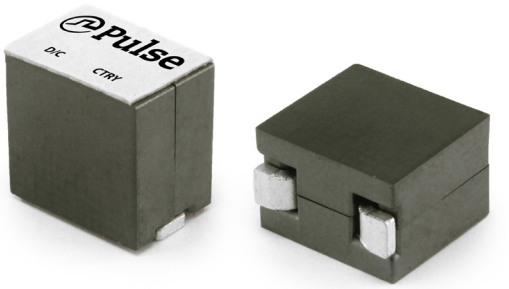
SMT Power Inductor

Power Beads - PA4499.XXXHLT



- ***Current Rating:*** *126Apk*
- ***Inductance Range:*** *100nH to 330uH*
- ***Height:*** *10.0mm Max*
- ***Footprint:*** *10.0mm x 8.0mm Max*

Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C [7]								
Part Number	Inductance[1] @ OA_{DC} (nH +/- 15%)	Inductance[2] @Irated (nH TYP)	Irated[3] (ADC)	DCR[4] (mΩ +/- 10%)	Saturation Current[5] (A TYP)			Heating Current[6] (A TYP)
					25°C	100°C	125°C	
PA4499.101HLT	100	100	70	0.15	126	108	95	70
PA4499.121HLT	120	120	70		105	90	76	
PA4499.151HLT	150	150	70		80	71	64	
PA4499.181HLT	175	168	60		70	60	53	
PA4499.271HLT	270	240	40		47	40	35	
PA4499.321HLT	330	300	31		40	31	27	

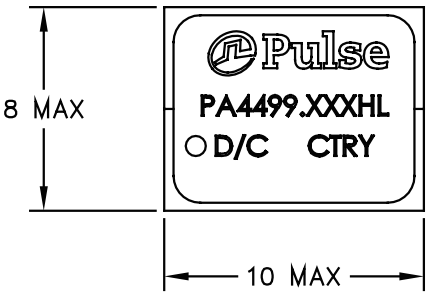
Notes:

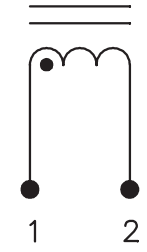
1. Inductance measured at 100kHz, 100mVrms.
2. Inductance at Irated is the value of the inductance at 25°C at the listed rated current.
3. The rated current as listed is either the saturation current (25°C or 100°C) or the heating current depending on which value is lower.
4. The nominal DCR is measured from point ⓐ to point ⓑ, as shown below on the mechanical drawing.
5. The saturation current is the typical current which causes the inductance to drop by 20% at the stated ambient temperatures (25°C, 100°C). This current is determined by placing the component in the specified ambient environment and applying a short duration pulse current (to eliminate self-heating effects) to the component.
6. The heating current is the DC current which causes the part temperature to increase by approximately 40°C when used in a typical application.
7. In high volt*time applications, additional heating in the component can occur due to core losses in the inductor which may neccessitate derating the current in order to limit the temperature rise of the component. To determine the approximate total losses (or temperature rise) for a given application, the coreloss and temperature rise curves can be used.
8. Parts with the HLT suffix are sold in tape and reel packaging. Pulse complies to industry standard tape and reel specification EIA-481.
   The tape and reel for this product has a width (W=24mm), pitch (Po=16mm) and depth (Ko=10.5mm). Samples of these parts can be ordered by removing the HLT suffix and replacing with HL.
9. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

