

# DATA SHEET

**P36/22**

**P cores and accessories**

Supersedes data of September 2004

2008 Sep 01

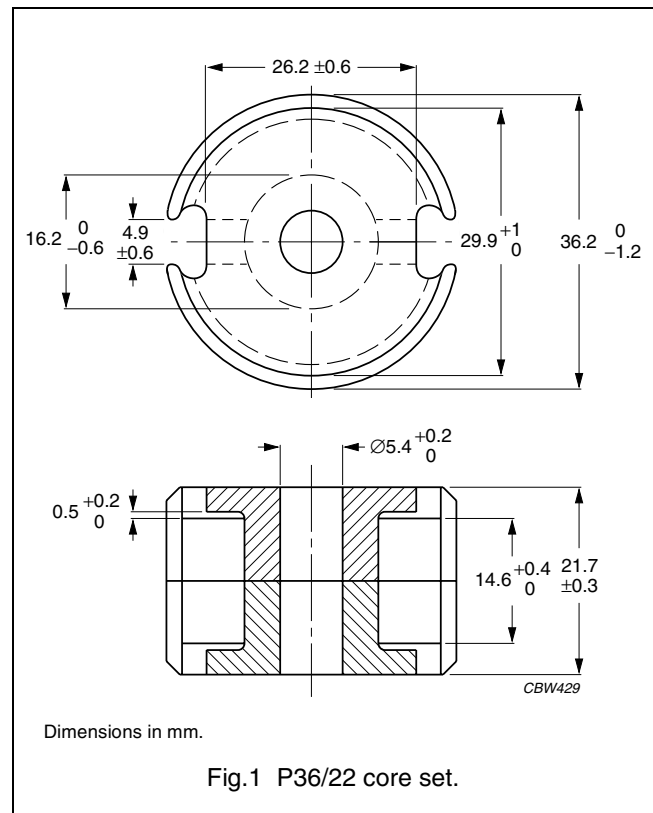


**FERROXCUBE**  
A YAGEO COMPANY

**CORE SETS**

**Effective core parameters**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.264	mm <sup>-1</sup>
$V_e$	effective volume	10700	mm <sup>3</sup>
$l_e$	effective length	53.2	mm
$A_e$	effective area	202	mm <sup>2</sup>
$A_{min}$	minimum area	172	mm <sup>2</sup>
m	mass of set	≈ 54	g



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

Clamping force for  $A_L$  measurements, 350 ± 50 N.

GRADE	$A_L$ (nH)	$\mu_e$	TOTAL AIR GAP ( $\mu$ m)	TYPE NUMBER
3C81	315 ± 3%	≈ 66	≈ 970	P36/22-3C81-E315
	400 ± 3%	≈ 84	≈ 730	P36/22-3C81-E400
	630 ± 3%	≈ 132	≈ 430	P36/22-3C81-A630
	1000 ± 3%	≈ 210	≈ 250	P36/22-3C81-A1000
	1600 ± 5%	≈ 335	≈ 150	P36/22-3C81-A1600
	10800 ± 25%	≈ 2260	≈ 0	P36/22-3C81
3C91 <small>des</small>	10800 ± 25%	≈ 2260	≈ 0	P36/22-3C91
3F3	250 ± 3%	≈ 52	≈ 1340	P36/22-3F3-E250
	315 ± 3%	≈ 66	≈ 970	P36/22-3F3-E315
	400 ± 3%	≈ 84	≈ 730	P36/22-3F3-E400
	630 ± 3%	≈ 132	≈ 430	P36/22-3F3-A630
	1000 ± 3%	≈ 210	≈ 250	P36/22-3F3-A1000
	1600 ± 5%	≈ 335	≈ 150	P36/22-3F3-A1600
	7350 ± 25%	≈ 1540	≈ 0	P36/22-3F3

**Core sets of high permeability grades**Clamping force for  $A_L$  measurements,  $350 \pm 50$  N.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3E27	$17500 \pm 25\%$	$\approx 3670$	$\approx 0$	P36/22-3E27

**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	$\geq 320$	$\leq 2.5$	–	–	–
3C91	$\geq 315$	–	$\leq 0.6^{(1)}$	$\leq 4.5^{(1)}$	–
3F3	$\geq 315$	–	$\leq 1.2$	–	$\leq 2.0$

