DATA SHEET

P42/29
P cores and accessories

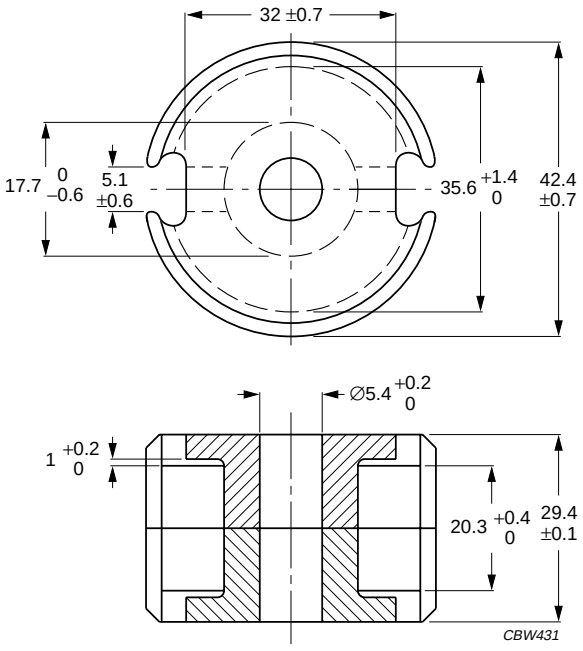
Supersedes data of February 2002 2004 Sep 01

FERROXCUBE
A YAGEO COMPANY

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
Σ(l/A)	core factor (C1)	0.259	mm^{-1}
V_e	effective volume	18200	mm^3
l_e	effective length	68.6	mm
A_e	effective area	265	mm^2
A_{min}	minimum area	214	mm^2
m	mass of set	≈104	g



Dimensions in mm.

Fig.1 P42/29 core set.

Core sets for general purpose transformers and power applications

Clamping force for A_L measurements, 550 ±100 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C81	315 ±3%	≈ 65	≈ 1320	P42/29-3C81-E315
	400 ±3%	≈ 82	≈ 990	P42/29-3C81-E400
	630 ±3%	≈ 130	≈ 580	P42/29-3C81-A630
	1000 ±3%	≈ 206	≈ 340	P42/29-3C81-A1000
	1600 ±5%	≈ 330	≈ 190	P42/29-3C81-A1600
	11500 ±25%	≈ 2370	≈ 0	P42/29-3C81
3C91 des	11500 ±25%	≈ 2370	≈ 0	P42/29-3C91
3F3	315 ±3%	≈ 65	≈ 1320	P42/29-3F3-E315
	400 ±3%	≈ 82	≈ 990	P42/29-3F3-E400
	630 ±3%	≈ 130	≈ 580	P42/29-3F3-A630
	1000 ±3%	≈ 206	≈ 340	P42/29-3F3-A1000
	1600 ±5%	≈ 330	≈ 190	P42/29-3F3-A1600
	7700 ±25%	≈ 1590	≈ 0	P42/29-3F3

Core sets of high permeability grades

Clamping force for A_L measurements, 550 ± 100 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3E27	19000 ±25%	≈ 3910	≈ 0	P42/29-3E27

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	≥320	≤ 4.2	–	–	–
3C91	≥315	–	≤ 0.9(1)	≤ 7.0(1)	–
3F3	≥315	–	≤ 2.0	–	≤ 3.5

