

# DATA SHEET

## **P30/19** P cores and accessories

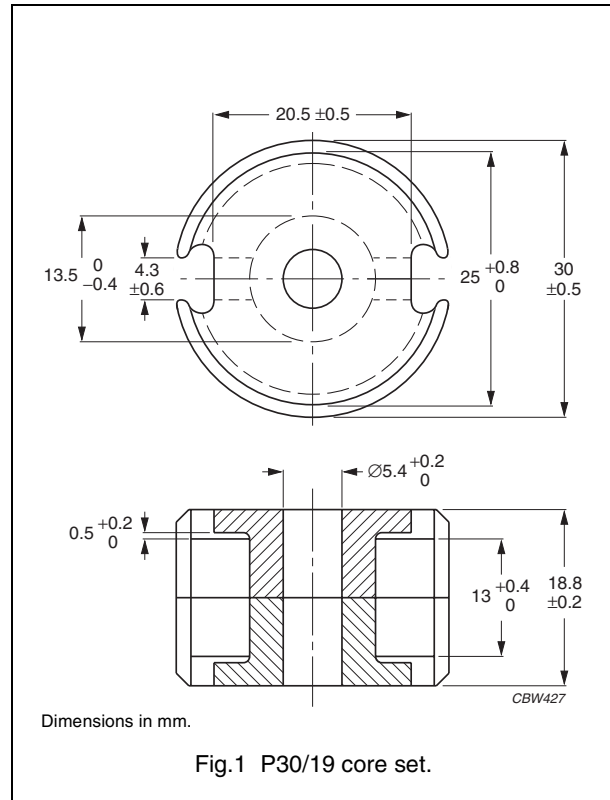
Supersedes data of September 2004

2008 Sep 01

**CORE SETS**

**Effective core parameters**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.330	mm <sup>-1</sup>
$V_e$	effective volume	6190	mm <sup>3</sup>
$l_e$	effective length	45.2	mm
$A_e$	effective area	137	mm <sup>2</sup>
$A_{min}$	minimum area	116	mm <sup>2</sup>
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)	$\mu_e$	TOTAL AIR GAP ( $\mu\text{m}$ )	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 <small>des</small>	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 grades**Clamping force for  $A_L$  measurements,  $250 \pm 50$  N.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3E27	$15100 \pm 25\%$	$\approx 3960$	$\approx 0$	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; B = 200 mT; T = 100 °C	f = 100 kHz; B = 100 mT; T = 100 °C	f = 100 kHz; B = 200 mT; T = 100 °C	f = 400 kHz; B = 50 mT; T = 100 °C
3C81	$\geq 320$	$\leq 1.43$	–	–	–
3C91	$\geq 315$	–	$\leq 0.37^{(1)}$	$\leq 2.6^{(1)}$	–
3F3	$\geq 315$	–	$\leq 0.7$	–	$\leq 1.2$