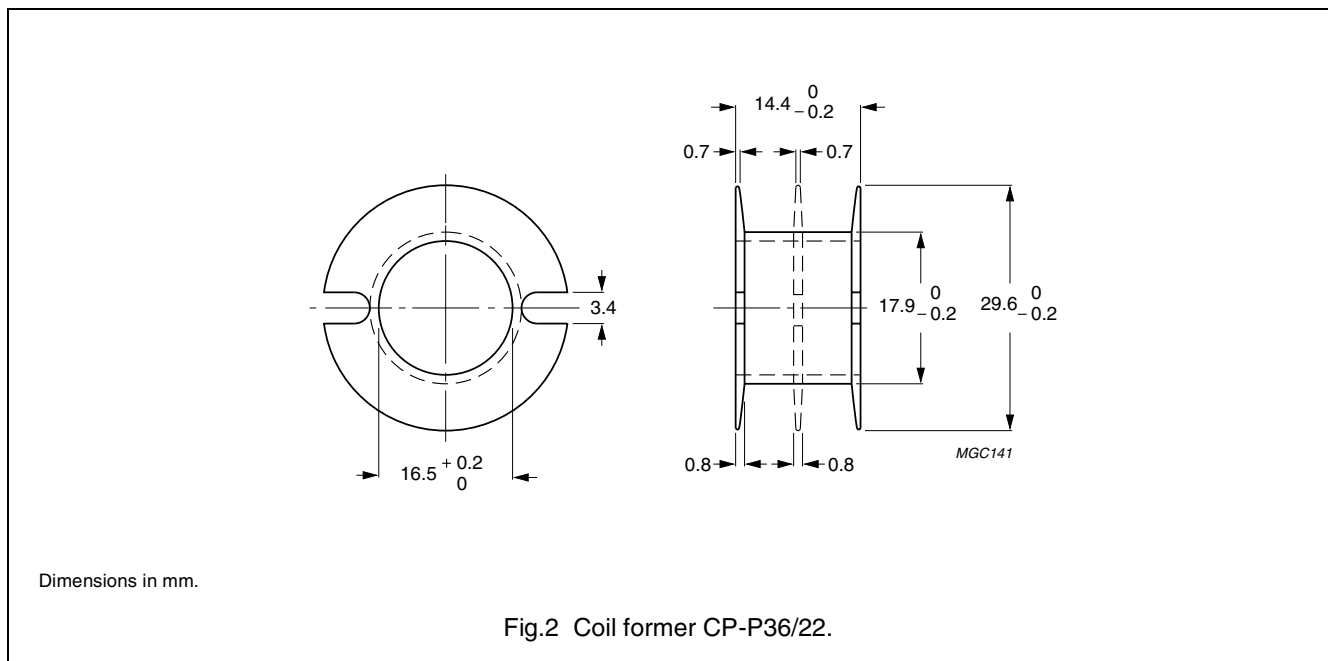
**Note**

1. Measured at 60 °C.

**COIL FORMERS**

**General data for coil former CP-P36/22**

