

DATA SHEET

P11/7

P cores and accessories

Supersedes data of September 2004

2008 Sep 01

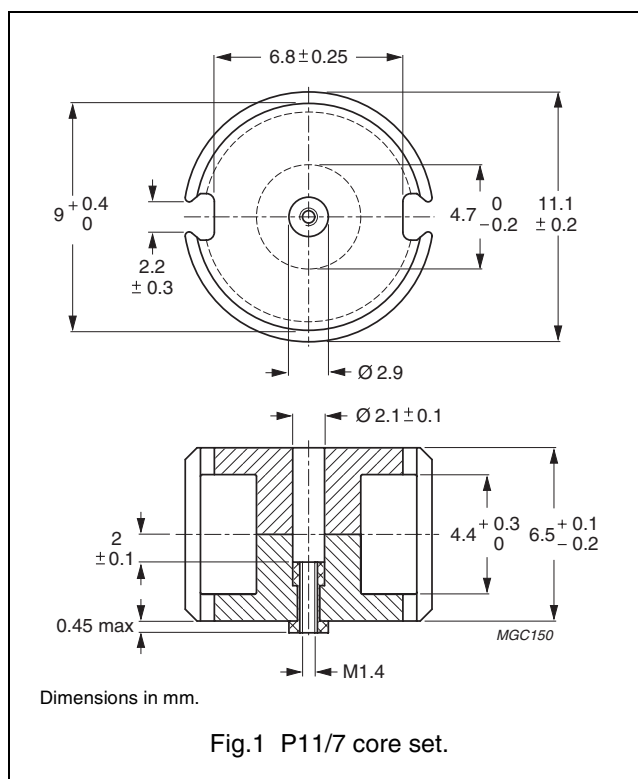
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CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.956	mm ⁻¹
V_e	effective volume	251	mm ³
l_e	effective length	15.5	mm
A_e	effective area	16.2	mm ²
A_{min}	minimum area	13.2	mm ²
m	mass of set	≈ 1.8	g



Core sets for filter applications

Clamping force for A_L measurements, 35 ± 10 N.

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μ m)	TYPE NUMBER (WITH NUT)	TYPE NUMBER (WITHOUT NUT)
3D3 ^{sup}	$16 \pm 3\%$	≈ 12	≈ 2210	P11/7-3D3-E16/N	P11/7-3D3-E16
	$25 \pm 3\%$	≈ 19	≈ 1280	P11/7-3D3-E25/N	P11/7-3D3-E25
	$40 \pm 3\%$	≈ 31	≈ 710	P11/7-3D3-E40/N	P11/7-3D3-E40
	$63 \pm 3\%$	≈ 48	≈ 400	P11/7-3D3-E63/N	P11/7-3D3-E63
	$100 \pm 3\%$	≈ 76	≈ 220	P11/7-3D3-A100/N	P11/7-3D3-A100
	$800 \pm 25\%$	≈ 610	≈ 0	—	P11/7-3D3
3H3 ^{sup}	$160 \pm 3\%$	≈ 122	≈ 140	P11/7-3H3-A160/N	P11/7-3H3-A160
	$250 \pm 3\%$	≈ 190	≈ 80	P11/7-3H3-A250/N	P11/7-3H3-A250
	$1650 \pm 25\%$	≈ 1260	≈ 0	—	P11/7-3H3

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Core sets for general purpose transformers and power applicationsClamping force for A_L measurements, 35 ± 10 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C81	$100 \pm 3\%$	≈ 76	≈ 240	P11/7-3C81-A100
	$160 \pm 3\%$	≈ 122	≈ 140	P11/7-3C81-A160
	$250 \pm 3\%$	≈ 190	≈ 85	P11/7-3C81-A250
	$2050 \pm 25\%$	≈ 1560	≈ 0	P11/7-3C81
3C91 des	$2050 \pm 25\%$	≈ 1560	≈ 0	P11/7-3C91
3F3	$100 \pm 3\%$	≈ 76	≈ 240	P11/7-3F3-A100
	$160 \pm 3\%$	≈ 122	≈ 140	P11/7-3F3-A160
	$250 \pm 5\%$	≈ 190	≈ 80	P11/7-3F3-A250
	$1650 \pm 25\%$	≈ 1260	≈ 0	P11/7-3F3

