SMT Power Inductors

High Current Composite Inductor - PA2240XXXNLT and PM2240.XXXNLT









P Height: 7.0mm Max

P Footprint: 8.05mm x 7.85mm Max

- *Current Rating:* up to 15.1Arms
- *P* Inductance Range: 3.3uH to 6.8uH
- 🕐 High current, low DCR, and high efficiency
- 🕑 High reliability
- 🕐 Minimized acoustic noise and minimized leakage flux noise
- Available in Commercial (PA2240) and Automotive (PM2240) grades

Electrical Specifications @ 25°C, Operating Temperature Range per Below ^{4,5}								
Part Number		⊘Inductance	Rated ³	DC Resistance		Saturation Current ² (25°C)	K Factor	Mechanical
Commerical	Automotive ⁶	100KHz, 0.1V	Current	TYP.	MAX.	TYP.	for Core Loss	D
(-55°C to 125°C)	(-55°C to 155°C)	uH±20%	A	mΩ	mΩ	A		±0.3
PA2240.332NLT	PM2240.332NLT	3.3	15.1	8.56	9.42	15.1	-	6.7
PA2240.472NLT	PM2240.472NLT	4.7	13.6	12.2	13.5	14.0	-	6.7
PA2240.682NLT	PM2240.682NLT	6.8	9.5	17.8	19.6	11.0	-	6.5

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 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.
- 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 \bigcirc



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SURFACE MOUNTING TYPE, REEL/TAPE LIST								
	REEL SIZ	E (mm)	TAPE SIZE (mm)			QTY		
	А	G	P ₁	W	K ₀	PCS/REEL		
PA2240/PM2240	Ø330	16.4	12	16	7.3	700		

Typical Performance Curves











2.0 200KHz 1.8 400KHz 600KHz 1.6 800KHz 1000KHz 1.4 1400KHz 1.2 Core Loss (W) 1800KHz 1.0 0.8 0.6 0.4 0.2 0.0 500 1,000 1,500 0 2,000 2,500 **Bp-p (Gauss)** Bp-p = K *L(uH) *delta I(A)

CORE LOSS vs FLUX DENSITY

For More Information									
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