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DATA SHEET

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PQ32/30
PQ cores and accessories

Supersedes data of September 2004 2008 Sep 01

FERROXCUBE
A YAGEO COMPANY

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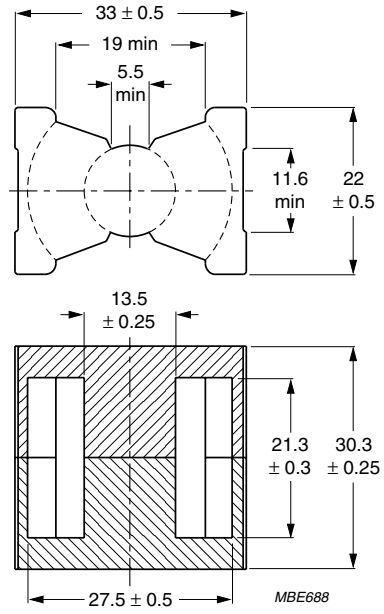
CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
Σ(l/A)	core factor (C1)	0.447	mm^{-1}
V_e	effective volume	12500	mm^3
l_e	effective length	74.7	mm
A_e	effective area	167	mm^2
A_{min}	minimum area	142	mm^2
m	mass of set	≈ 57	g



Dimensions in mm.

Fig.1 PQ32/30 core set.

Core sets for general purpose transformers and power applications

Clamping force for A_L measurements, 80 ±20 N.

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3C81	315 ±3%	≈ 112	≈ 800	PQ32/30-3C81-E315
	400 ±3%	≈ 142	≈ 600	PQ32/30-3C81-A400
	630 ±3%	≈ 224	≈ 350	PQ32/30-3C81-A630
	1000 ±3%	≈ 356	≈ 200	PQ32/30-3C81-A1000
	1600 ±5%	≈ 570	≈ 110	PQ32/30-3C81-A1600
	6570 ±25%	≈ 2340	≈ 0	PQ32/30-3C81
3C90	315 ±3%	≈ 112	≈ 800	PQ32/30-3C90-E315
	400 ±3%	≈ 142	≈ 600	PQ32/30-3C90-A400
	630 ±3%	≈ 224	≈ 350	PQ32/30-3C90-A630
	1000 ±3%	≈ 356	≈ 200	PQ32/30-3C90-A1000
	1600 ±5%	≈ 570	≈ 110	PQ32/30-3C90-A1600
	5600 ±25%	≈ 1990	≈ 0	PQ32/30-3C90
3C91 des	6570 ±25%	≈ 2340	≈ 0	PQ32/30-3C91
3C94	5600 ±25%	≈ 1990	≈ 0	PQ32/30-3C94
3C95 des	6570 ±25%	≈ 2340	≈ 0	PQ32/30-3C95
3C96 des	5040 ±25%	≈ 1790	≈ 0	PQ32/30-3C96

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GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3F3	315 ±3%	≈ 112	≈ 800	PQ32/30-3F3-E315
	400 ±3%	≈ 142	≈ 600	PQ32/30-3F3-A400
	630 ±3%	≈ 224	≈ 350	PQ32/30-3F3-A630
	1000 ±3%	≈ 356	≈ 200	PQ32/30-3F3-A1000
	1600 ±5%	≈ 570	≈ 110	PQ32/30-3F3-A1600
	4580 ±25%	≈ 1630	≈ 0	PQ32/30-3F3

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	$\hat{B}$ = 200 mT; f = 25 kHz; T = 100 °C	$\hat{B}$ = 100 mT; f = 100 kHz; T = 100 °C	$\hat{B}$ = 200 mT; f = 100 kHz; T = 25 °C	$\hat{B}$ = 200 mT; f = 100 kHz; T = 100 °C	$\hat{B}$ = 50 mT; f = 400 kHz; T = 100 °C	$\hat{B}$ = 50 mT; f = 500 kHz; T = 100 °C
3C81	≥320	≤ 2.6	–	–	–	–	–
3C90	≥320	≤ 1.5	≤ 1.6	–	–	–	–
3C91	≥320	–	≤ 0.9[1]	–	≤ 6.0[1]	–	–
3C94	≥320	–	≤ 1.2	–	≤ 7.5	–	–
3C95	≥320	–	–	≤ 7.88	≤ 7.5	–	–
3C96	≥340	–	≤ 0.9	–	≤ 6.0	≤ 2.3	≤ 4.7
3F3	≥320	–	≤ 1.4	–	–	≤ 2.4	–

