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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# DATA SHEET

**P9/5**

**P cores and accessories**

Supersedes data of September 2004

2008 Sep 01



**FERROXCUBE**  
A YAGEO COMPANY

**CORE SETS**

**Effective core parameters**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	1.24	mm <sup>-1</sup>
$V_e$	effective volume	126	mm <sup>3</sup>
$l_e$	effective length	12.5	mm
$A_e$	effective area	10.1	mm <sup>2</sup>
$A_{min}$	minimum area	7.9	mm <sup>2</sup>
m	mass of set	≈ 0.8	g

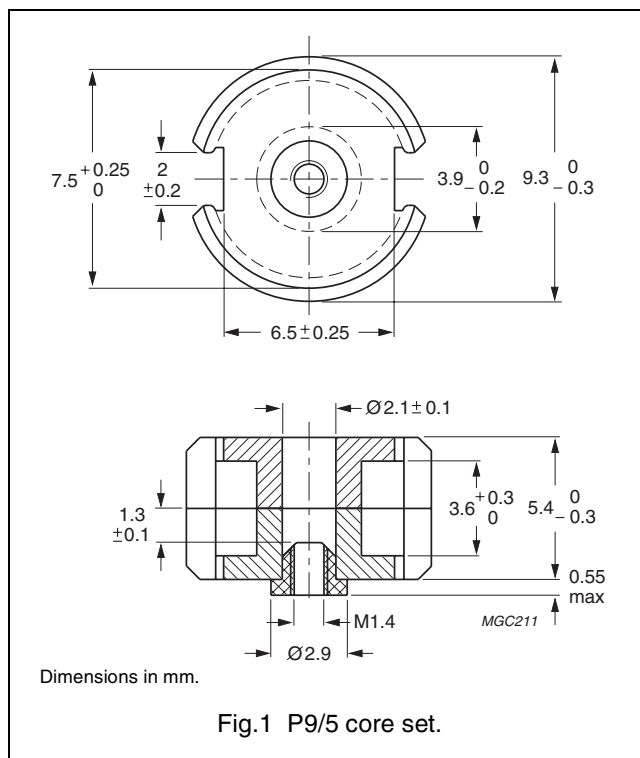


Fig.1 P9/5 core set.

**Core sets for filter applications**

Clamping force for  $A_L$  measurements, 25 ± 5 N.

GRADE	$A_L$ (nH)	$\mu_e$	TOTAL AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER (WITH NUT)	TYPE NUMBER (WITHOUT NUT)
3D3 <sup>sup</sup>	40 ± 3%	≈ 39	≈ 410	P9/5-3D3-E40/N	P9/5-3D3-E40
	63 ± 3%	≈ 62	≈ 230	P9/5-3D3-A63/N	P9/5-3D3-A63
	630 ± 25%	≈ 620	≈ 0	–	P9/5-3D3
3H3 <sup>sup</sup>	40 ± 3%	≈ 39	≈ 430	P9/5-3H3-E40/N	P9/5-3H3-E40
	63 ± 3%	≈ 62	≈ 250	P9/5-3H3-A63/N	P9/5-3H3-A63
	1100 ± 25%	≈ 1080	≈ 0	–	P9/5-3H3

**Core sets for general purpose transformers and power applications**

Clamping force for  $A_L$  measurements, 10 ± 5 N.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3C81	1350 ± 25%	≈ 1200	≈ 0	P9/5-3C81
3C91 <sup>des</sup>	1350 ± 25%	≈ 1200	≈ 0	P9/5-3C91
3F3	1100 ± 25%	≈ 1080	≈ 0	P9/5-3F3

**Core sets of high permeability grades**Clamping force for  $A_L$  measurements,  $25 \pm 5$  N.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3E27	2300 $\pm 25\%$	$\approx 2020$	$\approx 0$	P9/5-3E27

**Properties of core sets under power conditions**

GRADE	B (mT) at	CORE LOSS (W) at			
	H = 250 A/m; f = 25 kHz; T = 100 °C	f = 25 kHz; $\hat{B} = 200$ mT; T = 100 °C	f = 100 kHz; $\hat{B} = 100$ mT; T = 100 °C	f = 100 kHz; $\hat{B} = 200$ mT; T = 100 °C	f = 400 kHz; $\hat{B} = 50$ mT; T = 100 °C
3C81	$\geq 320$	$\leq 0.035$	–	–	–
3C91	$\geq 315$	–	$\leq 0.008^{(1)}$	$\leq 0.06^{(1)}$	–
3F3	$\geq 315$	–	$\leq 0.015$	–	$\leq 0.03$