Core sets of high permeability gradesClamping force for A_L measurements, 35 ± 10 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3E27	$3400 \pm 25\%$	≈ 2600	≈ 0	P11/7-3E27

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; B̂ = 200 mT; T = 100 °C	f = 100 kHz; B̂ = 100 mT; T = 100 °C	f = 100 kHz; B̂ = 200 mT; T = 100 °C	f = 400 kHz; B̂ = 50 mT; T = 100 °C
3C81	≥ 320	≤ 0.05	—	—	—
3C91	≥ 315	—	$\leq 0.015^{(1)}$	$\leq 0.12^{(1)}$	—
3F3	≥ 315	—	≤ 0.03	—	≤ 0.05

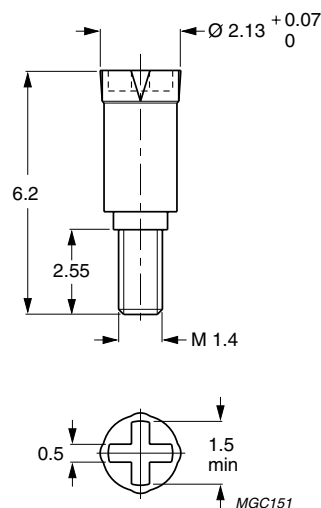
Note

1. Measured at 60 °C.

INDUCTANCE ADJUSTERS

General data

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



Dimensions in mm.

Fig.2 P11/7 inductance adjuster.

Inductance adjuster selection chart ^{sup up} (applies to all types)

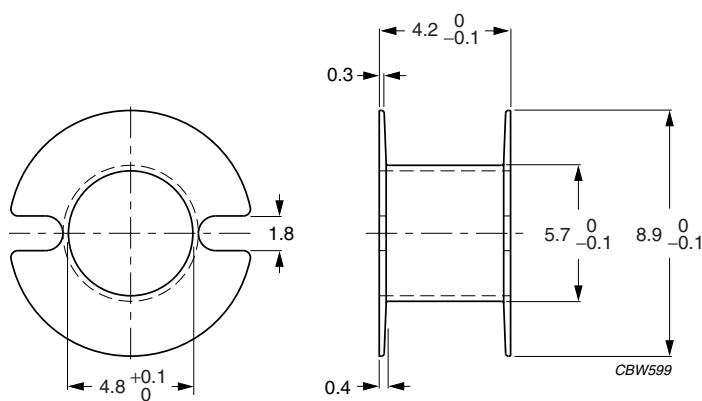
GRADE	A _L (nH)	TYPES FOR LOW ADJUSTMENT	ΔL/L ⁽¹⁾	TYPES FOR MEDIUM ADJUSTMENT	ΔL/L ⁽¹⁾	TYPES FOR HIGH ADJUSTMENT	ΔL/L ⁽¹⁾
3H3	100	—	—	ADJ-P9/P11-YELLOW	13	ADJ-P9/P11-BROWN	24
	160	ADJ-P9/P11-YELLOW	8	ADJ-P9/P11-BROWN	15	ADJ-P9/P11-GREY	22
	250	ADJ-P9/P11-BROWN	9	ADJ-P9/P11-GREY	14	—	—
3D3	16	—	—	ADJ-P9/P11-YELLOW	19	—	—
	25	—	—	—	—	ADJ-P9/P11-YELLOW	30
	40	—	—	—	—	ADJ-P9/P11-YELLOW	24
	63	—	—	ADJ-P9/P11-YELLOW	18	—	—
	100	—	—	ADJ-P9/P11-YELLOW	11	—	—

Note

1. Maximum adjustment range.

COIL FORMERS**General data CP-P11/7-1S 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



Dimensions in mm.

Fig.3 Coil former: CP-P11/7-1S.

