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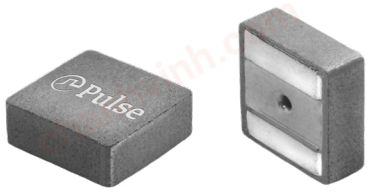
SMT Power Inductors

High Current Composite Inductor - PA5175.XXXNLT and PM5175.XXXNLT

Pulse
a YAGEO company





- ***Height:*** *5.0mm Max*
- ***Footprint:*** *5.7mm x 5.5mm Max*
- ***Current Rating:*** *up to 7.2Arms*
- ***Inductance Range****: 5.6uH to 10uH*
- *High current, low DCR, and high efficiency*
- *Rated Voltage between Terminals: 60V*
- *Minimized acoustic noise and minimized leakage flux noise*
- *Available in Commercial (PA5175) and Automotive (PM5175) 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 Current[2] (25°C)	K Factor for Core Loss
Commerical	Automotive[6]			TYP.	MAX.	TYP.	
		uH±20%	A	mΩ	mΩ	A	
PA5175.562NLT	PM5175.562NLT	5.6	7.2	22.0	24.2	7.2	54.4
PA5175.682NLT	PM5175.682NLT	6.8	6.4	26.0	28.6	6.6	47.9
PA5175.822NLT	PM5175.822NLT	8.2	6.1	29.5	32.5	6.1	42.2
PA5175.103NLT	PM5175.103NLT	10	5.0	39.0	43.0	5.4	42.2

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 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 ▽

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Mechanical

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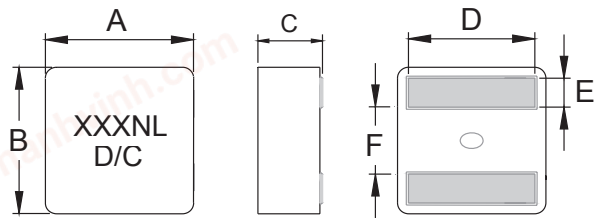
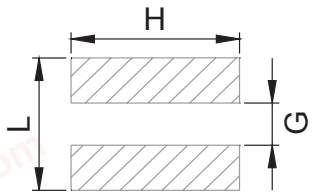


FINAL LAYOUT

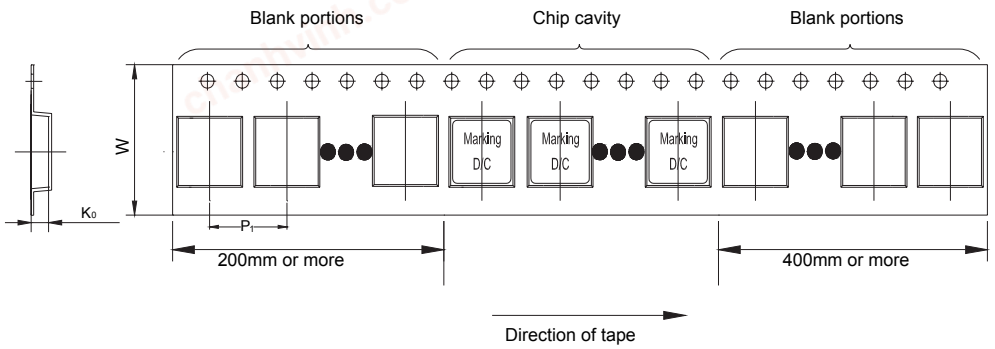


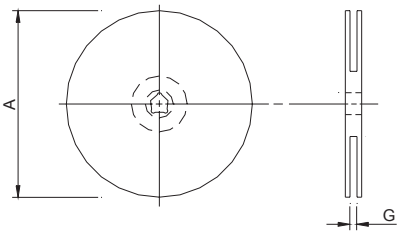
SUGGESTED PAD LAYOUT

Series	A	B	C	D	E	F	L	G	H
PA5175/PM5175	5.5±0.2	5.3±0.2	4.8±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
PA5175/PM5175	Ø330	16.4	8	16	5.3	1500

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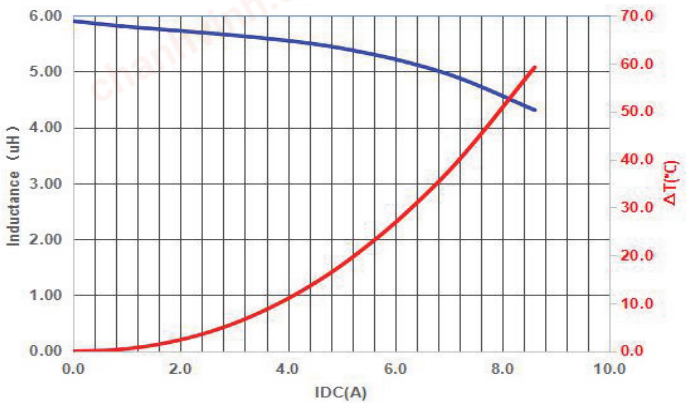
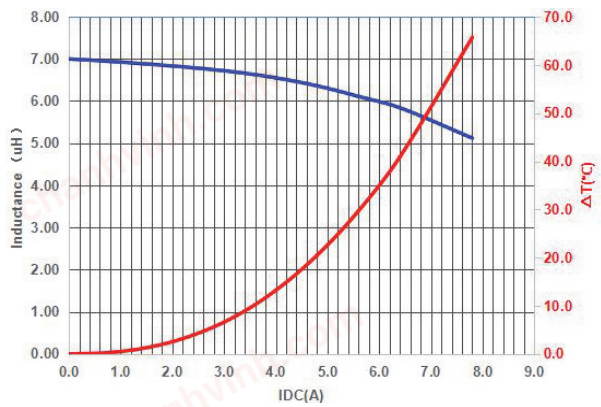
Typical Performance Curves

