

DATA SHEET

E25/13/7

(EF25)

E cores and accessories

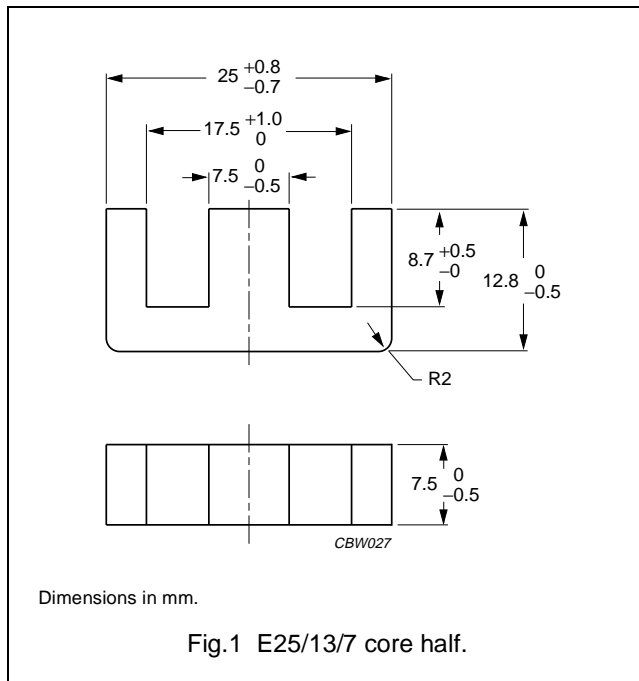
Supersedes data of February 2002

2004 Sep 01

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	1.11	mm ⁻¹
V_e	effective volume	2990	mm ³
l_e	effective length	58.0	mm
A_e	effective area	52.0	mm ²
A_{min}	minimum area	52.0	mm ²
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 ±10 N unless otherwise stated.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C81	63 ±5% ⁽¹⁾	≈ 56	≈ 1740	E25/13/7-3C81-E63
	100 ±8%	≈ 99	≈ 920	E25/13/7-3C81-A100
	160 ±8%	≈143	≈ 500	E25/13/7-3C81-A160
	250 ±15%	≈ 224	≈ 280	E25/13/7-3C81-A250
	315 ±15%	≈ 282	≈ 210	E25/13/7-3C81-A315
	2460 ±25%	≈ 2200	≈ 0	E25/13/7-3C81
3C90	63 ±5% ⁽¹⁾	≈ 56	≈ 1740	E25/13/7-3C90-E63
	100 ±8%	≈ 99	≈ 920	E25/13/7-3C90-A100
	160 ±8%	≈143	≈ 500	E25/13/7-3C90-A160
	250 ±15%	≈ 224	≈ 280	E25/13/7-3C90-A250
	315 ±15%	≈ 282	≈ 210	E25/13/7-3C90-A315
	1900 ±25%	≈ 1700	≈ 0	E25/13/7-3C90
3C91 des	2460 ±25%	≈ 2200	≈ 0	E25/13/7-3C91
3C92 des	1450 ±25%	≈ 1280	≈ 0	E25/13/7-3C92
3C94	1900 ±25%	≈ 1700	≈ 0	E25/13/7-3C94
3C96 des	1650 ±25%	≈ 1480	≈ 0	E25/13/7-3C96

E cores and accessories

E25/13/7
(EF25)

GRADE	A _L (nH)	μ _e	AIR GAP (μm)	TYPE NUMBER
3F3	63 ±5% ⁽¹⁾	≈ 56	≈ 1740	E25/13/7-3F3-E63
	100 ±8%	≈ 99	≈ 920	E25/13/7-3F3-A100
	160 ±8%	≈ 143	≈ 500	E25/13/7-3F3-A160
	250 ±15%	≈ 224	≈ 280	E25/13/7-3F3-A250
	315 ±15%	≈ 282	≈ 210	E25/13/7-3F3-A315
	1650 ±25%	≈ 1480	≈ 0	E25/13/7-3F3
3F35 	1250 ±25%	≈ 1120	≈ 0	E25/13/7-3F3

Note

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

Core halves of high permeability grades

Clamping force for A_L measurements 20 ±10 N.