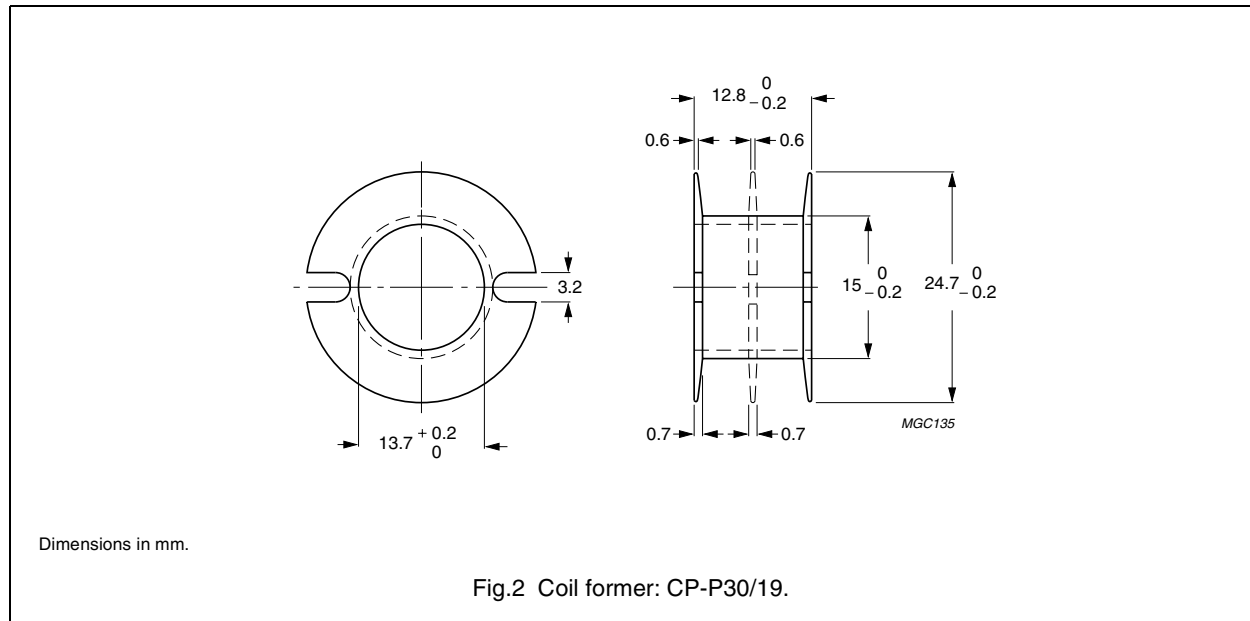
**Note**

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

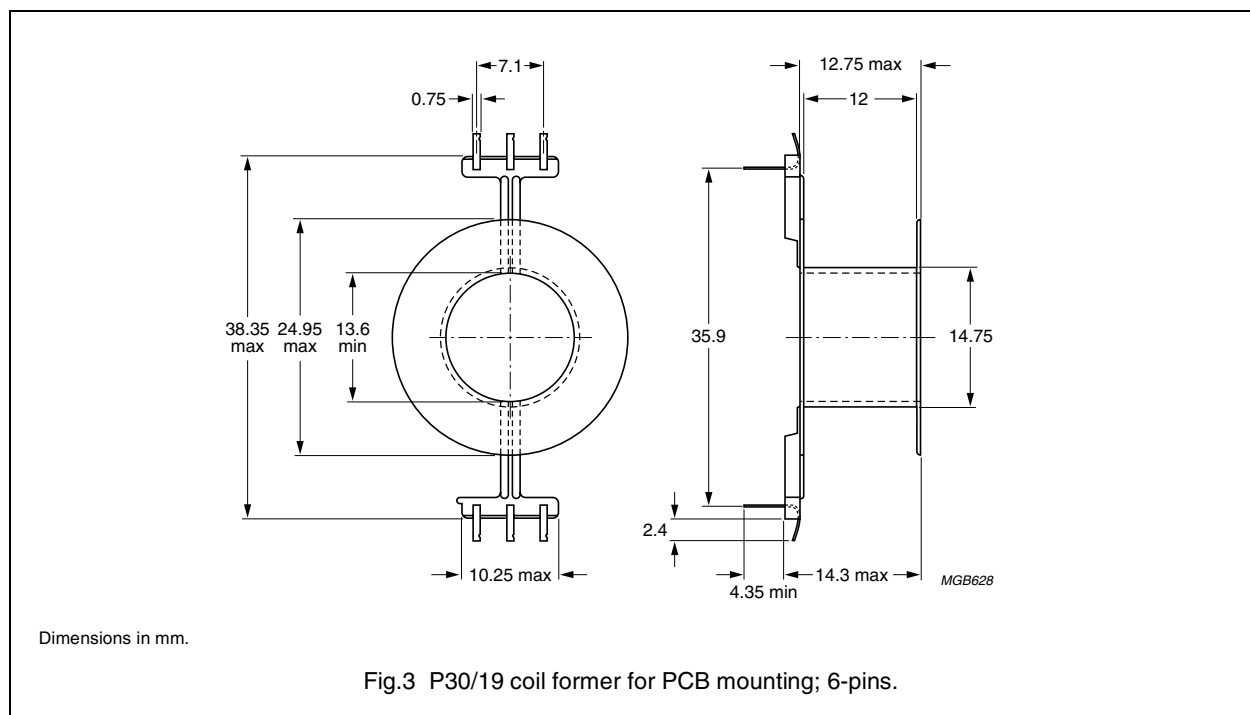


**Winding data and area product for P30/19 coil former**

NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm <sup>2</sup> )	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm <sup>4</sup> )	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



