SMT Power Inductors

Power Beads - PA3779.XXXHL Series

- ***Current Rating:*** *Over 86 Apk*
- ***Inductance Range:*** *180nH to 350nH*
- ***Height:*** *8.0 mm Max*
- ***Footprint:*** *11.4mm x 7.0mm Max*
- *Halogen Free*

Electrical Specifications @ 25°C — Operating Temperature - 40°C to +130°C [7]

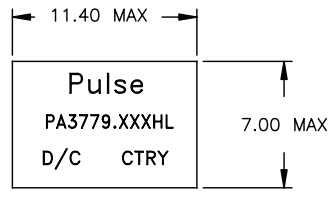
Part Number	Inductance[1] @ 0ADC (nH +/- 15%)	Inductance[2] @Irated (nH TYP)	Irated[3] (ADC)	DCR[4] (mΩ nominal)	Saturation Current[5] (A TYP)		Heating Current[6] (A TYP)
					25°C	100°C	
PA3779.141HL	140	140	56	0.29 +/- 5%	86	72	56
PA3779.181HL	180	180	56		65	54	
PA3779.241HL	240	223	37		46	37	
PA3779.351HL	350	312	25		29	25	

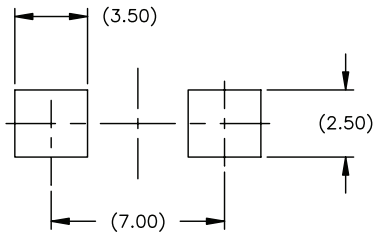
NOTES:

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 and 125°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. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PA3779.141HL becomes PA3779.141HLT).
   Pulse complies to industry standard tape and reel specification EIA481. The tape and reel for this product has a width (W=24mm), pitch (Po=12.0mm) and depth (Ko=8.7mm).
9. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

