DATA SHEET

EC52
EC cores and accessories

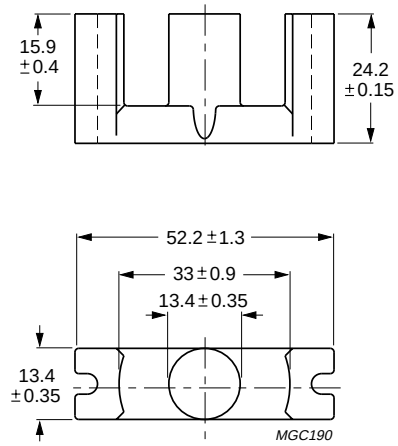
Supersedes data of February 2002 2004 Sep 01

FERROXCUBE
A YAGEO COMPANY

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.581	mm^{-1}
V_e	effective volume	18800	mm^3
l_e	effective length	105	mm
A_e	effective area	180	mm^2
A_{min}	minimum area	141	mm^2
m	mass of core half	≈ 56	g



Dimensions in mm.

Fig.1 EC52 core half.

Core halves

A_L measured in combination with an non-gapped core half, unless stated otherwise.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C81 sup	160 ± 3%(1)	≈ 74	≈ 1920	EC52-3C81-E160
	250 ± 3%(1)	≈ 116	≈ 1100	EC52-3C81-E250
	315 ± 3%(1)	≈ 147	≈ 830	EC52-3C81-E315
	400 ± 3%	≈ 185	≈ 620	EC52-3C81-A400
	630 ± 5%	≈ 290	≈ 350	EC52-3C81-A630
	≥ 3550	≥ 1640	≈ 0	EC52-3C81
3C90 sup	160 ± 3%(1)	≈ 74	≈ 1920	EC52-3C90-E160
	250 ± 3%(1)	≈ 116	≈ 1100	EC52-3C90-E250
	315 ± 3%(1)	≈ 147	≈ 830	EC52-3C90-E315
	400 ± 3%	≈ 185	≈ 620	EC52-3C90-A400
	630 ± 5%	≈ 290	≈ 350	EC52-3C90-A630
	3600 ± 25%	≈ 1660	≈ 0	EC52-3C90

Note

1. Measured in combination with an equal gapped core half (symmetrical air gap).

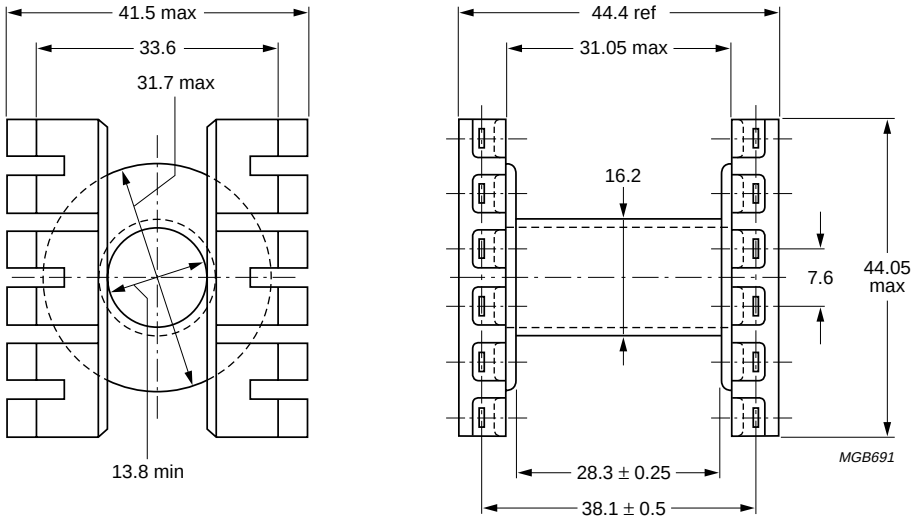
Properties of core sets under power conditions

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
3C81	≥320	≤ 3.8	–
3C90	≥320	≤ 2.3	≤ 2.4

COIL FORMERS

General data 12-slots EC52 coil former for insertable pins

PARAMETER	SPECIFICATION
Coil former material	polyamide (PA6.6), glass-reinforced, flame retardant in accordance with *"UL 94V-0"*; UL file number E44716(R)
Maximum operating temperature	130 °C, *"IEC 60085",* class B



Dimensions in mm.