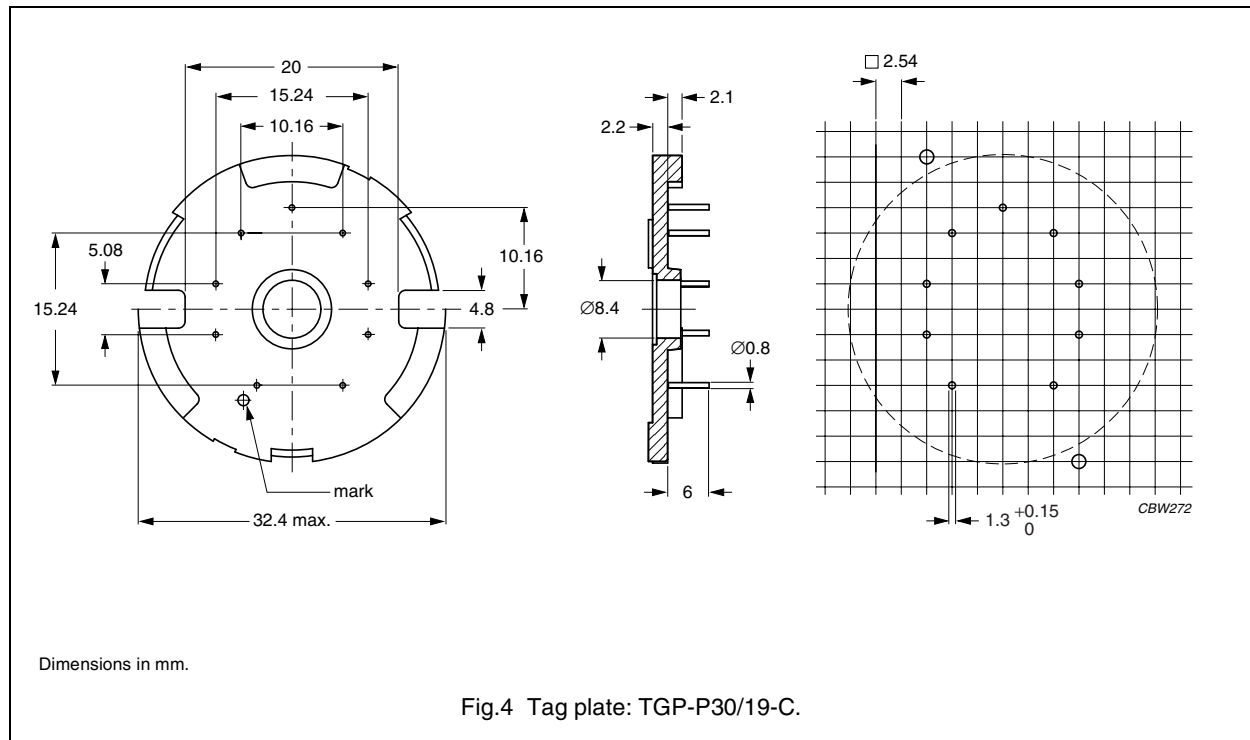
**Winding data and area product for 6-pins P30/19 coil former for PCB mounting**

