# **SMT** Power Inductors

Power Beads - PA3136.XXXHL Series





- 💶 Current Rating: Over 90Apk
- Inductance Range: 110nH to 235nH
- **Height:** 4.0mm Max
- 💶 Footprint: 13.8mm x 8.0mm Max
- 💶 Halogen Free

Mechanicals

Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C <sup>®</sup>							
Part Number	<b>Inductance</b> <sup>1</sup> @ <b>OAdc</b> (nH ±15%)	Inductance @ Irated (nH TYP)	Irated <sup>2</sup> (ADC)	<b>DCR</b> <sup>3</sup> (mΩ nominal)	Saturation Current <sup>4</sup> (A TYP)		Heating Current <sup>5</sup>
					25 °C	100 °C	(A TYP)
PA3136.101HL	110	88	49		60	49	50
PA3136.121HL	120	96	46		53	46	
PA3136.141HL	140	112	38	0.23 +/- 10%	45	38	
PA3136.161HL	160	128	34		40	34	
PA3136.181HL	180	144	29		34	29	
PA3136.211HL	210	168	25		30	25	
PA3136.241HL	235	188	22.5		26	22.5	

#### Notes:

1. Inductance measured at 100kHz, 100mArms.

- 2. The rated current as listed is either the saturation current or the heating current depending on which value is lower.
- 3. The nominal DCR is measured from point (a) to point (b), as shown below on the mechanical drawing.
- 4. The saturation current is the typical 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.

- 6. 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.
- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PA3I36.12IHL becomes PA3I36.12IHLT).
  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=3.80mm).
- The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

### **Schematics**



## **SMT** Power Inductors Power Beads - PA3136.XXXHL Series















PA3136.XXXHL Temp Rise vs Power Dissipation



CoreLoss = (from table)

#### For More Information **Pulse Worldwide Pulse Europe** Headquarters Einsteinstrasse 1 Two Pearl Buck Court D-71083 Herrenberg

Germany

Fax: 49 7032 7806 135

Bristol, PA 19007 U.S.A.

Tel: 215 781 6400 Fax: 215 781 6403

B402, Shenzhen Academy of Aerospace Technology Bldg. 10th Kejinan Road High-Tech Zone Nanshan District Shenzen, PR China 518057 Tel: 49 7032 78060 Tel: 86 755 33966678

**Pulse North China** Room 2704/2705 Super Ocean Finance Ctr. 2067 Yan An Road West Shanghai 200336 China Tel: 86 21 62787060 Fax: 86 2162786973

**Pulse South Asia** 135 Joo Seng Road #03-02 PM Industrial Bldg. Singapore 368363

Tel: 65 6287 8998 Fax: 65 6287 8998 **Pulse North Asia** 

3F, No. 198 Zhongyuan Road Zhongli City Taoyuan County 320 Taiwan R. O. C. Tel: 886 3 4356768 Fax: 886 3 4356823 (Pulse) Fax: 886 3 4356820 (FRE)

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright, 2011. Pulse Electronics, Inc. All rights reserved.

2

Fax: 86 755 33966700

**Pulse China Headquarters** 

P703.A (9/11)