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



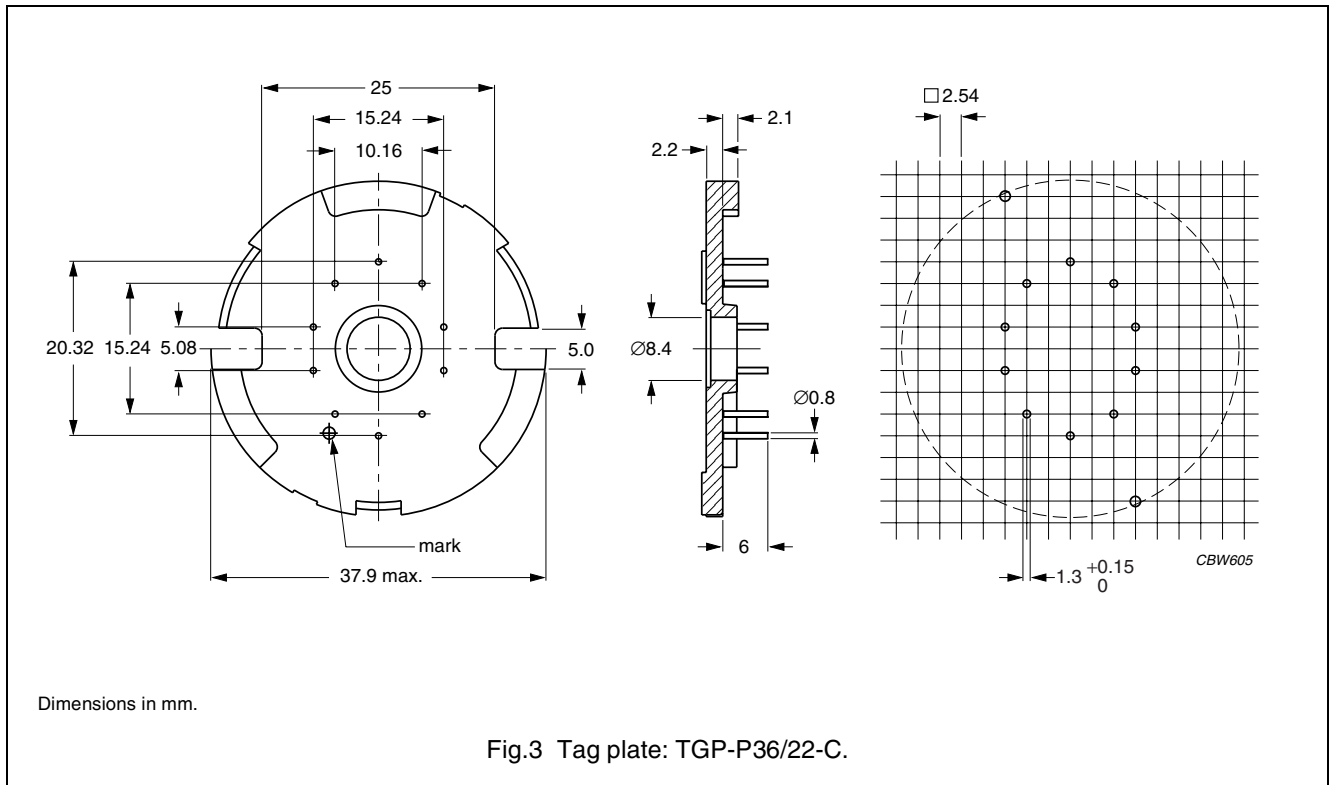
**Winding data and area product for coil former CP-P36/22**

