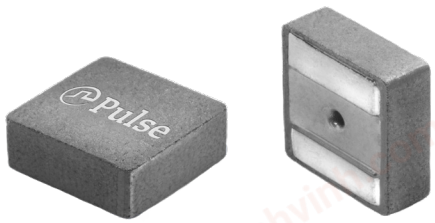
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SMT Power Inductors

Molded powder - PA/PM2242-2243-2244.XXXNLT series

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- ***Height:*** *10.0mm Max*
- ***Footprint:*** *12.2mm x 11.3mm Max*
- ***Current Rating:*** *up to 40 Apk*
- ***Inductance Range****: 0.28 uH to 15 uH*
- ***Rated Voltage between Terminals:*** *50V*
- *High current, low DCR, and high efficiency*
- *Minimized acoustic noise and minimized leakage flux noise*
- *Available in Commercial (PA224X) and Automotive (PM224X) grades*

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

Part Number		Inductance[6] 100KHz, 0.1V	Rated[3] Current	DC Resistance MAX.	Saturation[2] Current	K Factor for Core Loss
Commerical	Automotive[4,5]					
(-55°C to 125°C)	(-55°C to 155°C)	uH±20%	A	mΩ	A	
PA2242.281NLT	PM2242.281NLT	0.28	35.0	1.60	58.0	114.6
PA2242.561NLT	PM2242.561NLT	0.56	32.0	2.75	39.0	72.9
PA2242.821NLT	PM2242.821NLT	0.82	25.0	4.10	32.0	53.5
PA2242.901NLT	PM2242.901NLT	0.90	24.0	4.20	31.0	53.5
PA2242.102NLT	PM2242.102NLT	1.00	23.0	4.95	30.0	52.2
PA2242.152NLT	PM2242.152NLT	1.50	18.0	6.60	25.0	42.2
PA2243.681NLT	PM2243.681NLT	0.68	34.0	1.50	50.0	53.5
PA2243.102NLT	PM2243.102NLT	1.00	28.5	2.32	44.0	52.3
PA2243.122NLT	PM2243.122NLT	1.20	26.5	2.64	40.0	42.2
PA2243.152NLT	PM2243.152NLT	1.50	24.5	3.30	36.0	42.2
PA2243.222NLT	PM2243.222NLT	2.20	20.0	4.84	30.0	34.9
PA2243.332NLT	PM2243.332NLT	3.30	16.8	7.70	25.0	29.7
PA2243.472NLT	PM2243.472NLT	4.70	14.0	10.72	22.0	22.9
PA2244.102NLT	PM2244.102NLT	1.00	40.0	1.20	42.0	53.5
PA2244.152NLT	PM2244.152NLT	1.50	35.5	1.76	31.0	42.3
PA2244.222NLT	PM2244.222NLT	2.20	32.0	2.80	29.0	34.9
PA2244.332NLT	PM2244.332NLT	3.30	25.0	4.10	23.4	27.9
PA2244.472NLT	PM2244.472NLT	4.70	24.0	5.70	21.4	23.6
PA2244.562NLT	PM2244.562NLT	5.60	21.2	7.20	19.6	21.2
PA2244.682NLT	PM2244.682NLT	6.80	18.5	8.90	18.5	19.1
PA2244.822NLT	PM2244.822NLT	8.20	17.1	12.40	16.3	16.0
PA2244.103NLT	PM2244.103NLT	10.0	15.5	13.75	14.6	13.6
PA2244.153NLT	PM2244.153NLT	15.0	13.8	19.30	12.5	11.9

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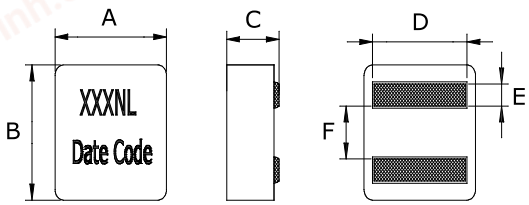
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Notes:

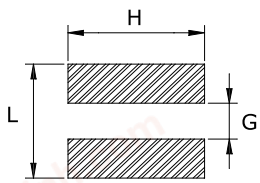
1. Actual temperature of the component during system operation (ambient plus temperature rise) must be within the standard operating range.
2. The saturation current is the current at which the initial inductance is guaranteed to drop by no more than 40%. The typical inductance at a specified current 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 125 ˚ 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. PM224X.XXXNL series are AEC-Q200 certified and IATF 16949 compliance, but the resistance to solvents test is waived. The inductance and mechanical dimensions will do 100% test in mass production due to the Cpk <1.33.
6. Special Characteristics ▽ for PM224X.XXXNLT.