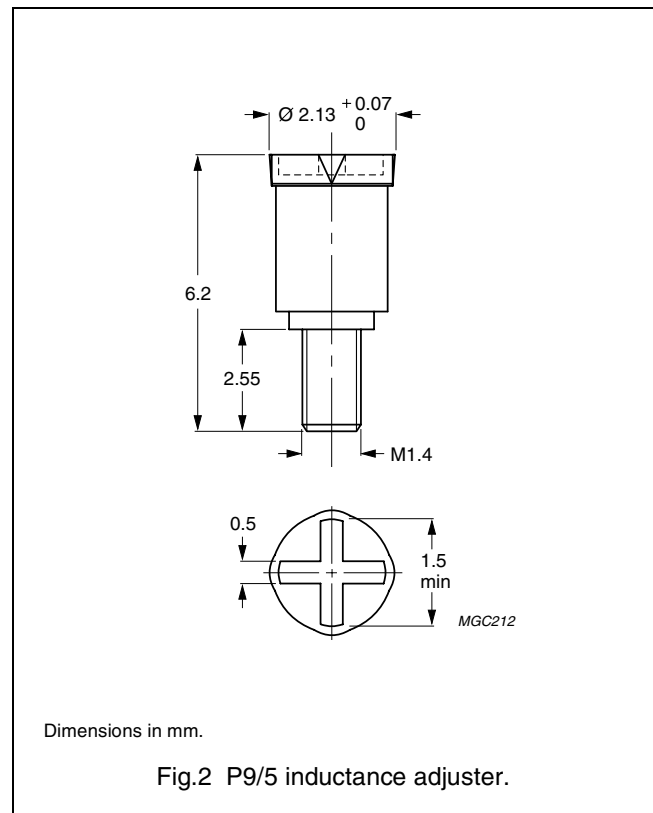
**Note**

1. Measured at 60 °C.

**INDUCTANCE ADJUSTERS**

**General data**

ITEM	SPECIFICATION
Material of head and thread	polypropylene (PP), glass fibre reinforced
Maximum operating temperature	125 °C



**Inductance adjuster selection chart <sup>sup</sup> (applies to all types)**

GRADE	A <sub>L</sub> (nH)	TYPES FOR LOW ADJUSTMENT	ΔL/L <sup>(1)</sup>	TYPES FOR MEDIUM ADJUSTMENT	ΔL/L <sup>(1)</sup>	TYPES FOR HIGH ADJUSTMENT	ΔL/L <sup>(1)</sup>
3D3	40	–	–	ADJ-P9/P11-YELLOW	11	–	–
	63	–	–	–	18	ADJ-P9/P11-BROWN	31