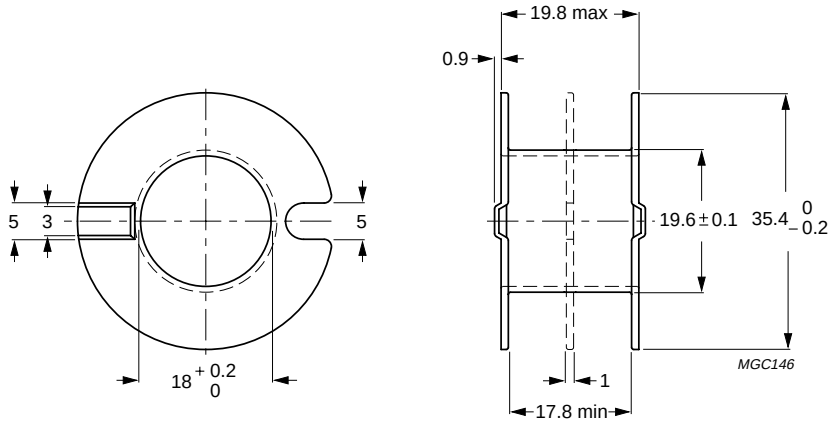
Note

1. Measured at 60 °C.

COIL FORMERS

General data CP-P42/29 coil former

PARAMETER	SPECIFICATION
Coil former material	polycarbonate (PC), glass reinforced, flame retardant in accordance with *"UL 94V-2"*; UL file number E41613(M)
Maximum operating temperature	115 °C



Dimensions in mm.

Fig.2 Coil former: CP-P42/29.

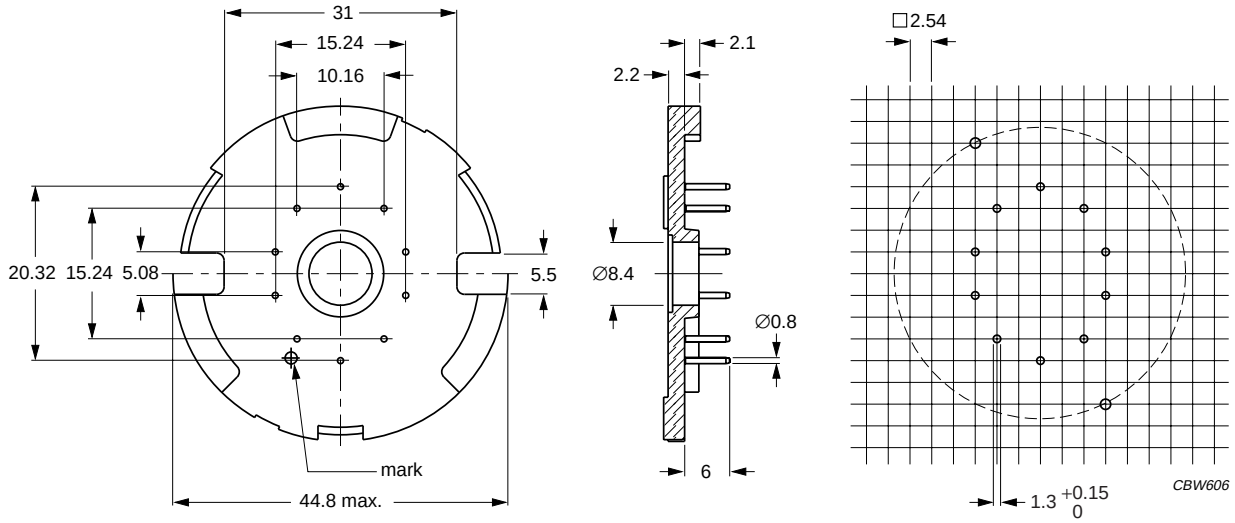
Winding data for CP-P42/29 coil former

NUMBER OF SECTIONS	WINDING AREA (mm^2)	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	140	17.8	86	CP-P42/29-1S
2	2×63	2×8	86	CP-P42/29-2S