Note

1. Measured at 60 °C.

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COIL FORMER

General data 12-pins PQ32/30 coil former

PARAMETER	SPECIFICATION
Coil former material	Polyethylene terephtalate (PET), glass-reinforced, flame retardant in accordance with *"UL 94V-0"*; UL file number E41938
Pin material	copper-tin alloy (CuSn), tin (Sn) plated
Maximum operating temperature	180 °C, *"IEC 60085"*, class H
Resistance to soldering heat	*"IEC 60068-2-20"*, Part 2, Test Tb, method 1B, 350 °C, 3.5 s
Solderability	*"IEC 60068-2-20"*, Part 2, Test Ta, method 1

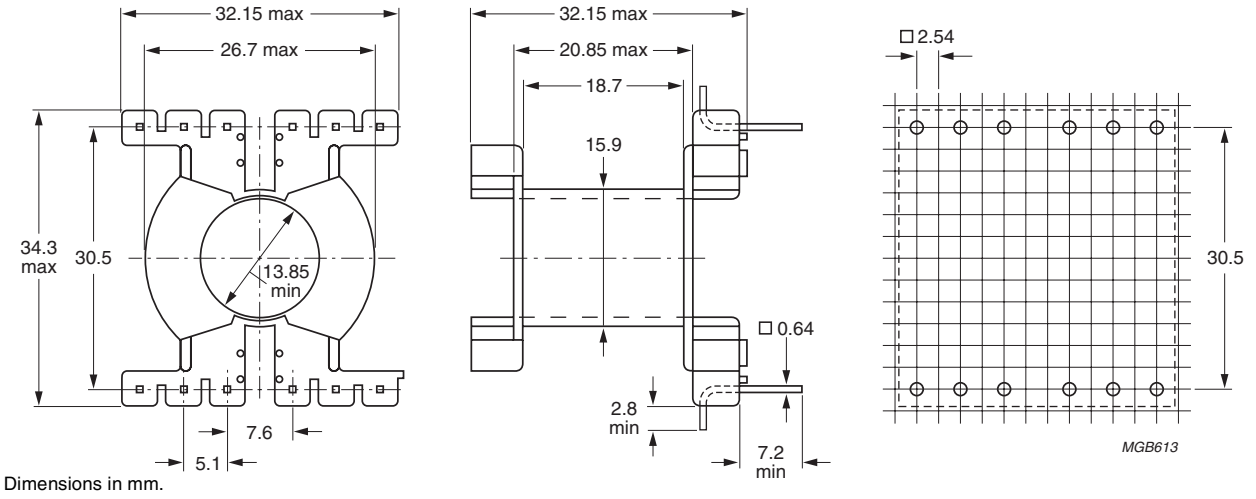

Fig.2 PQ32/30 coil former; 12-pins.

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Winding data and area product for 12-pins PQ32/30 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	53.0	18.7	66.7	8850	CPV-PQ32/30-1S-12P-Z
1	53.0	18.7	66.7	8850	CPV-PQ32/30-1S-12PD-Z

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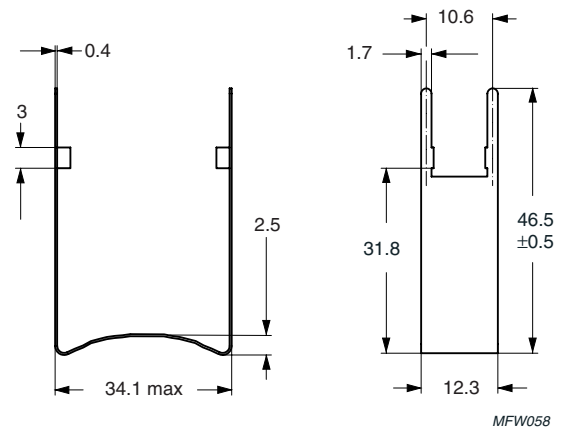
MOUNTING PARTS

General data

ITEM	REMARKS	TYPE NUMBER
Clamp	phosphorbronze, Sn plated, earth pins solderability acc. to *"IEC 60068-2-20"*, Part 2, Test Ta, method 1: 235 °C, 2 s	CLM/P-PQ32/30



Dimensions in mm.

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Fig.3 Clamp CLM/P-PQ32/30

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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	prot	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	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.

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