Winding data and area product for CP-P11/7-1S coil former

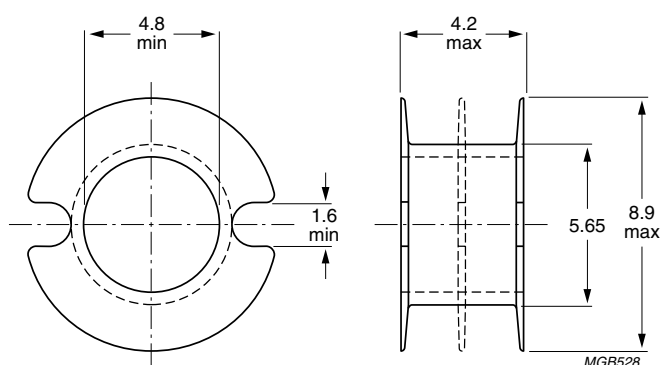
NUMBER OF SECTIONS	WINDING AREA (mm ²)	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	4.8	3.1	22.6	77.8	CP-P11/7-1S

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General data for CP-P11/7-A coil former

PARAMETER	SPECIFICATION
Coil former material	acetal (POM), glass reinforced, flame retardant in accordance with "UL 94-HB"; UL file number E66288(R)
Maximum operating temperature	105 °C



Dimensions in mm.

Fig.4 Coil former: CP-P11/7-A.

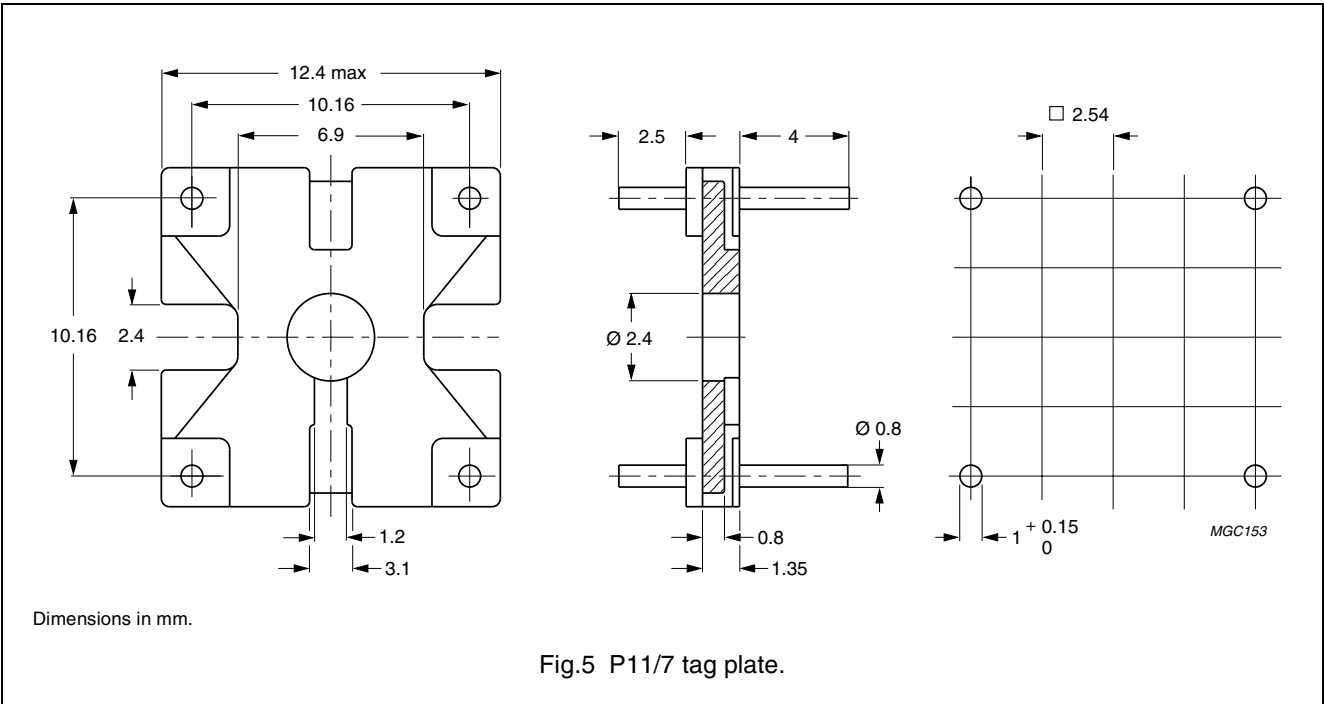
Winding data and area product for CP-P11/7-A coil former

