

# DATA SHEET

**E25/13/7**

**E cores and accessories**

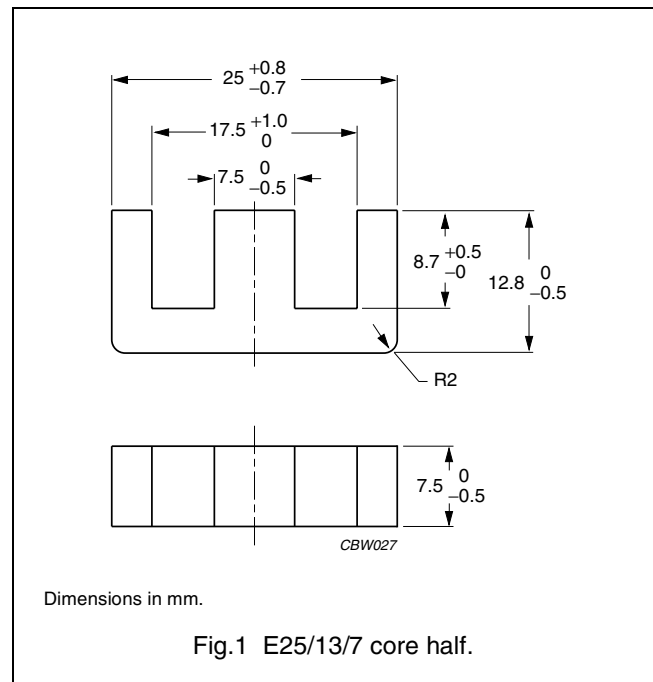
Supersedes data of September 2004

2008 Sep 01

**CORE SETS**

**Effective core parameters**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	1.11	mm <sup>-1</sup>
$V_e$	effective volume	2990	mm <sup>3</sup>
$l_e$	effective length	58.0	mm
$A_e$	effective area	52.0	mm <sup>2</sup>
$A_{min}$	minimum area	52.0	mm <sup>2</sup>
m	mass of core half	≈ 8	g



**Core halves**

$A_L$  measured in combination with a non-gapped core half, clamping force for  $A_L$  measurements  $20 \pm 10$  N unless otherwise stated.

GRADE	$A_L$ (nH)	$\mu_e$	TOTAL AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3C81	63 $\pm 5\%$ <sup>(1)</sup>	≈ 56	≈ 1740	E25/13/7-3C81-E63
	100 $\pm 8\%$	≈ 99	≈ 920	E25/13/7-3C81-A100
	160 $\pm 8\%$	≈ 143	≈ 500	E25/13/7-3C81-A160
	250 $\pm 15\%$	≈ 224	≈ 280	E25/13/7-3C81-A250
	315 $\pm 15\%$	≈ 282	≈ 210	E25/13/7-3C81-A315
	2460 $\pm 25\%$	≈ 2200	≈ 0	E25/13/7-3C81
3C90	63 $\pm 5\%$ <sup>(1)</sup>	≈ 56	≈ 1740	E25/13/7-3C90-E63
	100 $\pm 8\%$	≈ 99	≈ 920	E25/13/7-3C90-A100
	160 $\pm 8\%$	≈ 143	≈ 500	E25/13/7-3C90-A160
	250 $\pm 15\%$	≈ 224	≈ 280	E25/13/7-3C90-A250
	315 $\pm 15\%$	≈ 282	≈ 210	E25/13/7-3C90-A315
	1900 $\pm 25\%$	≈ 1700	≈ 0	E25/13/7-3C90
3C91 <b>des</b>	2460 $\pm 25\%$	≈ 2200	≈ 0	E25/13/7-3C91
3C92 <b>des</b>	1450 $\pm 25\%$	≈ 1280	≈ 0	E25/13/7-3C92
3C94	1900 $\pm 25\%$	≈ 1700	≈ 0	E25/13/7-3C94
3C96 <b>des</b>	1650 $\pm 25\%$	≈ 1480	≈ 0	E25/13/7-3C96

## E cores and accessories

E25/13/7  
(EF25)

GRADE	$A_L$ (nH)	$\mu_e$	TOTAL AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3F3	$63 \pm 5\%^{(1)}$	$\approx 56$	$\approx 1740$	E25/13/7-3F3-E63
	$100 \pm 8\%$	$\approx 99$	$\approx 920$	E25/13/7-3F3-A100
	$160 \pm 8\%$	$\approx 143$	$\approx 500$	E25/13/7-3F3-A160
	$250 \pm 15\%$	$\approx 224$	$\approx 280$	E25/13/7-3F3-A250
	$315 \pm 15\%$	$\approx 282$	$\approx 210$	E25/13/7-3F3-A315
	$1650 \pm 25\%$	$\approx 1480$	$\approx 0$	E25/13/7-3F3
3F35 <small>des</small>	$1250 \pm 25\%$	$\approx 1120$	$\approx 0$	E25/13/7-3F3