Mechanical

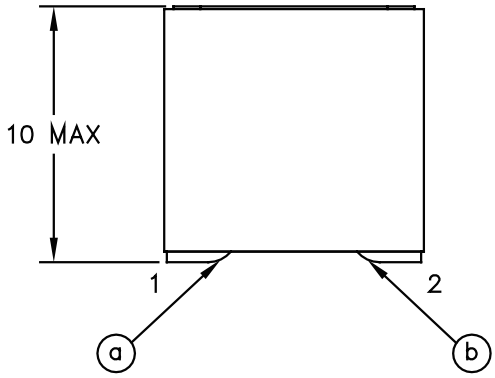
Schematic

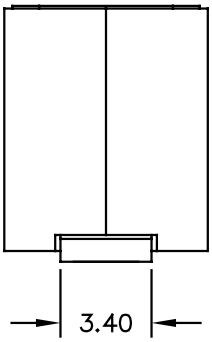
PA4499.XXXHLT

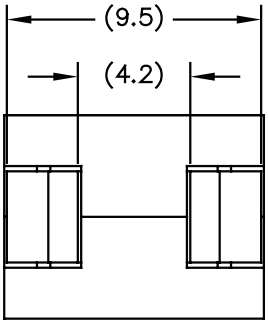




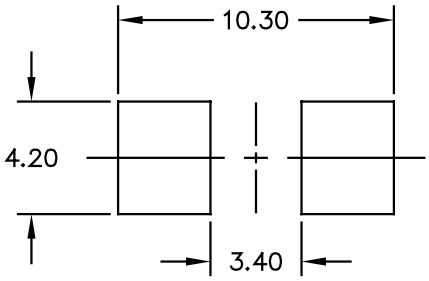
SCHEMATIC







FINAL LAYOUT



TOLERANCES ±0.05 mm

SUGGESTED PAD LAYOUT

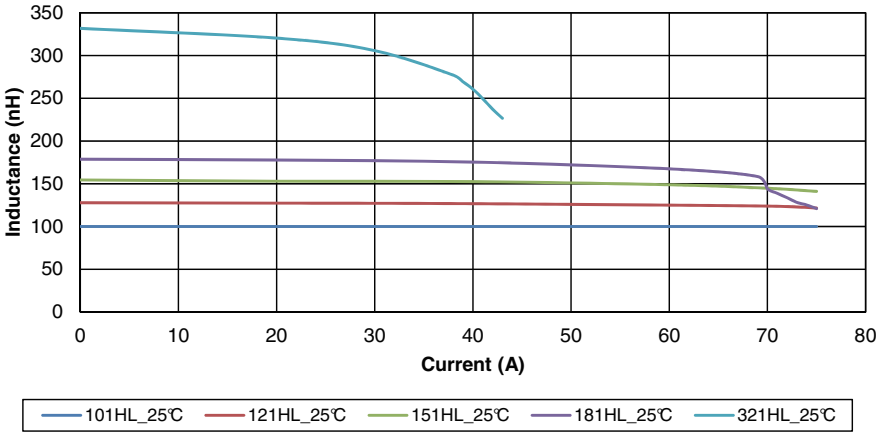
Weight: 3.13grms

Tape &Reel : ..... 300/ Reel

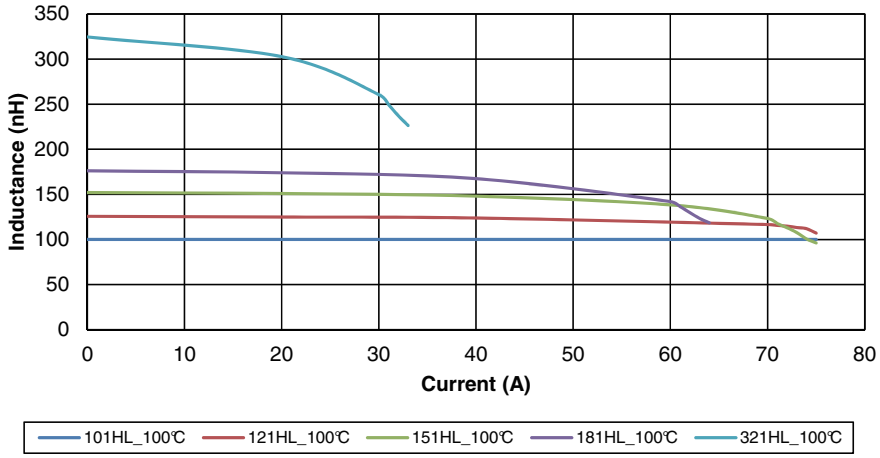
Dimensions: mm

Unless otherwise specified ,