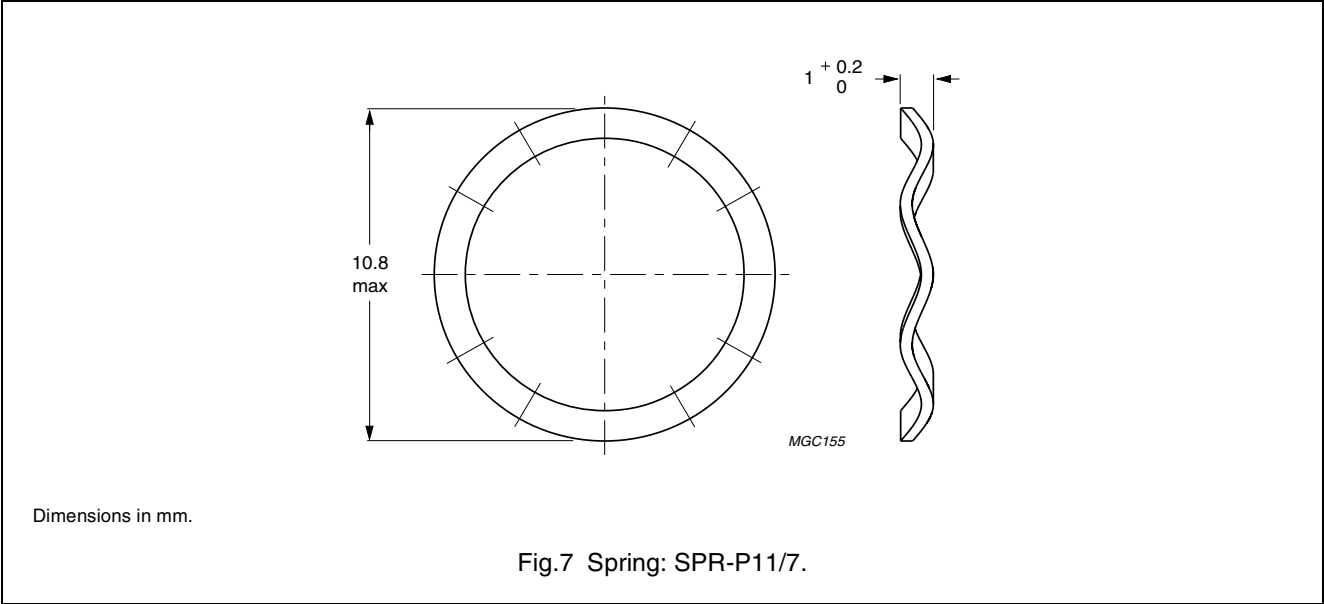
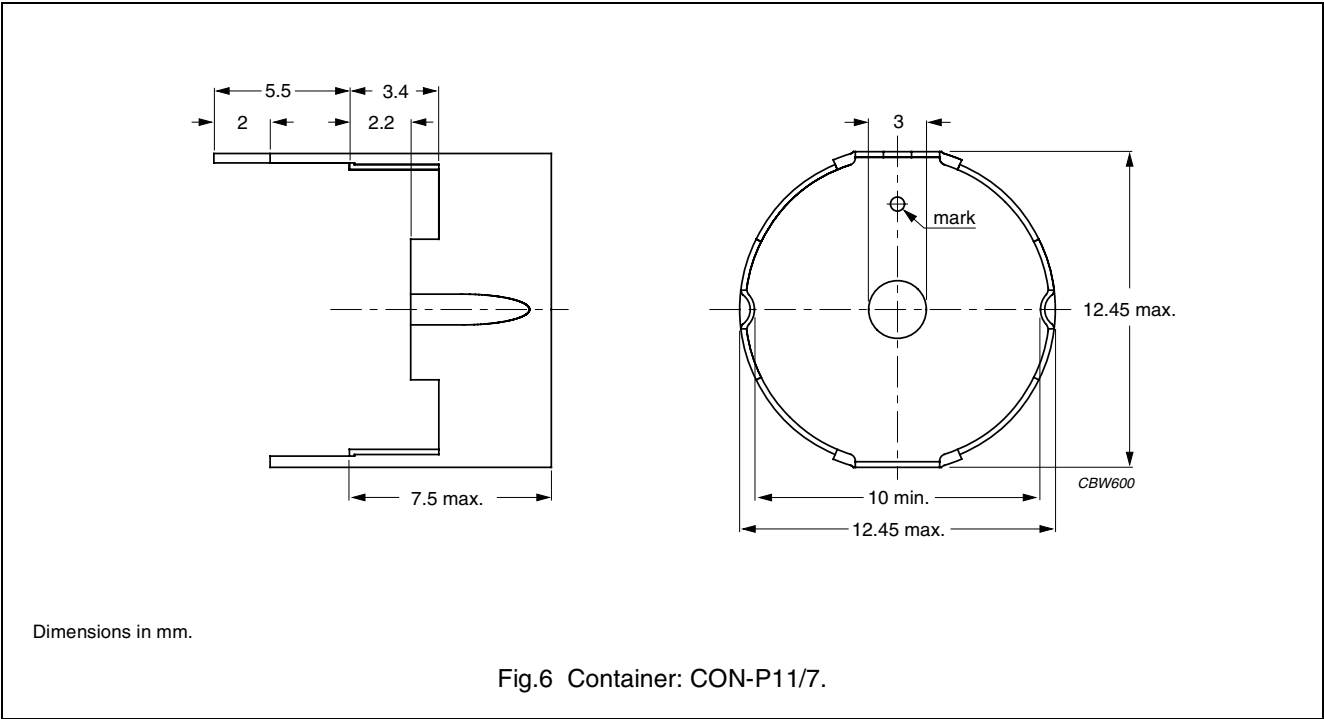
NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	4.77	3.42	22.7	77.3	CP-P11/7-1S-A
2	2 × 2.00	2 × 1.52	22.7	2 x 32.4	CP-P11/7-2S-A
3	3 × 1.16	3 × 0.91	22.7	3 x 18.8	CP-P11/7-3S-A

