







SMT POWER INDUCTORS

Shielded Shaped Core - PA1513 Series



-  **VR10 Type Applications:** Higher DCR version of PA0513
-  **Current Rating:** Over 70Apk
-  **Inductance Range:** 210nH to 440nH
-  **Footprint:** 13.5 x 13.0mm Max
-  **Height:** 8.0mm Max
-  **Frequency Range:** up to 1MHz

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

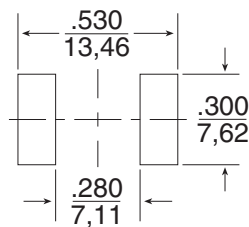
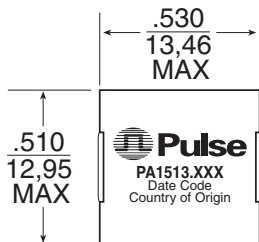
Part Number	Inductance @ I _{rated} (nH ± 20%)	I _{rated} ⁴ (A _{DC})	DCR ^{1,2} (mΩ)		Inductance ³ @ 0A _{DC} (nH ± 8%)	Saturation Current ⁵ (A _{DC})		Heating ⁶ Current (A)
			NOMINAL	MAX		25°C	100°C	
PA1513.211	210	45	0.60	0.65	210	71	64	45
PA1513.261	260	45	0.60	0.65	260	60	55	45
PA1513.321	285	41	0.60	0.65	320	45	41	45
PA1513.441	363	30	0.60	0.65	440	32	30	45

NOTES:

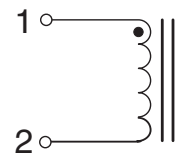
- The nominal DCR has a tolerance of ±8%. This tolerance is guaranteed by design, but is not a manufacturing production test. The nominal DCR is measured from point (a) to point (b), as shown below on the mechanical drawing.
- The maximum DCR is the limit used for manufacturing production test.
- The nominal inductance has a tolerance of ±8%. This tolerance is guaranteed by design, but is not a manufacturing production test. For manufacturing production test, a tolerance of ±20% is used.
- The rated current as listed is either the saturation current or the heating current depending on which value is lower.
- The saturation current is the current which causes the inductance to drop by 20% at the stated ambient temperatures (25°C and 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.
- The heating current is the DC current which causes the part temperature to increase by approximately 40°C. This current is determined by soldering the component on a typical application PCB, and then applying the current to the device for 30 minutes with 60 LFM of forced air cooling.
- In high volt*time applications, additional heating in the component can occur due to core losses in the inductor which may necessitate 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.
- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number, (i.e. PA1513.211T).

Mechanical

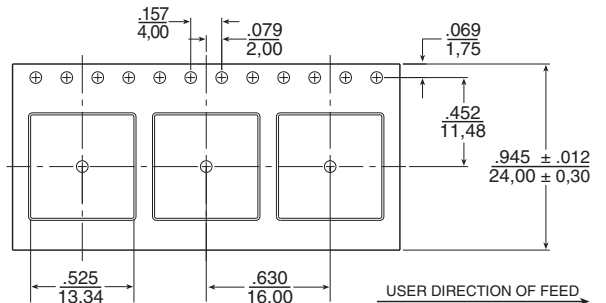
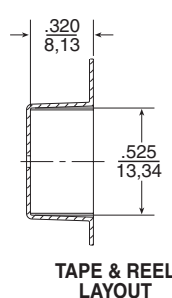
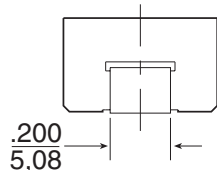
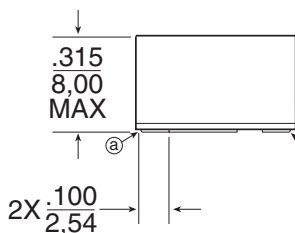
Schematic



Weight 5.7 grams
 Tape & Reel400/reel
 Dimensions: $\frac{\text{Inches}}{\text{mm}}$
 Unless otherwise specified,
 all tolerances are $\pm \frac{.010}{0,25}$