GRADE	A _L (nH)	μ _e	AIR GAP (μm)	TYPE NUMBER
3C11	3100 ±25%	≈ 2780	≈ 0	E25/13/7-3C11
3E27	4000 ±25%	≈ 3580	≈ 0	E25/13/7-3E27

E cores and accessories

E25/13/7
(EF25)

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	≤ 0.61	–	–	–
3C90	≥330	≤ 0.35	≤ 0.38	–	–
3C91	≥320	–	≤ 0.22 ⁽¹⁾	≤ 1.2 ⁽¹⁾	–
3C92	≥370	–	≤ 0.3	≤ 1.5	–
3C94	≥330	–	≤ 0.3	≤ 1.5	–
3C96	≥340	–	≤ 0.22	≤ 1.2	–
3F3	≥320	–	≤ 0.38	–	≤ 0.65
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
3C81	≥320	–	–	–	–
3C90	≥330	–	–	–	–
3C91	≥320	–	–	–	–
3C92	≥370	–	–	–	–
3C94	≥330	–	–	–	–
3C96	≥340	≤ 1.1	–	–	–
3F3	≥320	–	–	–	–
3F35	≥300	≤ 0.4	≤ 3.1	–	–

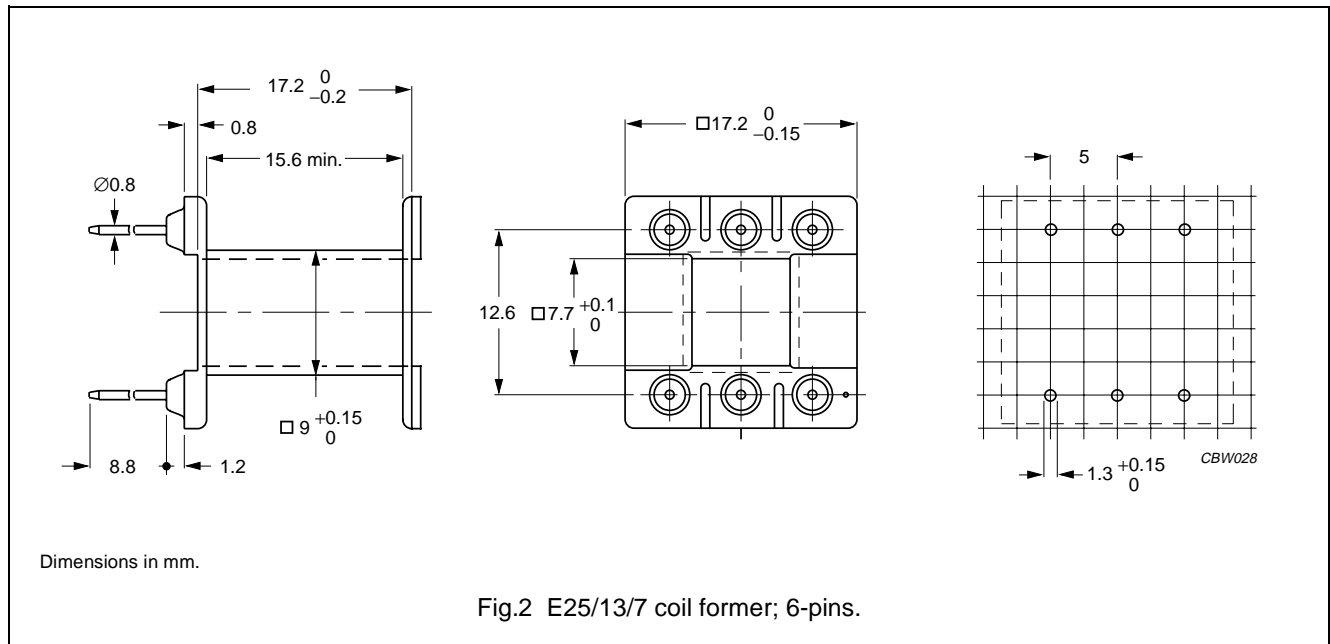
Note

1. Measured at 60 °C.

COIL FORMERS

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

PARAMETER	SPECIFICATION
Coil former material	polybutyleneterephthalate (PBT), glass reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E41871(M)
Pin material	copper-tin alloy (CuSn), tin-lead alloy (SnPb) plated, transition to lead-free (Sn) ongoing.
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 for 6-pins E25/13/7 coil former