all tolerances are ± 0.25

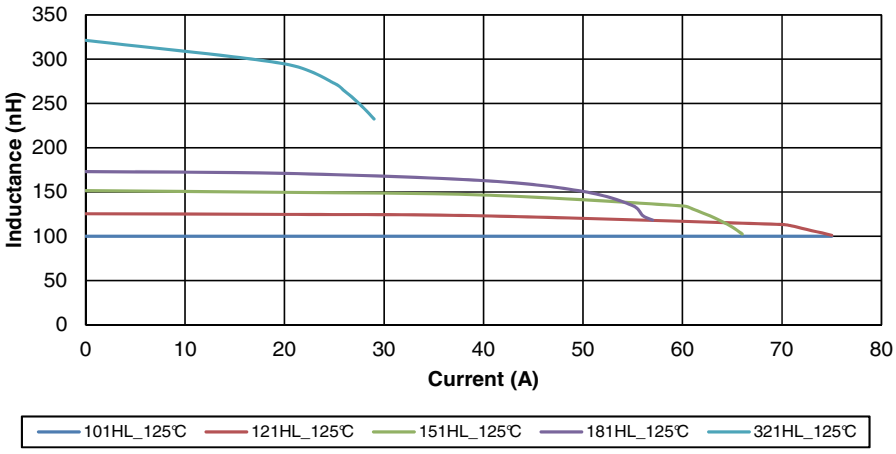
PA4499.XXXHL, Lvsl, 25°C

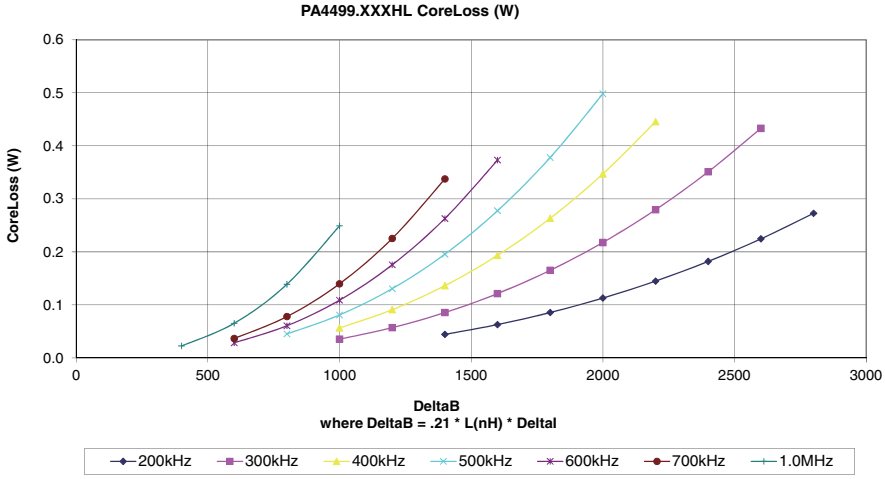


PA4499.XXXHL, Lvsl, 100°C

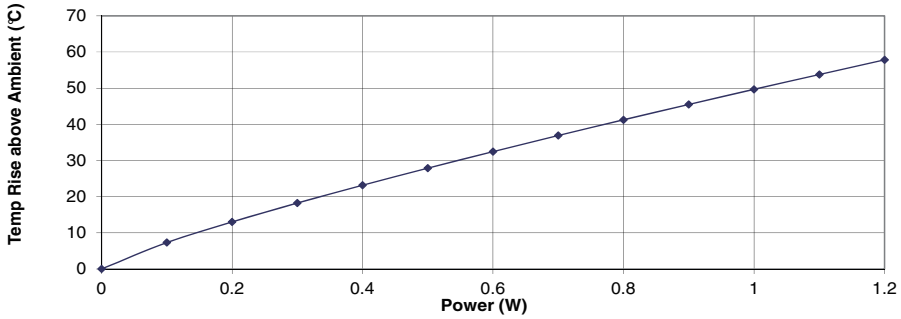


PA4499.XXXHL, Lvsl, 125°C





PA4499.XXXHL Temp Rise vs Power Dissipation



Total Power Dissipation (W) = CopperLoss + CoreLoss
CopperLoss = Irms^2 * Rdc(mOhms) / 1000
CoreLoss = (from table)

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