

DATA SHEET

P30/19

P cores and accessories

Supersedes data of September 2004

2008 Sep 01

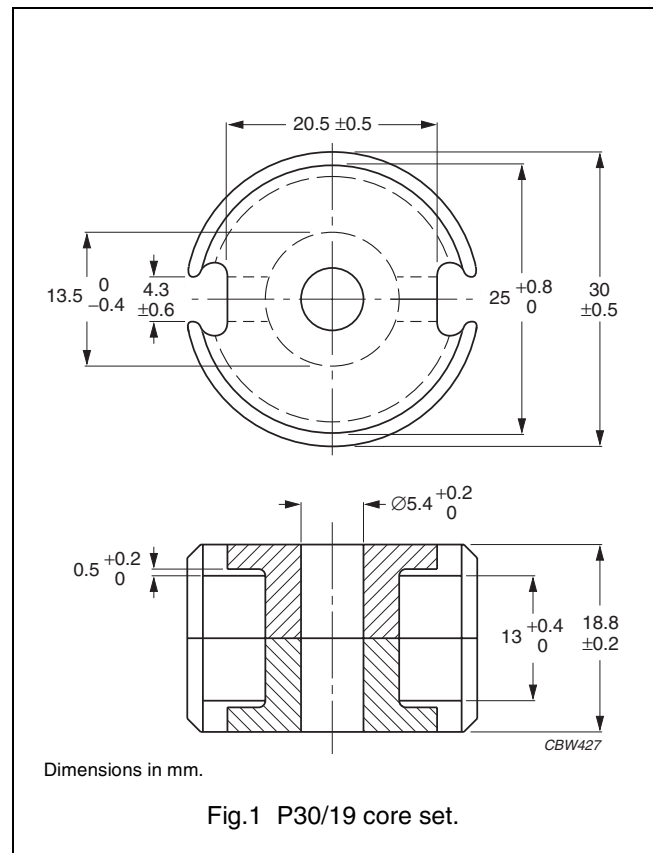


FERROXCUBE
A YAGEO COMPANY

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.330	mm ⁻¹
V_e	effective volume	6190	mm ³
l_e	effective length	45.2	mm
A_e	effective area	137	mm ²
A_{min}	minimum area	116	mm ²
m	mass of set	≈ 34	g



Core sets for general purpose transformers and power applications

Clamping force for A_L measurements, 250 ± 50 N.

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3C81	250 ± 3%	≈ 66	≈ 840	P30/19-3C81-E250
	315 ± 3%	≈ 83	≈ 640	P30/19-3C81-A315
	400 ± 3%	≈ 105	≈ 480	P30/19-3C81-A400
	630 ± 3%	≈ 165	≈ 290	P30/19-3C81-A630
	1000 ± 3%	≈ 263	≈ 170	P30/19-3C81-A1000
	8300 ± 25%	≈ 2180	≈ 0	P30/19-3C81
3C91 des	8300 ± 25%	≈ 2180	≈ 0	P30/19-3C91
3F3	250 ± 3%	≈ 66	≈ 840	P30/19-3F3-E250
	315 ± 3%	≈ 83	≈ 640	P30/19-3F3-A315
	400 ± 3%	≈ 105	≈ 480	P30/19-3F3-A400
	630 ± 3%	≈ 165	≈ 290	P30/19-3F3-A630
	1000 ± 3%	≈ 263	≈ 170	P30/19-3F3-A1000
	5750 ± 25%	≈ 1510	≈ 0	P30/19-3F3

Core sets of high permeability gradesClamping force for A_L measurements, 250 ± 50 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3E27	$15100 \pm 25\%$	≈ 3960	≈ 0	P30/19-3E27

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	≤ 1.43	–	–	–
3C91	≥ 315	–	$\leq 0.37^{(1)}$	$\leq 2.6^{(1)}$	–
3F3	≥ 315	–	≤ 0.7	–	≤ 1.2