Fig.2 EC52 coil former; 12-slots.

Winding data for 12-slots EC52 coil former for insertable pins

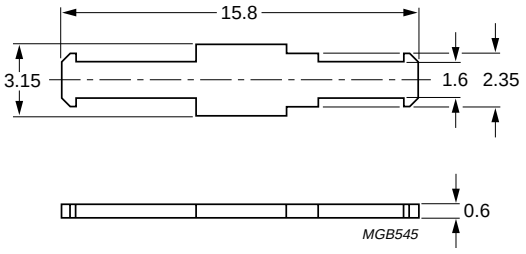
Coil formers with inserted pins are available on request.

NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm^2)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	212	28.3	74.9	CP-EC52-1S

MOUNTING PARTS

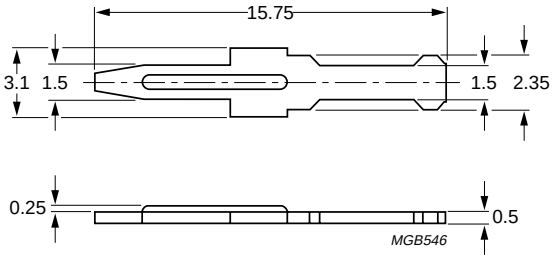
General data and ordering information

ITEM	REMARKS	MOUNT	FIGURE	TYPE NUMBER
Insertable pins	solderability: *"IEC 68-2-20"*, Part 2, Test Ta, method 1 material: copper-zinc alloy (CuZn), tin-lead alloy (SnPb) plated, transition to lead-free (Sn) ongoing.	general	3	PIN-EC
		horizontal	4	PIN/H-EC
		vertical	5	PIN/V-EC52
Clamp	copper-zinc alloy (CuZn)		6	CLM/U-EC52
Base plate 4 holes	aluminium		7	BPL4-EC52



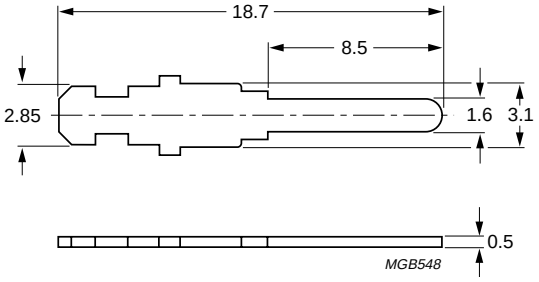
Dimensions in mm.

Fig.3 EC pin; general mount.



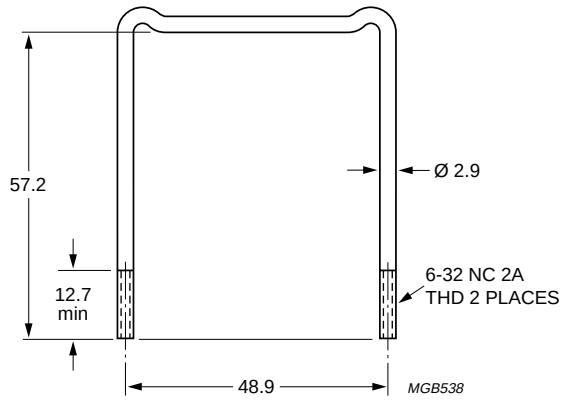
Dimensions in mm.

Fig.4 EC pin; horizontal mount.



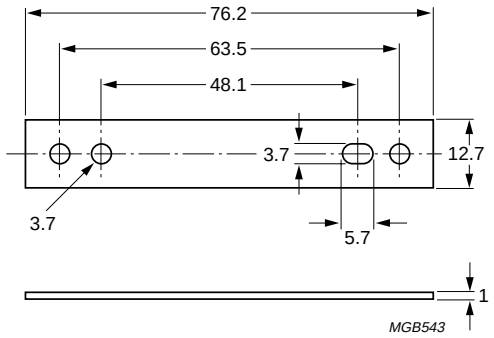
Dimensions in mm.

Fig.5 EC52 pin; vertical mount.



Dimensions in mm.

Fig.6 EC52 clamp.



Dimensions in mm.

Fig.7 EC52 base plate; 4 holes.

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.

DISCLAIMER

Life support applications — These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Ferroxcube customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Ferroxcube for any damages resulting from such application.

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.