**Note**

1. Measured in combination with an equal gapped core half, clamping force for  $A_L$  measurements,  $20 \pm 10$  N.

**Core halves of high permeability grades**Clamping force for  $A_L$  measurements  $20 \pm 10$  N.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3E27	$4000 \pm 25\%$	$\approx 3580$	$\approx 0$	E25/13/7-3E27

**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; $\hat{B}$ = 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	$\geq 320$	$\leq 0.61$	–	–	–
3C90	$\geq 330$	$\leq 0.35$	$\leq 0.38$	–	–
3C91	$\geq 320$	–	$\leq 0.22^{(1)}$	$\leq 1.2^{(1)}$	–
3C92	$\geq 370$	–	$\leq 0.3$	$\leq 1.5$	–
3C94	$\geq 330$	–	$\leq 0.3$	$\leq 1.5$	–
3C96	$\geq 340$	–	$\leq 0.22$	$\leq 1.2$	–
3F3	$\geq 320$	–	$\leq 0.38$	–	$\leq 0.65$
3F35	$\geq 300$	–	–	–	–

**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	$\geq 340$	$\leq 1.1$	–	–	–
3F3	$\geq 320$	–	–	–	–
3F35	$\geq 300$	$\leq 0.4$	$\leq 3.1$	–	–

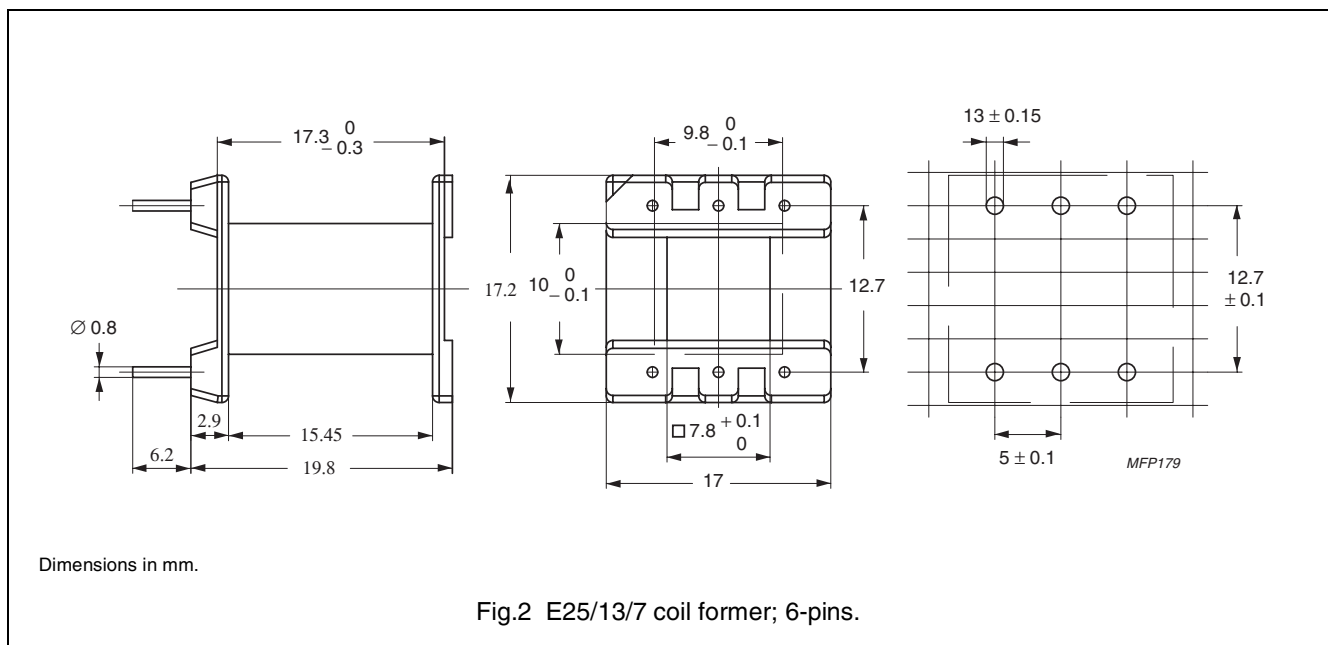
**Note**

1. Measured at 60 °C.

**COIL FORMERS**

**General data for 6-pins E25/13/7 coil former**

PARAMETER	SPECIFICATION
Coil former material	phenolformaldehyde (PF), glass reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E59481(M)
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, 235 °C, 2 s