SUGGESTED PAD LAYOUT



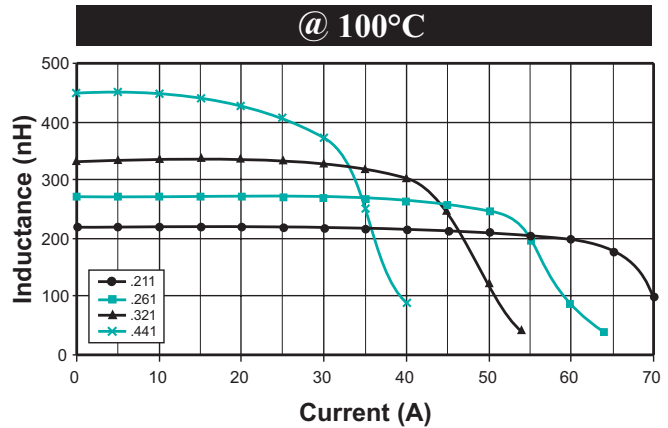
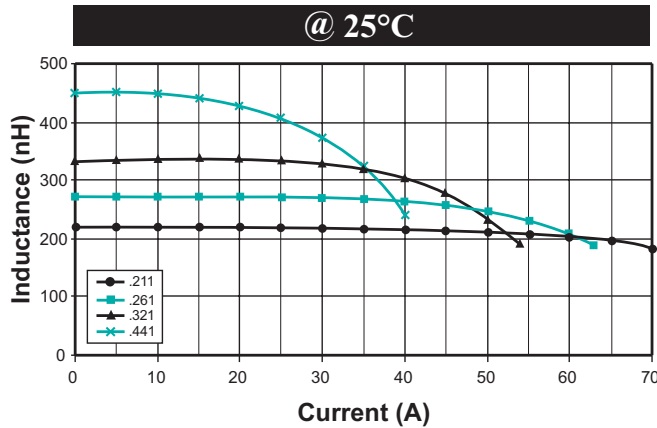
USER DIRECTION OF FEED →

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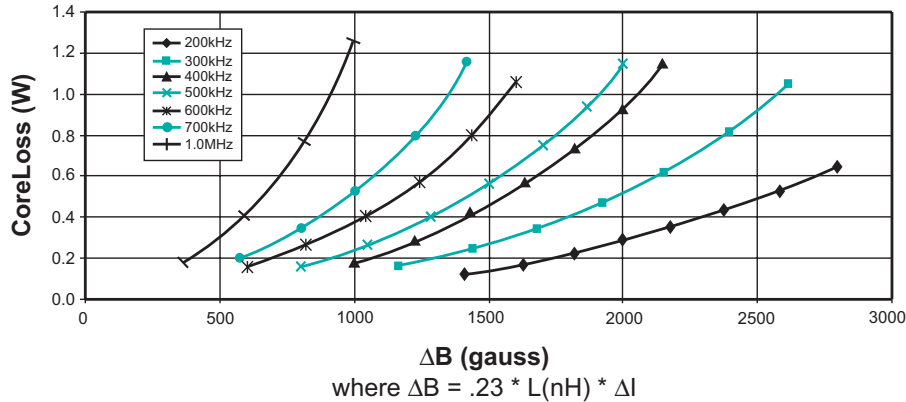
Shielded Shaped Core - PA1513 Series



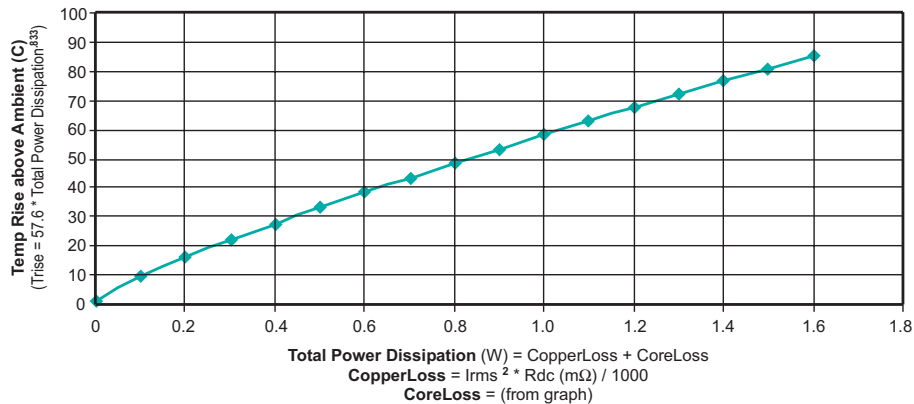
Typical Inductance vs Current



CoreLoss vs Flux Density



Temp Rise vs Power Dissipation



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