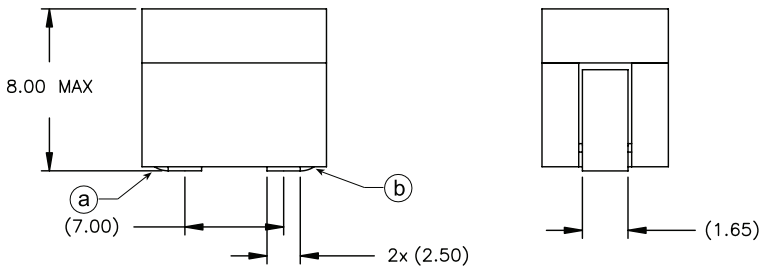
Mechanical

PA3779.XXXHL



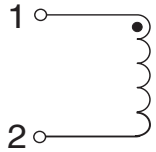


SUGGESTED LAND PATTERN



FINAL OUTLINE

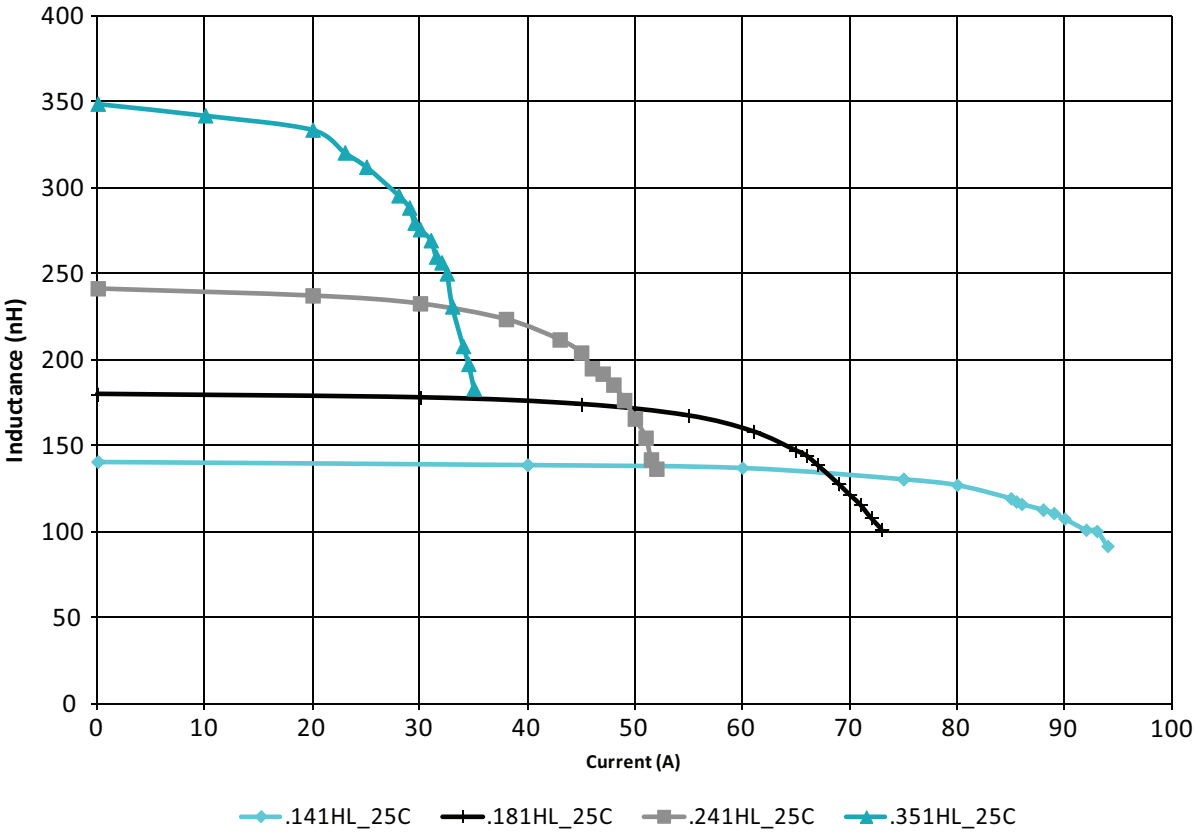
Schematics



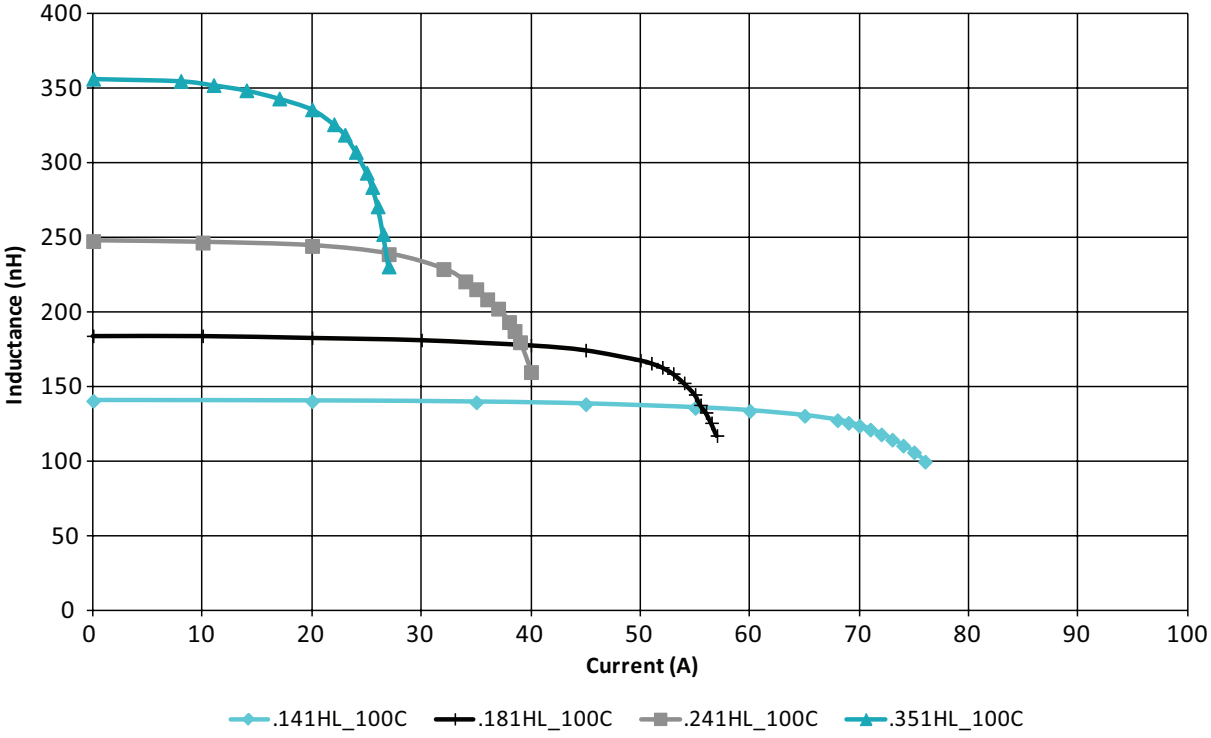
Weight ..... 2.51 grams
Tape & Reel 500/reel