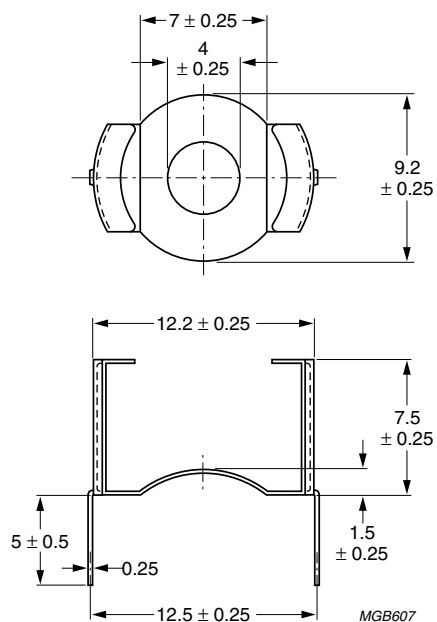
MOUNTING PARTS

General data

ITEM	REMARKS	FIGURE	TYPE NUMBER
Tag plate	material: phenolformaldehyde (PF), glass reinforced	5	TGP-P11/7-C
	flame retardant: in accordance with "UL 94V-0"; 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	6	CON-P11/7
	earth pins: presoldered		
Spring	CrNi-steel	7	SPR-P11/7
	spring force: ≈35 N when mounted		
Clamp	spring steel, tin-plated	7	CLM/TP-P11/7







Dimensions in mm.

Fig.7 Clamp: CLM/TP-P11/7.

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DATA SHEET STATUS DEFINITIONS

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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
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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.