Mechanical

PA/PM224X.XXXNLT



FINAL LAYOUT



SUGGESTED PAD LAYOUT

Series	A	B	C	D	E	F	L	G	H
PA/PM2242.XXXNLT	11.9±0.3	11.0±0.3	2.9±0.2	9.0±0.5	2.4±0.2	4.4±0.3	10.5(REF)	3.7(REF)	11.0(REF)
PA/PM2243.XXXNLT	11.9±0.3	11.0±0.3	5.7±0.3	$9.0^{+1.0}_{-0.5}$	2.4±0.2	4.4±0.3	10.5(REF)	3.7(REF)	11.0(REF)
PA/PM2244.XXXNLT	11.9±0.3	11.0±0.3	9.7±0.3	9.0(REF)	2.4±0.2	4.4±0.3	10.5(REF)	3.7 (REF)	11.0(REF)

All Dimensions in mm.

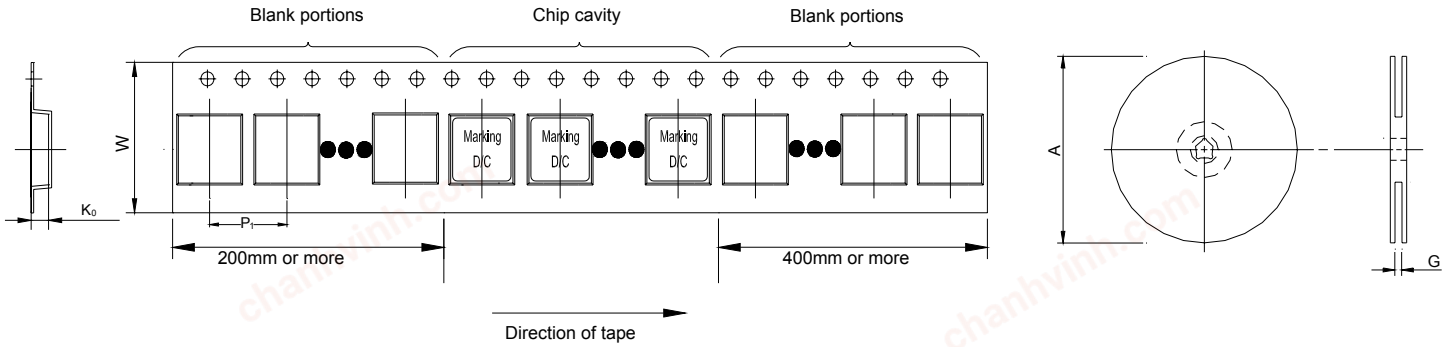
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TAPE & REEL INFO

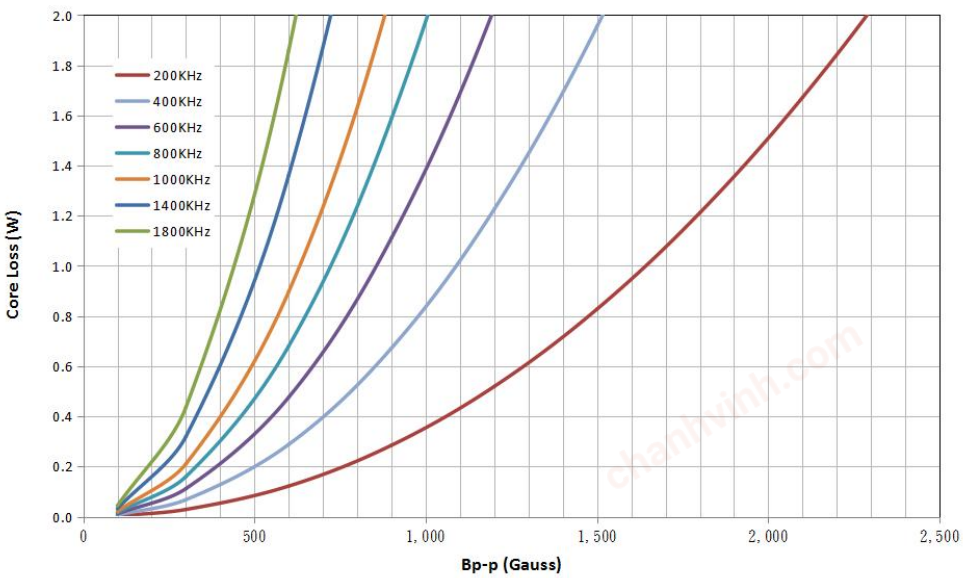


SURFACE MOUNTING TYPE, REEL/TAPE LIST						
PART NUMBER	REEL SIZE (mm)		TAPE SIZE (mm)			QTY
	A	G	P_1	W	K_0	PCS/REEL
PA/PM2242.XXXNLT	Ø330	24.4	16	24	3.4	1000
PA/PM2243.XXXNLT	Ø330	24.4	16	24	6.3	500
PA/PM2244.XXXNLT	Ø330	24.4	16	24	10.3	300