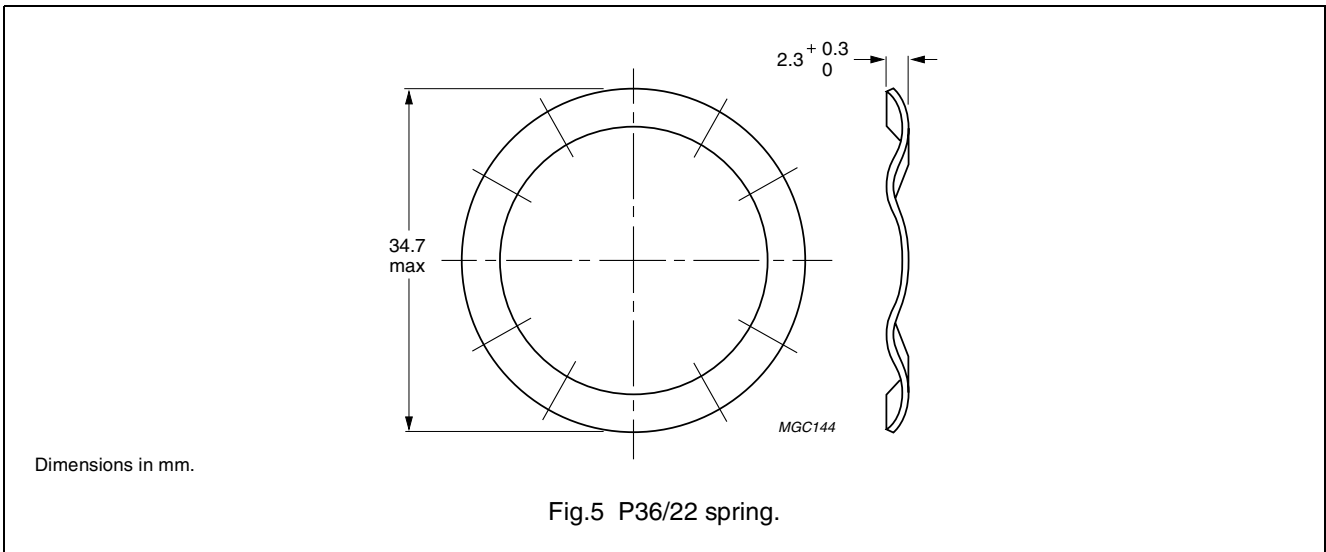
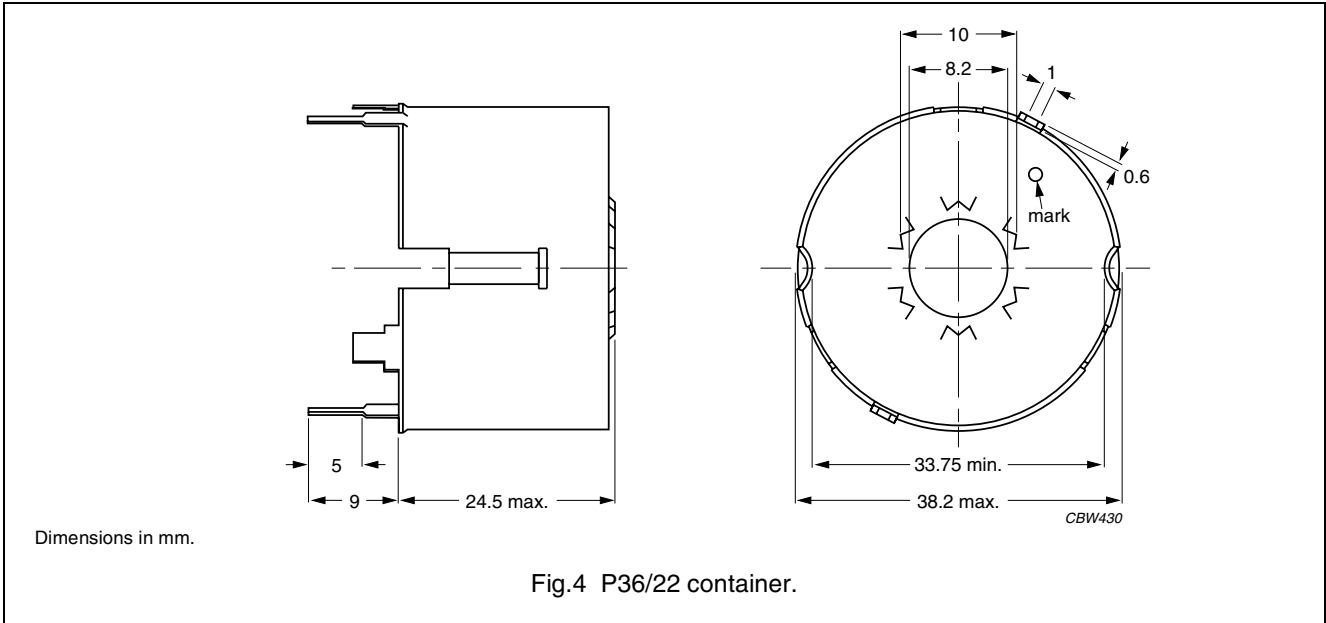
NUMBER OF SECTIONS	WINDING AREA (mm <sup>2</sup> )	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm <sup>4</sup> )	TYPE NUMBER
1	72.4	12.5	74.3	14600	CP-P36/22-1S
2	2 x 33.9	2 x 5.8	74.3	2 x 6850	CP-P36/22-2S
3	3 x 21.0	3 x 3.6	74.3	3 x 4240	CP-P36/22-3S

**MOUNTING PARTS**

**General data and ordering information**

ITEM	REMARKS	FIGURE	TYPE NUMBER
Tag plate	material: phenolformaldehyde (PF), glass reinforced	3	TGP-P36/22-C
	flame retardant: in accordance with "UL 94V-0"; UL file number E41429		
	maximum operating temperature: 180 °C, "IEC 60085", class H		
	pins: copper-tin alloy (CuSn), tin (Sn) plated		
	resistance to soldering heat in accordance with "IEC 60068-2-20", Part 2, Test Tb, method 1B: 350 °C, 3.5 s		
	solderability in accordance with "IEC 60068-2-20", Part 2, Test Ta, method 1: 235 °C, 2 s		
Container	copper-zinc alloy (CuZn), tin (Sn) plated	4	CON-P36/22
	earth pins: presoldered		
Spring	CrNi-steel	5	SPR-P36/22
	spring force: ≈350 N when mounted		








**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.

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