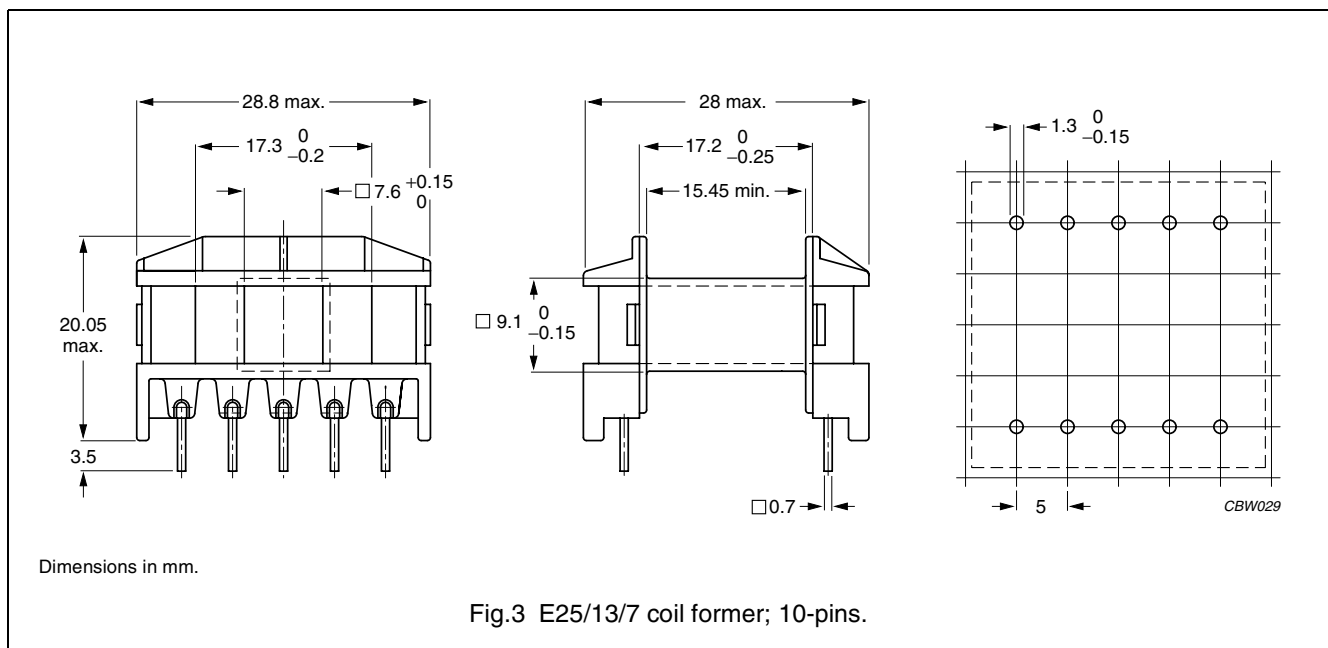


**Winding data and area product for 6-pins E25/13/7 coil former**

NUMBER OF SECTIONS	WINDING AREA (mm <sup>2</sup> )	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm <sup>4</sup> )	TYPE NUMBER
1	56	15.45	49	2910	CSV-E25/13/7-1S-6P-C

General data for 10-pins E25/13/7 coil former

PARAMETER	SPECIFICATION
Coil former material	polybutyleneterephthalate (PBT), glass reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E41871(M)
Pin material	copper-tin alloy (CuSn), tin (Sn) plated
Maximum operating temperature	155 °C, "IEC 60085", class F
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



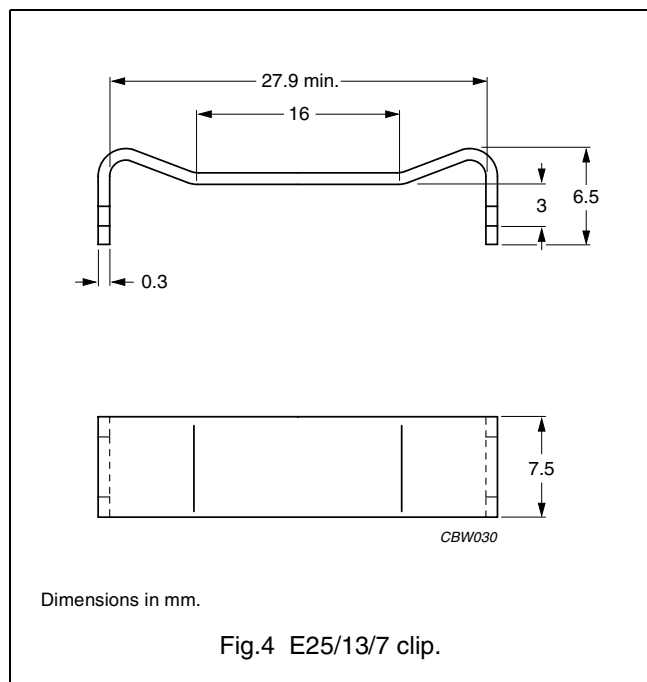
Winding data and area product for 10-pins E25/13/7 coil former

NUMBER OF SECTIONS	WINDING AREA (mm <sup>2</sup> )	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm <sup>4</sup> )	TYPE NUMBER
1	63.3	15.45	52.8	3290	CPH-E25/13/7-1S-10P

**MOUNTING PARTS**

**General data for mounting parts**

ITEM	REMARKS	FIGURE	TYPE NUMBER
Clip	stainless steel (CrNi)	4	CLI-E25/13/7



## E cores and accessories

E25/13/7  
(EF25)




## 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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<b>Prototype</b>		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.
<b>Design-in</b>		These products are recommended for new designs.
<b>Preferred</b>		These products are recommended for use in current designs and are available via our sales channels.
<b>Support</b>		These products are <b>not</b> 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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