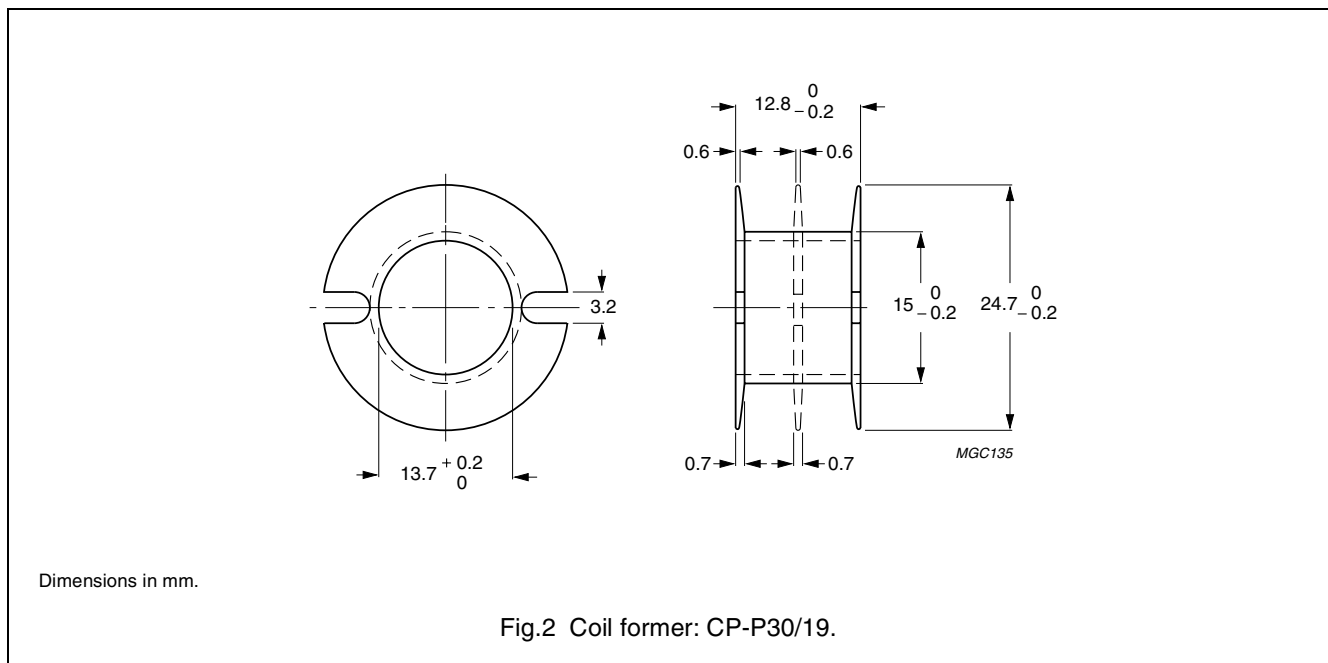
Note

1. Measured at 60 °C.

COIL FORMERS

General data CP-P30/19 coil former

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

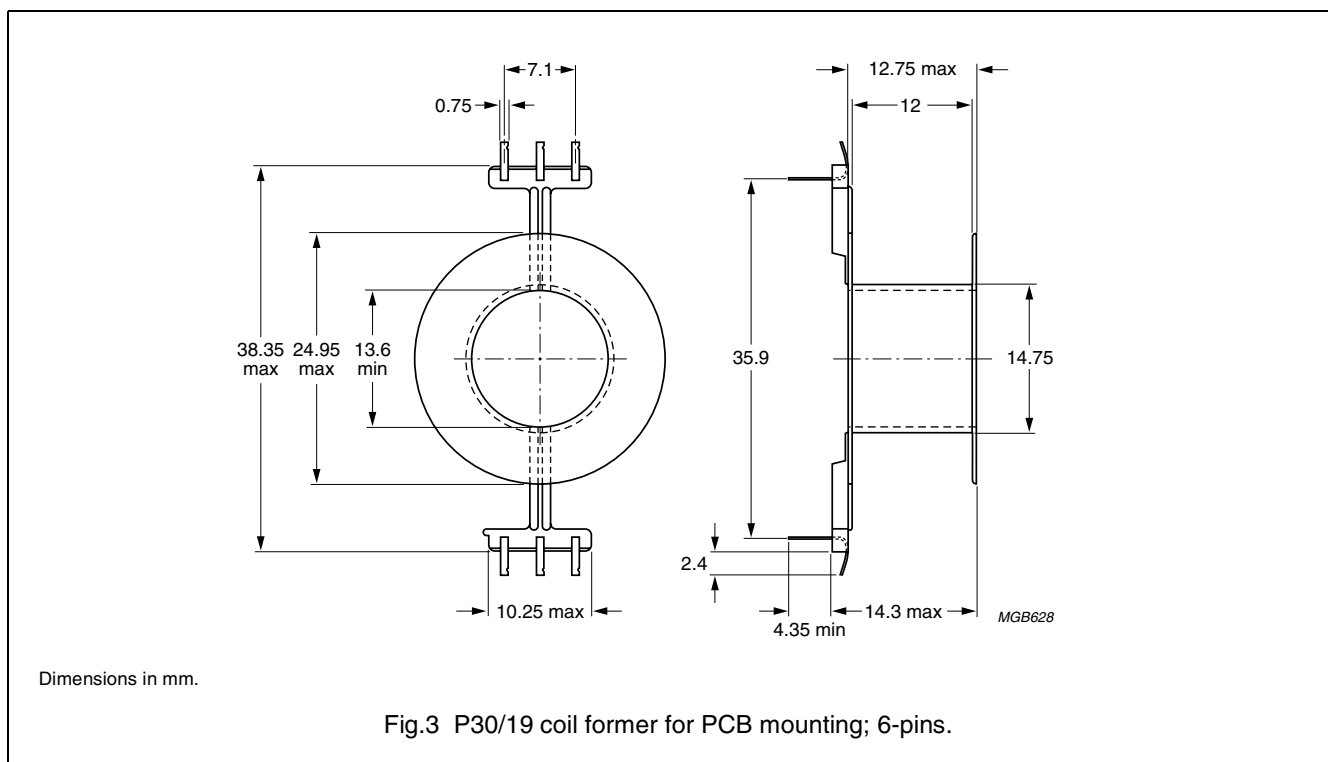


Winding data and area product for P30/19 coil former

NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	53.2	11.1	62	7290	CP-P30/19-1S
2	2 x 24.9	2 x 5.15	62	2 x 3410	CP-P30/19-2S
3	3 x 15.5	3 x 3.2	62	3 x 2120	CP-P30/19-3S

General data 6-pins P30/19 coil former for PCB mounting

PARAMETER	SPECIFICATION