CORE LOSS vs FLUX DENSITY

CORE LOSS vs FLUX DENSITY

PA/PM2242.XXXNLT



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

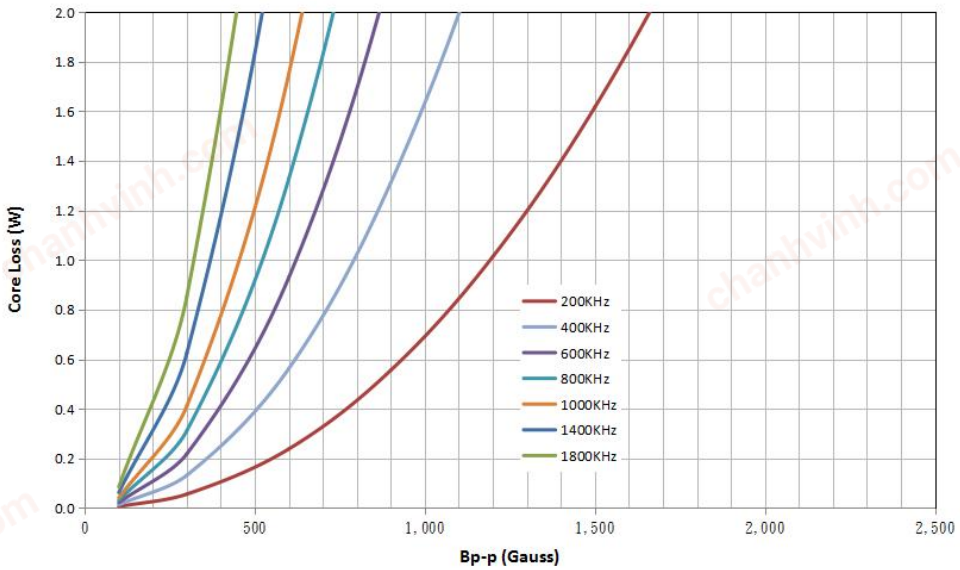
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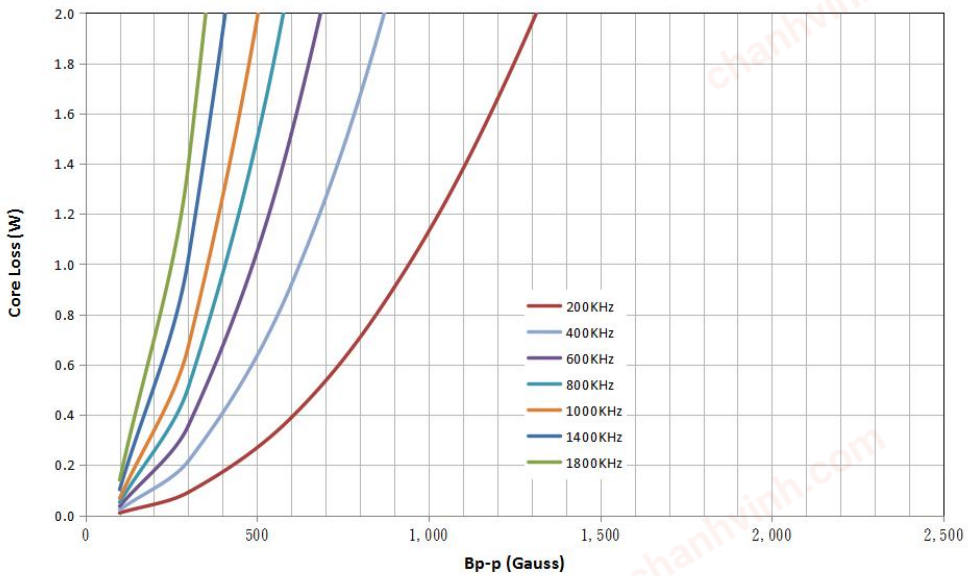
CORE LOSS vs FLUX DENSITY

PA/PM2243.XXXNLT



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

PA/PM2244.XXXNLT



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

Americas - prodinfo_power_americas@yageo.com | **Europe -** prodinfo_power_emea@yageo.com | **Asia -** prodinfo_power_asia@yageo.com

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