MOUNTING PARTS

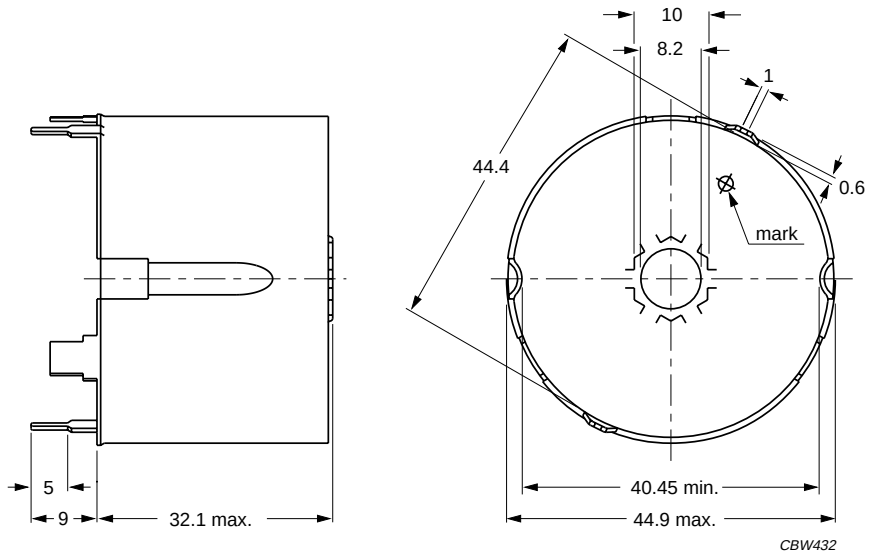
General data and ordering information

ITEM	REMARKS	FIGURE	TYPE NUMBER
Tag plate	material: phenolformaldehyde (PF), glass reinforced	3	TGP-P42/29-10P
	flame retardant: in accordance with *"UL 94V-0"*; UL file number E167521(M)		
	maximum operating temperature: 180 °C, *"IEC 60085"*, class H		
	pins: copper-tin alloy (CuSn), tin-lead alloy (SnPb) 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), SnPb-plated, transition to lead-free (Sn) ongoing	4	CON-P42/29
	earth pins: presoldered		
Spring	CrNi-steel	5	SPR-P42/29
	spring force: ≈350 N when mounted		
Nut	copper-zinc alloy, nickel-plated	6	NUT
Bush	copper-zinc alloy, nickel-plated	7	FIB



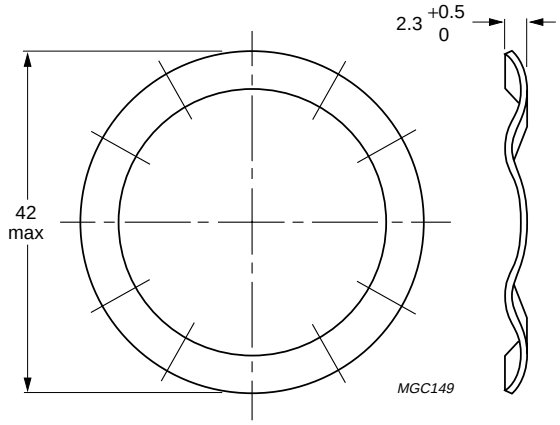
Dimensions in mm.

Fig.3 P42/29 tag plate.



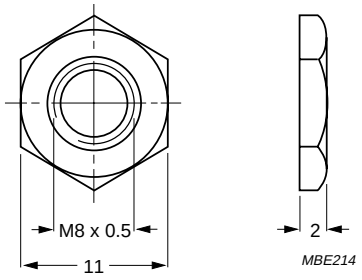
Dimensions in mm.

Fig.4 P42/29 container.



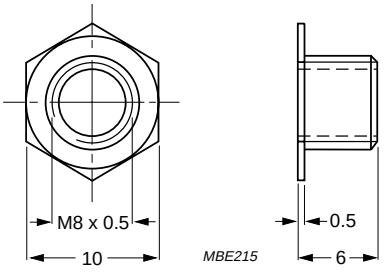
Dimensions in mm.

Fig.5 P42/29 spring.



Dimensions in mm.

Fig.6 Fixing nut: NUT.



Dimensions in mm.

Fig.7 Fixing bush: FIB.

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.
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PRODUCT STATUS DEFINITIONS

STATUS	INDICATION	DEFINITION
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Design-in	des	These products are recommended for new designs.
Preferred		These products are recommended for use in current designs and are available via our sales channels.
Support	sup	These products are **not** recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.