Coil former material	polyamide (PA6.6), glass reinforced, flame retardant in accordance with "UL 94-HB"; UL file number E41938(M)
Maximum operating temperature	130 °C, "IEC 60085", class B
Pin material	copper-zinc alloy (CuZn), tin (Sn) plated
Resistance to soldering heat	"IEC 60068-2-20", Part 1, Test Tb, method 1B, 350 °C, 3.5 s. For connection of wire to pins: 430 °C, 2 seconds
Solderability	"IEC 60068-2-20", Part 2, Test Ta, method 1, 235 °C, 2 s



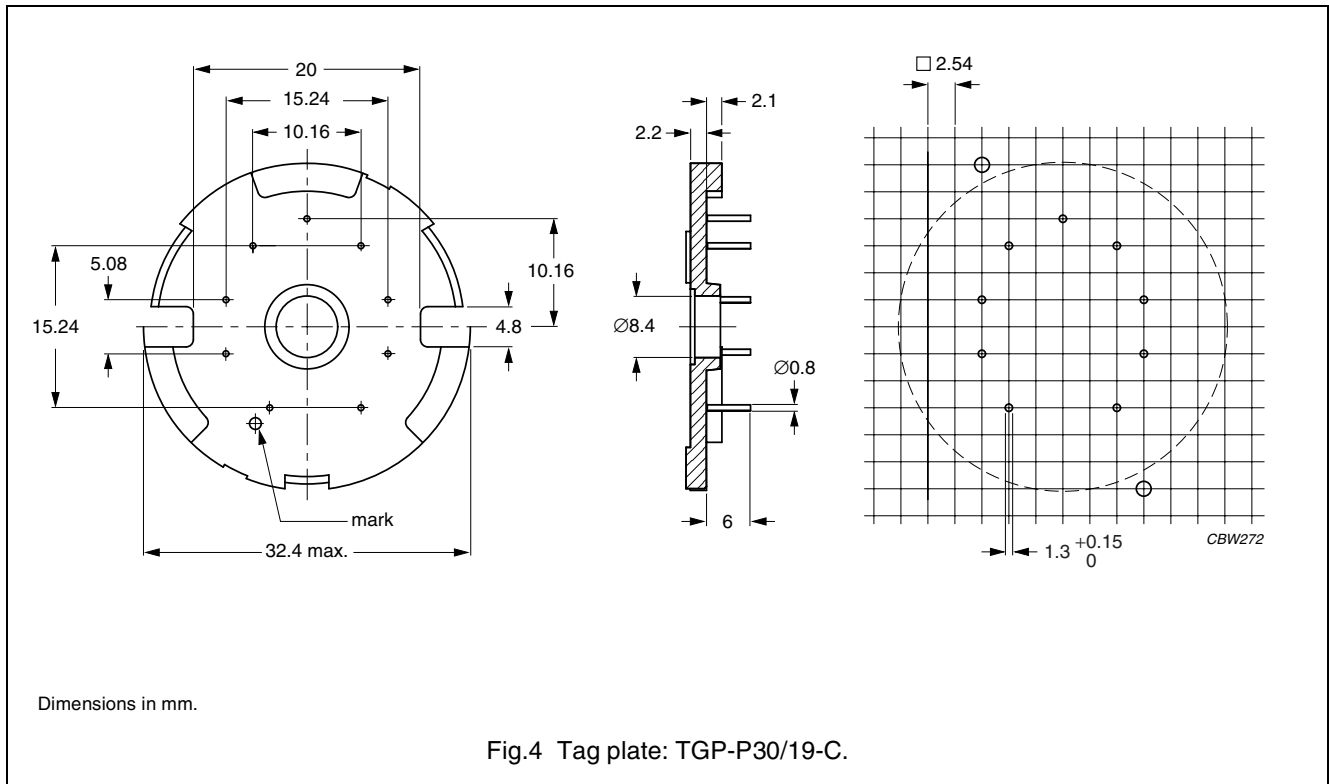
Winding data and area product for 6-pins P30/19 coil former for PCB mounting