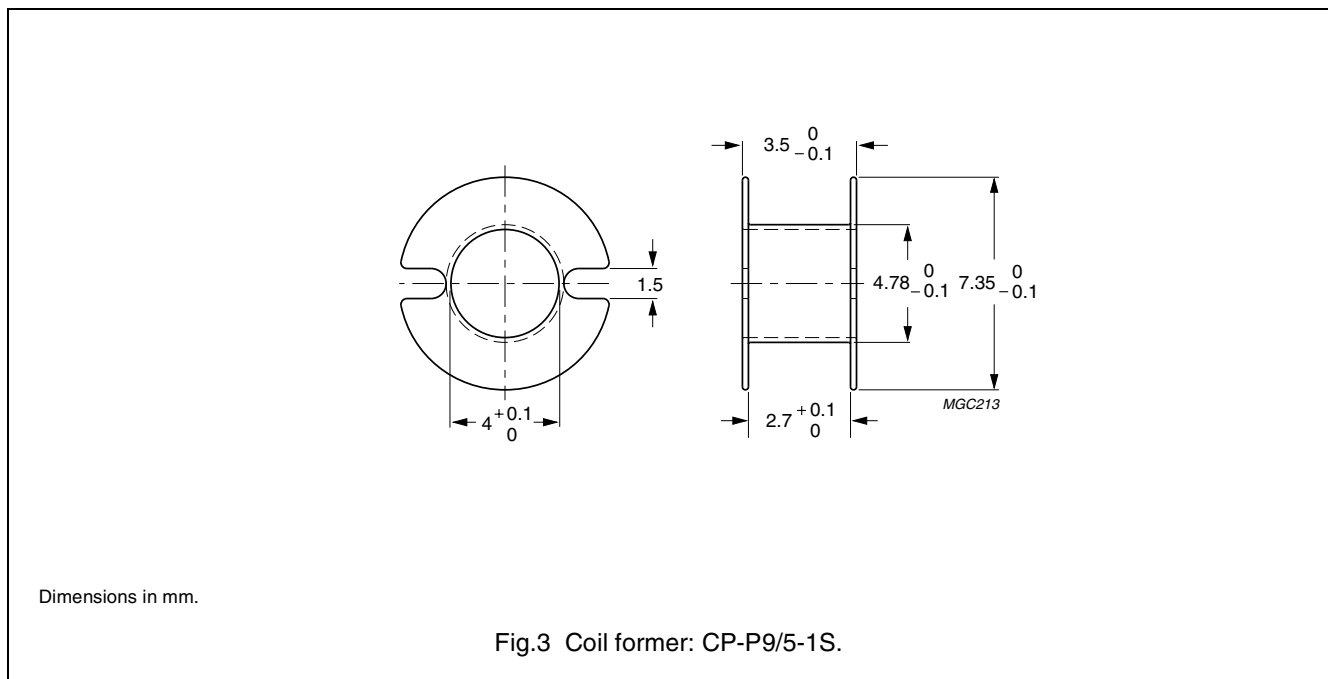
**Note**

1. Maximum adjustment range.

**COIL FORMERS**

**General data for coil former CP-P9/5-1S**

PARAMETER	SPECIFICATION
Coil former material	polybutyleneterephthalate (PBT), glass reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E45329 (R)
Maximum operating temperature	155 °C, "IEC 60085", class F



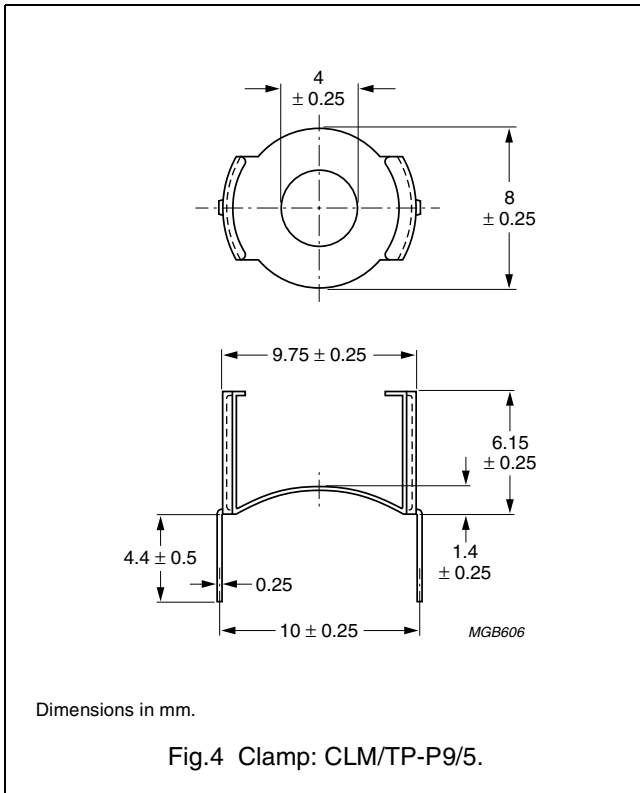
**Winding data and area product for coil former CP-P9/5-1S**

NUMBER OF SECTIONS	WINDING AREA (mm <sup>2</sup> )	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm <sup>4</sup> )	TYPE NUMBER
1	3.1	2.5	18.9	31.3	CP-P9/5-1S

**MOUNTING PARTS**

**General data**

ITEM	REMARKS	FIGURE	TYPE NUMBER
Clamp	spring steel, tin plated	4	CLM/TP-P9/5






**DATA SHEET STATUS DEFINITIONS**

DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS
Preliminary specification	Development	This data sheet contains preliminary data. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.
Product specification	Production	This data sheet contains final specifications. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.

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**PRODUCT STATUS DEFINITIONS**

STATUS	INDICATION	DEFINITION
<b>Prototype</b>		These are products that have been made as development samples for the purposes of technical evaluation only. The data for these types is provisional and is subject to change.
<b>Design-in</b>		These products are recommended for new designs.
<b>Preferred</b>		These products are recommended for use in current designs and are available via our sales channels.
<b>Support</b>		These products are <b>not</b> recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.