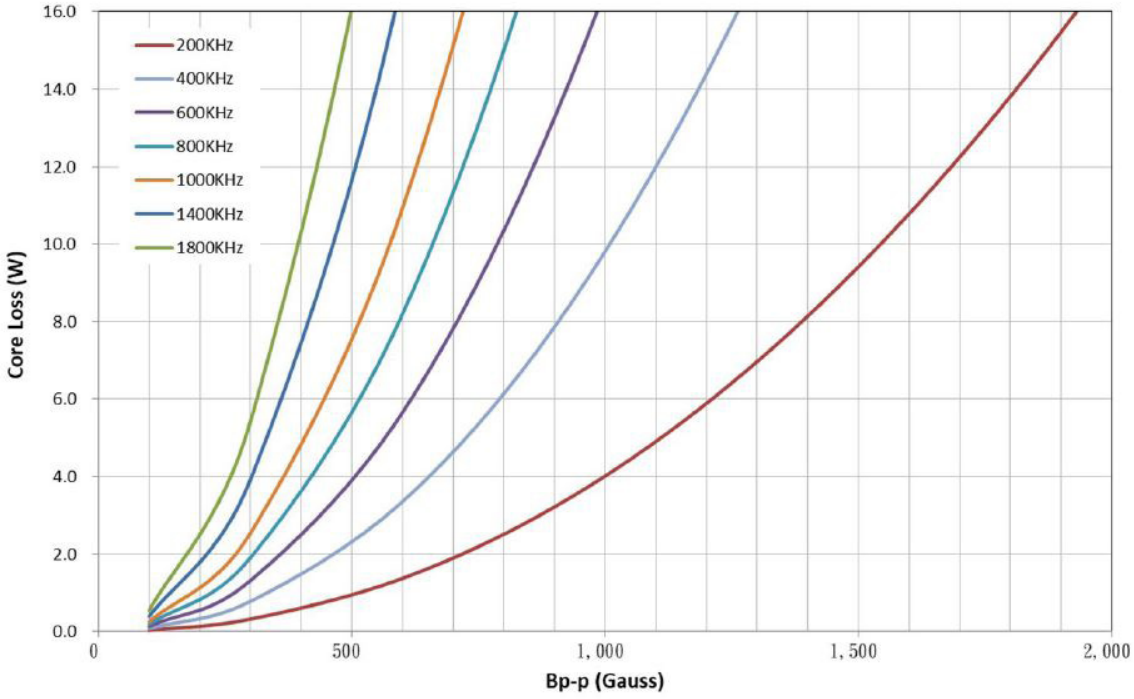
223NLT



333NLT



CORE LOSS vs FLUX DENSITY



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

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