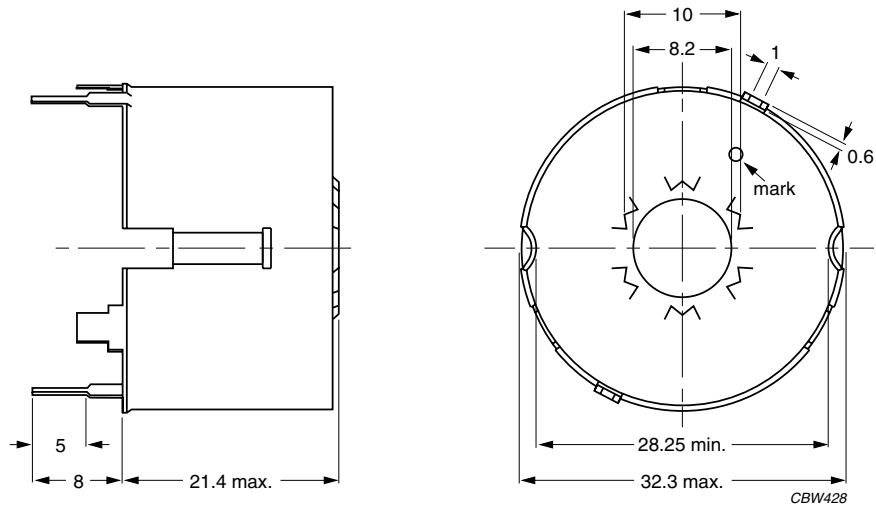
NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	MINIMUM LENGTH OF PINS (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	55.2	12.8	62.2	4.4	7560	CPV-P30/19-1S-6PD
1	55.2	12.8	62.2	6.8	7560	CPV-P30/19-1S-6PDL

MOUNTING PARTS

General data and ordering information

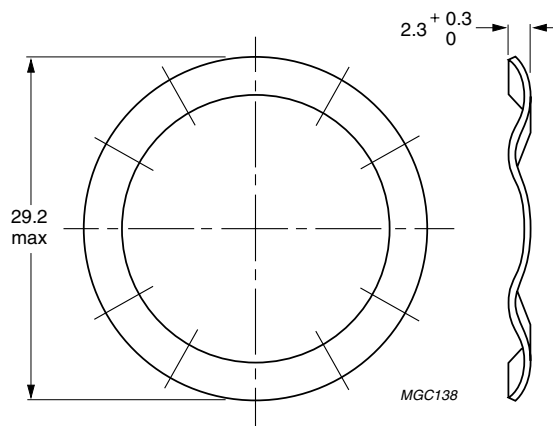
ITEM	REMARKS	FIGURE	TYPE NUMBER
Tag plate	material: phenolformaldehyde (PF), glass reinforced	4	TGP-P30/19-C
	flame retardant: in accordance with "UL 94V-0"; UL file number E41429		
	maximum operating temperature: 180 °C, "IEC 60085", class H		
	pins: copper-tin alloy (CuSn), tin (Sn) plated		
	resistance 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	5	CON-P30/19
	earth pins: presoldered		
Spring	CrNi-steel	6	SPR-P30/19
	spring force: ≈250 N when mounted		
Clamp	spring steel, tin-plated	7	CLM/TS-P30/19





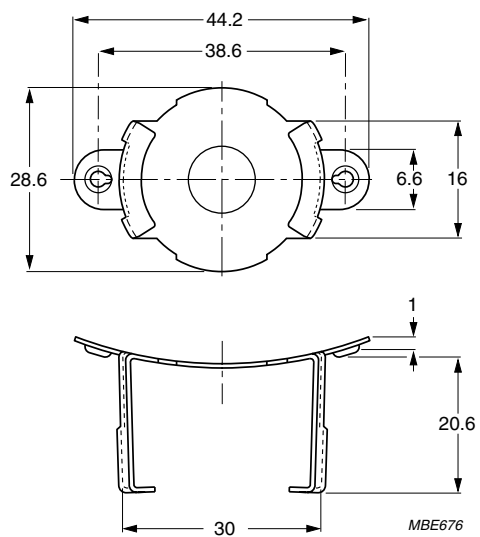
Dimensions in mm.

Fig.5 P30/19 container.



Dimensions in mm.

Fig.6 P30/19 spring.



Dimensions in mm.

Fig.7 Clamp CLM/TS-P30/19.




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
Prototype		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.
Design-in		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		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.