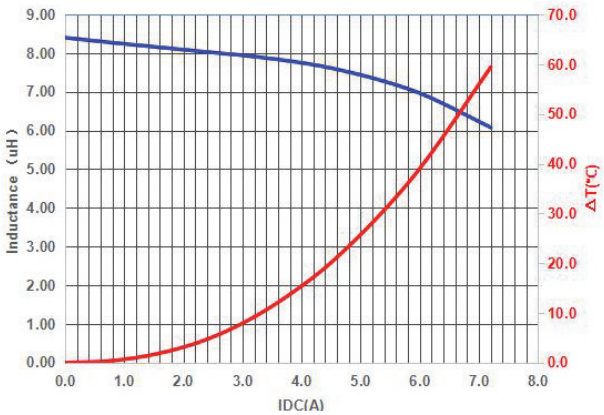
562NLT



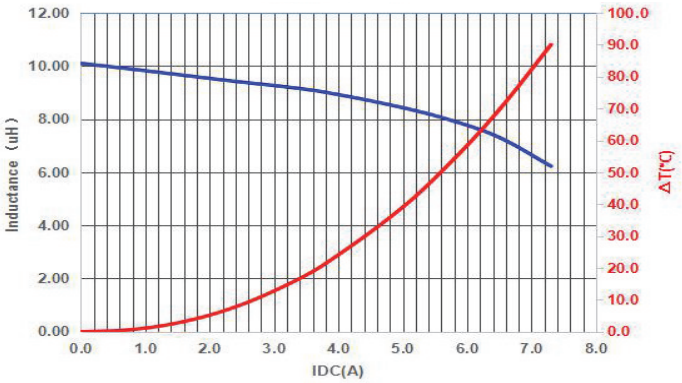
682NLT



822NLT



103NLT



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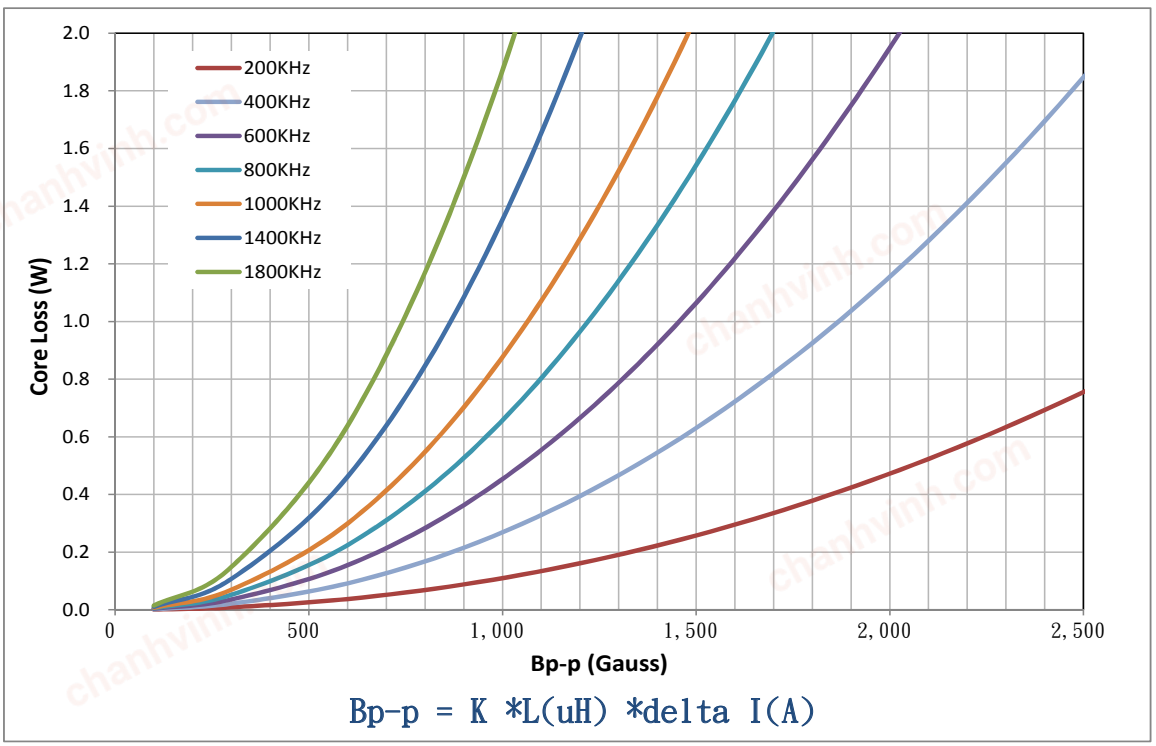
CORE LOSS vs FLUX DENSITY



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

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For More Information:

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

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