

DATA SHEET

P18/11/I **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)	0.560	mm^{-1}
V_e	effective volume	1270	mm^3
l_e	effective length	26.7	mm
A_e	effective area	47.5	mm^2
$A_{\min}$	minimum area	37.5	mm^2
m	mass of set	≈ 7	g

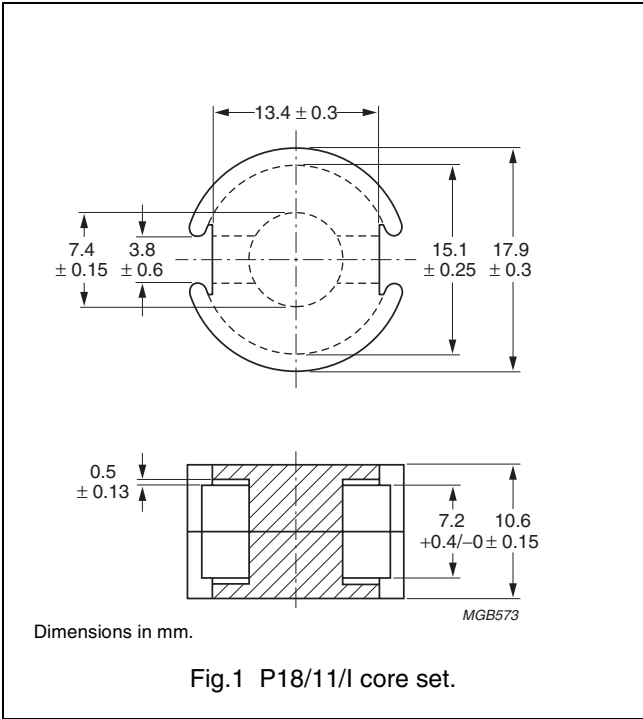


Fig.1 P18/11/I core set.

Core sets for general purpose transformers and power applications

Clamping force for A_L measurements, 30 ± 10 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C81	$160 \pm 3\%$	≈ 72	≈ 450	P18/11/I-3C81-A160
	$250 \pm 3\%$	≈ 112	≈ 260	P18/11/I-3C81-A250
	$315 \pm 3\%$	≈ 141	≈ 200	P18/11/I-3C81-A315
	$400 \pm 3\%$	≈ 179	≈ 150	P18/11/I-3C81-A400
	$630 \pm 5\%$	≈ 282	≈ 90	P18/11/I-3C81-A630
	$4200 \pm 25\%$	≈ 1880	≈ 0	P18/11/I-3C81
3C91 des	$4200 \pm 25\%$	≈ 1880	≈ 0	P18/11/I-3C91
3F3	$160 \pm 3\%$	≈ 72	≈ 450	P18/11/I-3F3-A160
	$250 \pm 3\%$	≈ 112	≈ 260	P18/11/I-3F3-A250
	$315 \pm 3\%$	≈ 141	≈ 200	P18/11/I-3F3-A315
	$400 \pm 3\%$	≈ 179	≈ 150	P18/11/I-3F3-A400
	$630 \pm 5\%$	≈ 282	≈ 90	P18/11/I-3F3-A630
	$3110 \pm 25\%$	≈ 1390	≈ 0	P18/11/I-3F3

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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	≥320	≤ 0.3	–	–	–
3C91	≥315	–	≤ 0.08 ⁽¹⁾	≤ 0.5 ⁽¹⁾	–
3F3	≥315	–	≤ 0.14	–	≤ 0.24

Note

1. Measured at 60 °C.

BOBBINS AND ACCESSORIES

Coil formers, winding data and mounting parts are equal to those of “P18/11”, but “area product” is different.

Winding data and area product (for P18/11/I) for CP-P18/11 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	17.1	5.7	36.6	812	CP-P18/11-1S
2	2 × 7.95	2 × 2.65	36.6	2 x 378	CP-P18/11-2S
3	3 × 4.95	3 × 1.6	36.6	3 x 235	CP-P18/11-3S

Winding data and area product (for P18/11/I) for 6-pins P18/11 coil former for PCB mounting

NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	LENGTH OF PINS (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	16.8	6.0	36.7	4.4	798	CPV-P18/11-1S-6PD
1	16.8	6.0	36.7	6.8	798	CPV-P18/11-1S-6PDL
2	2 × 7.61	2 × 2.8	36.7	4.4	2 x 361	CPV-P18/11-2S-6PD
2	2 × 7.61	2 × 2.8	36.7	6.8	2 x 361	CPV-P18/11-2S-6PDL
3	3 × 4.58	3 × 1.7	36.7	4.4	3 x 218	CPV-P18/11-3S-6PD
3	3 × 4.58	3 × 1.7	36.7	6.8	3 x 218	CPV-P18/11-3S-6PDL

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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.