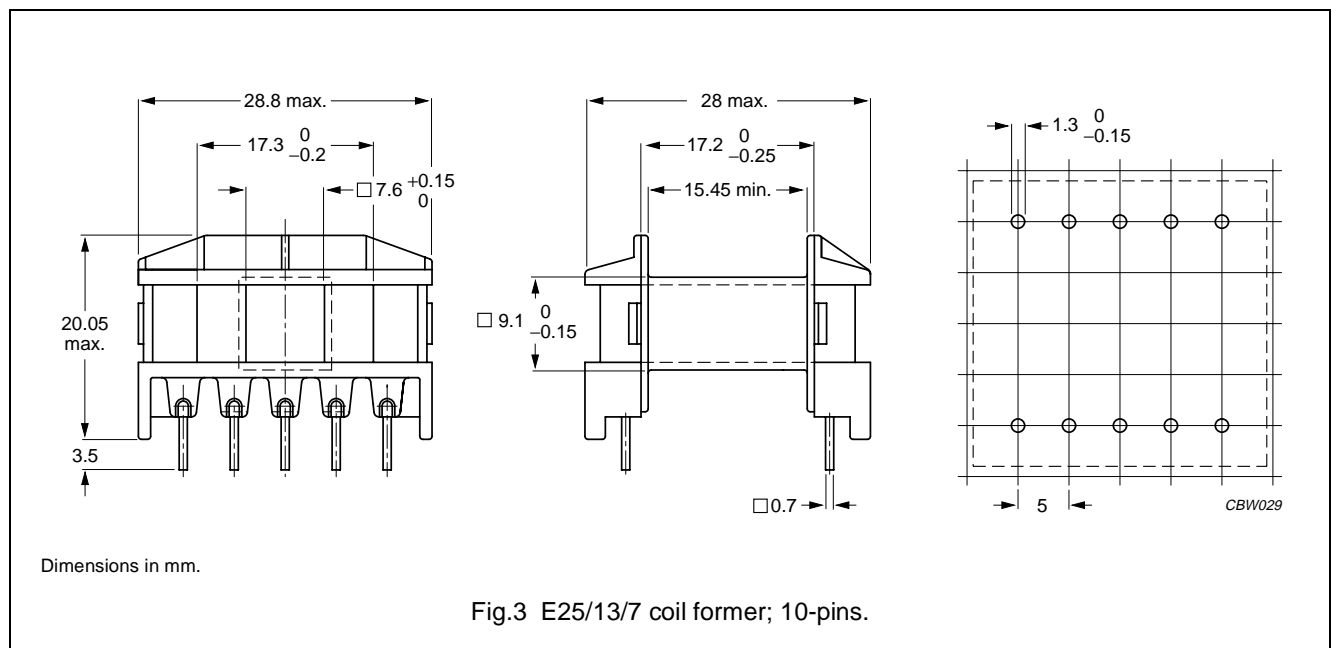
NUMBER OF SECTIONS	WINDING AREA (mm ²)	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	56	15.6	49	CPV-E25/13/7-1S-6P

E cores and accessories

E25/13/7
(EF25)

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-lead alloy (SnPb) plated, transition to lead-free (Sn) ongoing.
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



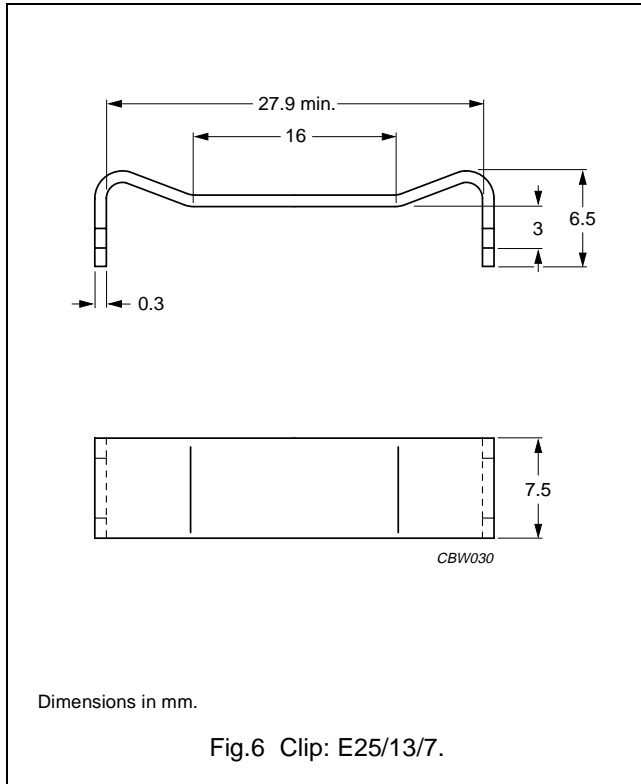
Winding data for 10-pins E25/13/7 coil former

NUMBER OF SECTIONS	WINDING AREA (mm ²)	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	63.3	15.45	52.8	CPH-E25/13/7-1S-10P

MOUNTING PARTS

General data for mounting parts

ITEM	REMARKS	FIGURE	TYPE NUMBER
Clip	stainless steel (CrNi)	6	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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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.