

DATA SHEET

E34/14/9

E cores and accessories

Supersedes data of September 2004

2008 Sep 01

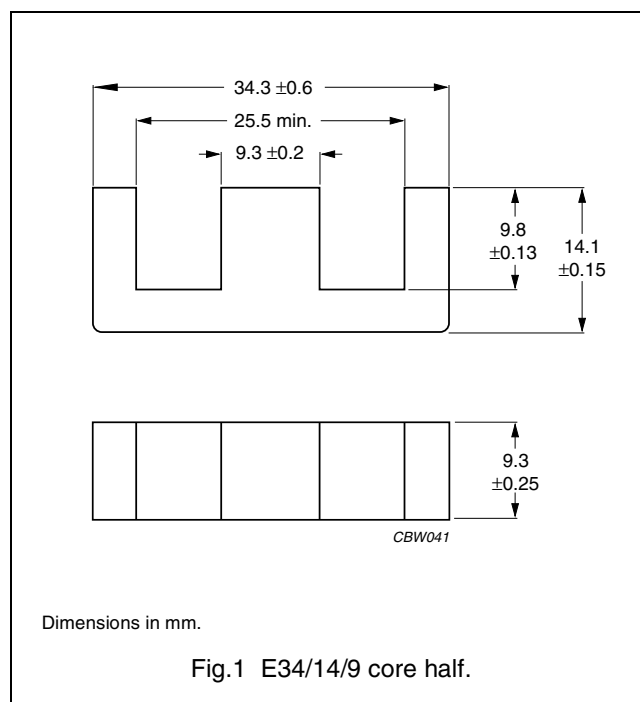
E cores and accessories

E34/14/9
(E375)

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.850	mm ⁻¹
V_e	effective volume	5590	mm ³
l_e	effective length	69.3	mm
A_e	effective area	80.7	mm ²
A_{min}	minimum area	80.7	mm ²
m	mass of core half	≈ 14	g



Core halves

A_L measured in combination with a non-gapped core half, clamping force for A_L measurements 40 ± 20 N, unless stated otherwise.

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3C81	$100 \pm 5\%^{(1)}$	≈ 68	≈ 1520	E34/14/9-3C81-E100
	$160 \pm 5\%^{(1)}$	≈ 109	≈ 820	E34/14/9-3C81-E160
	$250 \pm 5\%$	≈ 171	≈ 460	E34/14/9-3C81-A250
	$315 \pm 5\%$	≈ 215	≈ 350	E34/14/9-3C81-A315
	$400 \pm 8\%$	≈ 273	≈ 260	E34/14/9-3C81-A400
	$630 \pm 15\%$	≈ 431	≈ 140	E34/14/9-3C81-A630
	$3200 \pm 25\%$	≈ 2190	≈ 0	E34/14/9-3C81
3C90	$100 \pm 5\%^{(1)}$	≈ 68	≈ 1520	E34/14/9-3C90-E100
	$160 \pm 5\%^{(1)}$	≈ 109	≈ 820	E34/14/9-3C90-E160
	$250 \pm 5\%$	≈ 171	≈ 460	E34/14/9-3C90-A250
	$315 \pm 5\%$	≈ 215	≈ 350	E34/14/9-3C90-A315
	$400 \pm 8\%$	≈ 273	≈ 260	E34/14/9-3C90-A400
	$630 \pm 15\%$	≈ 431	≈ 140	E34/14/9-3C90-A630
	$2440 \pm 25\%$	≈ 1670	≈ 0	E34/14/9-3C90
3C91 des	$3200 \pm 25\%$	≈ 2190	≈ 0	E34/14/9-3C91
3C92 des	$1850 \pm 25\%$	≈ 1250	≈ 0	E34/14/9-3C92
3C94	$2440 \pm 25\%$	≈ 1760	≈ 0	E34/14/9-3C94
3C96 des	$2125 \pm 25\%$	≈ 1450	≈ 0	E34/14/9-3C96

E cores and accessories

E34/14/9
(E375)

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3F3	$100 \pm 5\%^{(1)}$	≈ 68	≈ 1520	E34/14/9-3F3-E100
	$160 \pm 5\%^{(1)}$	≈ 109	≈ 820	E34/14/9-3F3-E160
	$250 \pm 5\%$	≈ 171	≈ 460	E34/14/9-3F3-A250
	$315 \pm 5\%$	≈ 215	≈ 350	E34/14/9-3F3-A315
	$400 \pm 8\%$	≈ 273	≈ 260	E34/14/9-3F3-A400
	$630 \pm 15\%$	≈ 431	≈ 140	E34/14/9-3F3-A630
	$2125 \pm 25\%$	≈ 1450	≈ 0	E34/14/9-3F3
3F35 des	$1680 \pm 25\%$	≈ 1150	≈ 0	E34/14/9-3F35