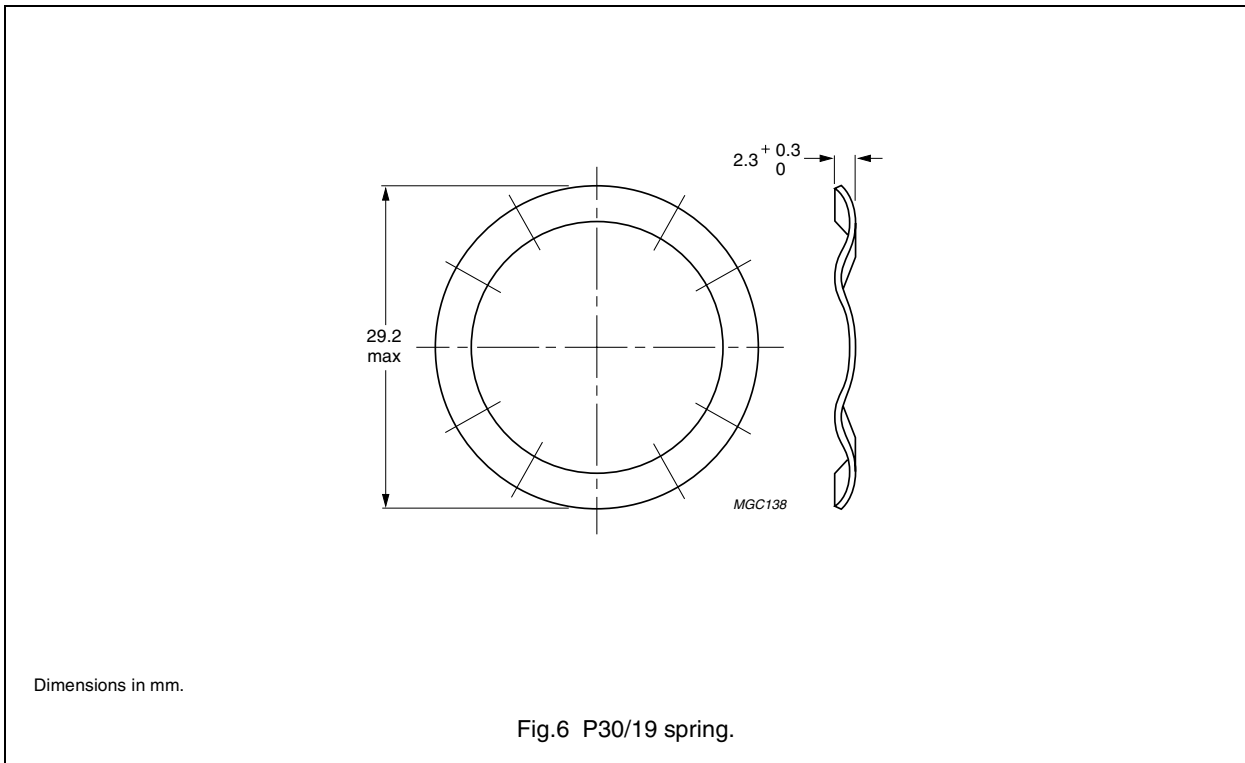
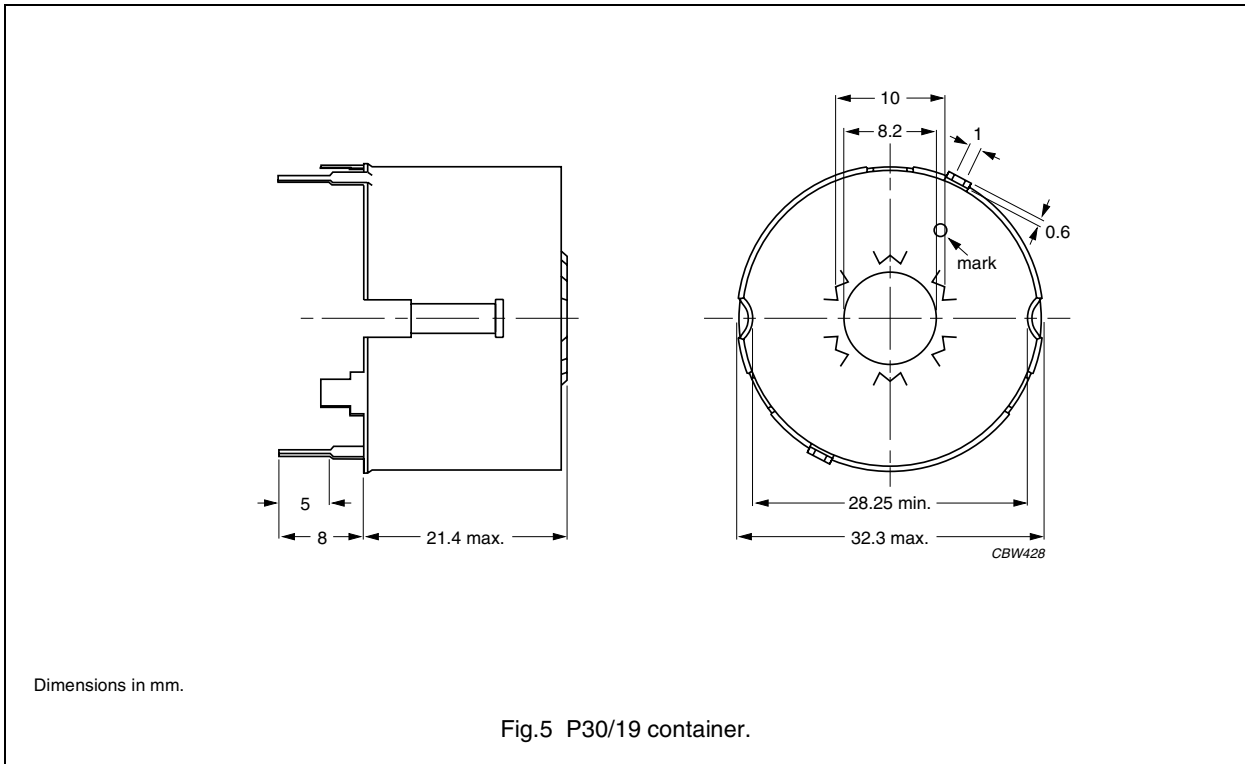
NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm <sup>2</sup> )	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	MINIMUM LENGTH OF PINS (mm)	AREA PRODUCT Ae x Aw (mm <sup>4</sup> )	TYPE NUMBER
1	55.2	12.8	62.2	4.4	7560	CPV-P30/19-1S-6PD
1	55.2	12.8	62.2	6.8	7560	CPV-P30/19-1S-6PDL