Dimensions: mm
Unless otherwise specified,
all tolerances are ± 0,25

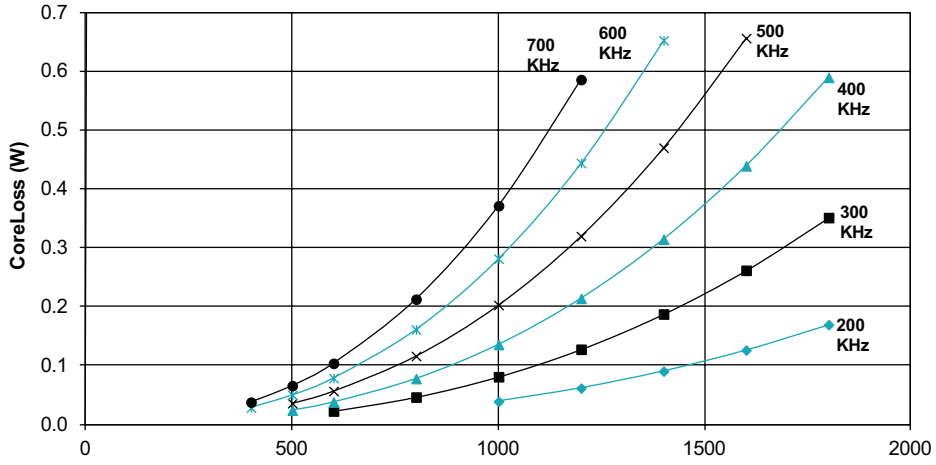
PA3779.XXXHL, LvsI, 25C



PA3779.XXXHL, LvsI, 100C



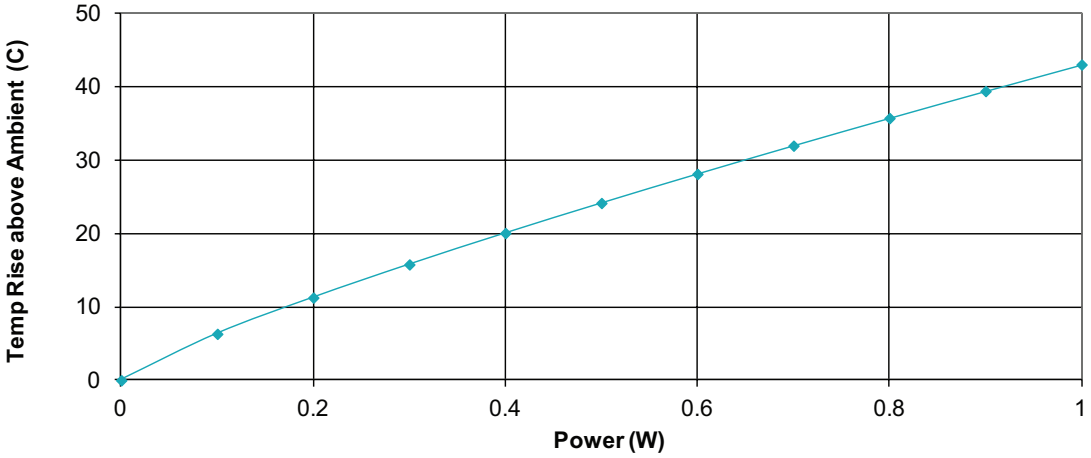
PA3779.XXXHL CoreLoss (W)



$$\Delta B$$

$$\text{where } \Delta B = 0.35 * L(nH) * \Delta I$$

PA3779.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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