Note

1. Measured in combination with an equal gapped core half, clamping force for A_L measurements, 40 ± 20 N.

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	f = 100 kHz; $\hat{B} = 200$ mT; T = 100 °C	f = 400 kHz; $\hat{B} = 50$ mT; T = 100 °C
3C81	≥ 320	≤ 1.2	–	–	–
3C90	≥ 320	≤ 0.56	≤ 0.63	–	–
3C91	≥ 320	–	$\leq 0.38^{(1)}$	$\leq 2.3^{(1)}$	–
3C92	≥ 370	–	≤ 0.5	≤ 2.9	–
3C94	≥ 320	–	≤ 0.5	≤ 2.9	–
3C96	≥ 340	–	≤ 0.38	≤ 2.3	–
3F3	≥ 320	–	≤ 0.62	–	≤ 1.1
3F35	≥ 300	–	–	–	–

Properties of core sets under power conditions (continued)

GRADE	B (mT) at	CORE LOSS (W) at			
	H = 250 A/m; f = 25 kHz; T = 100 °C	f = 500 kHz; $\hat{B} = 50$ mT; T = 100 °C	f = 500 kHz; $\hat{B} = 100$ mT; T = 100 °C	f = 1 MHz; $\hat{B} = 30$ mT; T = 100 °C	f = 3 MHz; $\hat{B} = 10$ mT; T = 100 °C
3C96	≥ 340	≤ 2.1	–	–	–
3F3	≥ 320	–	–	–	–
3F35	≥ 300	≤ 0.75	≤ 5.9	–	–

Note

1. Measured at 60 °C.

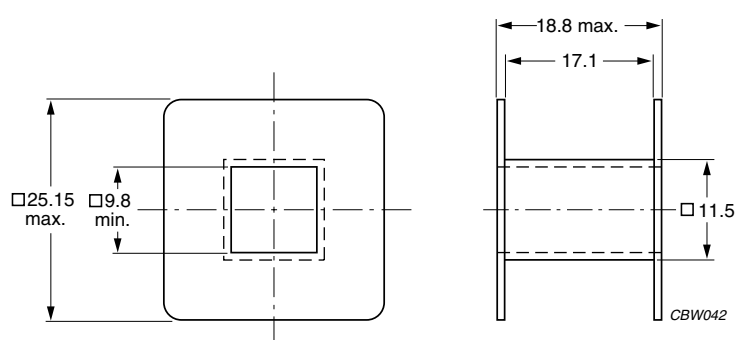
E cores and accessories

E34/14/9
(E375)

COIL FORMERS

General data for E34/14/9 coil former

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



Dimensions in mm.

Fig.2 E34/14/9 coil former.

Winding data and area product for E34/14/9 coil former without pins

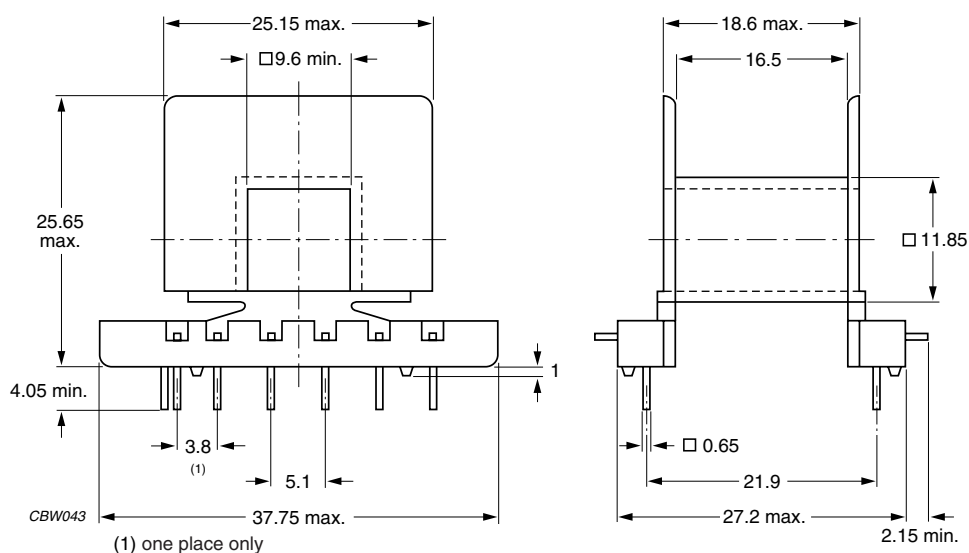
NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	111	17.1	67.0	8960	CP-E34/14/9-1S

E cores and accessories

E34/14/9
(E375)

General data for 12-pins E34/14/9 coil former

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 (CuZnP), tin (Sn) plated
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: 235 °C, 2 s



Dimensions in mm.

Fig.3 E34/14/9 coil former: 12-pins.

Winding data and area product for 12-pins E34/14/9 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	102	16.5	69.0	8230	CPH-E34/14/9-1S-12PD-Z

E cores and accessories

E34/14/9
(E375)

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		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.