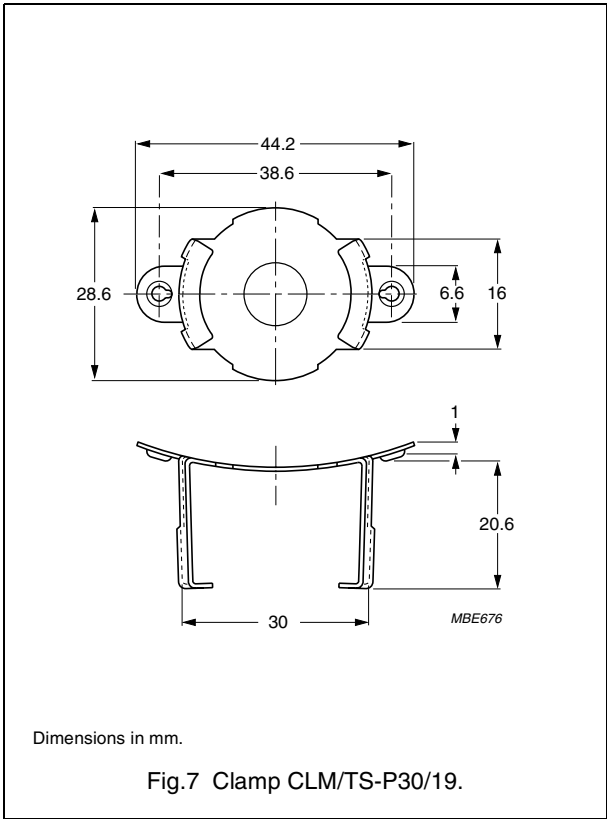
**MOUNTING PARTS**

**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












**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.