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Pulse Electronics Corporation
PA1512.101NLT

For any questions, you can email us directly:
sales@integrated-circuit.com

SMT POWER INDUCTORS
Power Beads - PA1512 Series

- High frequency VRM10.0 applications
- **Current Rating:** Over 50Apk
- **Inductance Range:** 72nH to 150nH
- **Footprint:** 7.0 x 7.0mm Max
- **Height:** 4.96mm Max
- **Frequency Range:** up to 2MHz

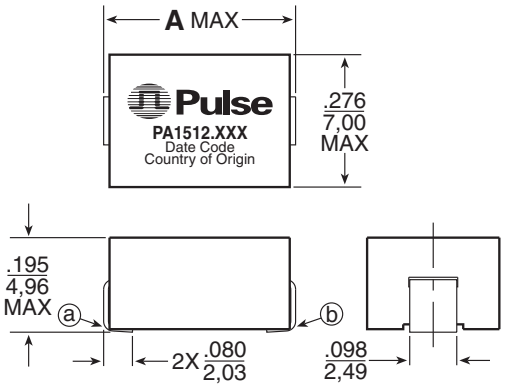
Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C

Part Number	Inductance @Irated (nH ±20%)	Irated [4] (ADC)	DCR [1,2] (mΩ ±6%)	Inductance [3] @0ADC (nH ±20%)	Saturation Current [5] (ADC)		Heating [6] Current (A)
					25°C	100°C	
PA1512 SERIES - 7.0MM X 7.0MM X 5.0MM							
PA1512.700T	72	31	0.27	72	50+	50+	31
PA1512.101T	102	31	0.27	105	48	42	31
PA1512.151T	134	28	0.27	150	32	28	31

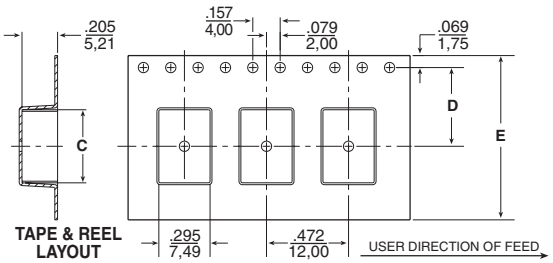
NOTES:

1. The nominal DCR has a tolerance of ±6%. This tolerance is guaranteed by design, but is not a manufacturing production test. The nominal DCR is measured from point ⓐ to point ⓑ, as shown below on the mechanical drawing.
2. For manufacturing production test, a maximum DCR value of 0.5mΩ is used.
3. The inductance has a tolerance of ±9%. This tolerance is guaranteed by design, but is not a manufacturing production test. For manufacturing production test, a tolerance of ±20% is used.
4. The rated current as listed is either the saturation current or the heating current depending on which value is lower.
5. 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.
6. 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 without any forced air cooling.
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. Pulse complies with industry standard tape and reel specification EIA481.

Mechanical



SUGGESTED PAD LAYOUT

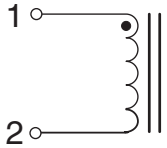


Dim.	inches/mm
A	.276/7,00
B	.091/2,30
C	.300/7,62
D	.295/7,49
E	.630*/16,00**

*±.012 inches

**±0,30 mm

Schematic



Weight 0.94 grams
Tape & Reel 1000/reel

Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

SMT POWER INDUCTORS
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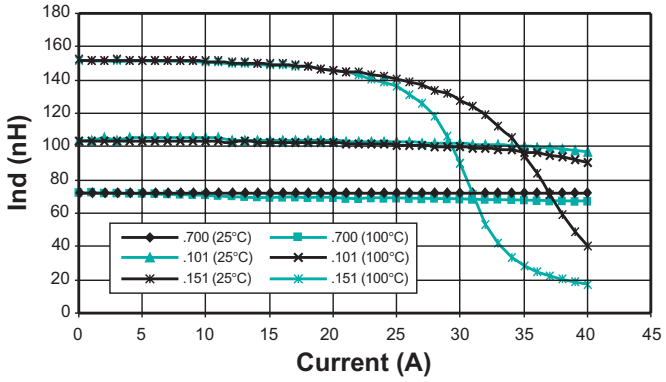
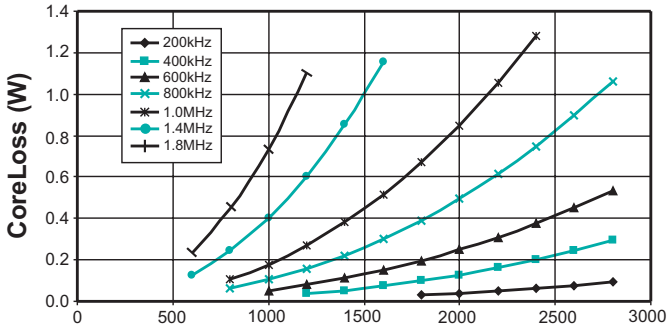
Pulse® A TECHNITROL COMPANY

Inductance vs Current



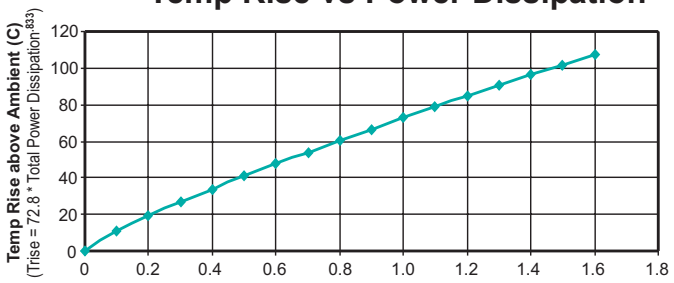
CoreLoss vs Flux Density



ΔB (gauss)

where ΔB = .86 * L(nH) * ΔI

Temp Rise vs Power Dissipation



Total Power Dissipation (W) = CopperLoss + CoreLoss
CopperLoss = Irms ² * Rdc (mΩ) / 1000
CoreLoss = (from graph)

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