

# DATA SHEET

**E13/6/6**

**E cores and accessories**

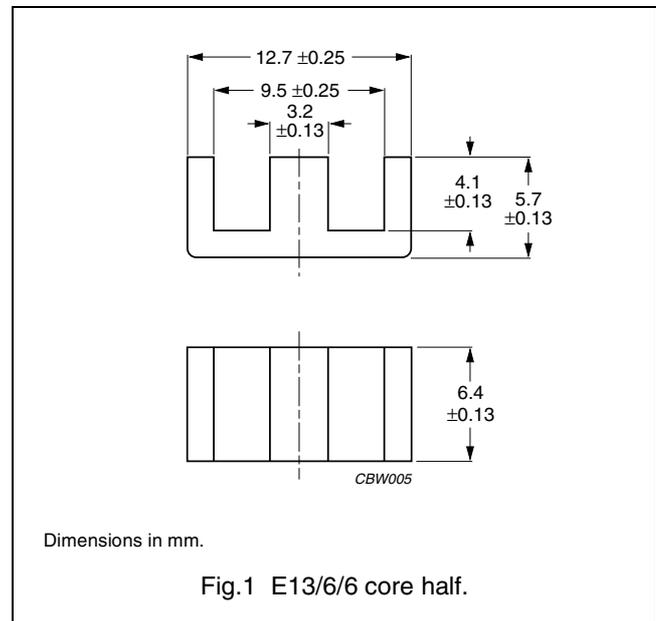
Supersedes data of September 2004

2008 Sep 01

**CORE SETS**

**Effective core parameters**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	1.37	mm <sup>-1</sup>
$V_e$	effective volume	559	mm <sup>3</sup>
$l_e$	effective length	27.7	mm
$A_e$	effective area	20.2	mm <sup>2</sup>
$A_{min}$	minimum area	20.2	mm <sup>2</sup>
m	mass of core half	≈ 1.4	g



**Core halves**

$A_L$  measured in combination with a non-gapped core half, clamping force for  $A_L$  measurements, 15 ± 5 N.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu$ m)	TYPE NUMBER
3C90	63 ± 5%	≈ 70	≈ 560	E13/6/6-3C90-A63
	100 ± 8%	≈ 110	≈ 310	E13/6/6-3C90-A100
	160 ± 8%	≈ 175	≈ 175	E13/6/6-3C90-A160
	250 ± 20%	≈ 275	≈ 100	E13/6/6-3C90-A250
	315 ± 20%	≈ 340	≈ 75	E13/6/6-3C90-A315
	1470 ± 25%	≈ 1605	≈ 0	E13/6/6-3C90
3C92 <b>des</b>	1080 ± 25%	≈ 1180	≈ 0	E13/6/6-3C92
3C94	1470 ± 25%	≈ 1605	≈ 0	E13/6/6-3C94
3C96 <b>des</b>	1250 ± 25%	≈ 1360	≈ 0	E13/6/6-3C96
3F3	63 ± 5%	≈ 70	≈ 560	E13/6/6-3F3-A63
	100 ± 8%	≈ 110	≈ 310	E13/6/6-3F3-A100
	160 ± 8%	≈ 175	≈ 175	E13/6/6-3F3-A160
	250 ± 20%	≈ 275	≈ 100	E13/6/6-3F3-A250
	315 ± 20%	≈ 340	≈ 75	E13/6/6-3F3-A315
	1250 ± 25%	≈ 1370	≈ 0	E13/6/6-3F3
3F35 <b>des</b>	1000 ± 25%	≈ 1090	≈ 0	E13/6/6-3F35

## E cores and accessories

E13/6/6  
(814E250)**Core halves of high permeability grades** $A_L$  measured in combination with a non-gapped core half, clamping force for  $A_L$  measurements,  $15 \pm 5$  N.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3E27	$2600 \pm 25\%$	$\approx 2840$	$\approx 0$	E13/6/6-3E27

**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
3C90	$\geq 320$	$\leq 0.06$	$\leq 0.06$	–	–
3C92	$\geq 370$	–	$\leq 0.048$	$\leq 0.33$	–
3C94	$\geq 320$	–	$\leq 0.048$	$\leq 0.33$	–
3C96	$\geq 340$	–	$\leq 0.037$	$\leq 0.25$	–
3F3	$\geq 320$	–	$\leq 0.06$	–	$\leq 0.11$
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	$\geq 340$	$\leq 0.21$	–	–	–
3F3	$\geq 315$	–	–	–	–
3F35	$\geq 300$	$\leq 0.075$	$\leq 0.6$	–	–

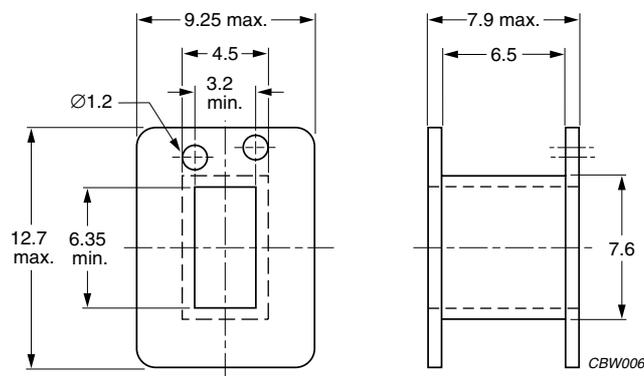
**Note**

1. Measured at 60 °C.

**COIL FORMERS**

**General data for E13/6/6 coil former**

ITEM	SPECIFICATION
Coil former material	polyamide (PA6.6), glass reinforced, flame retardant in accordance with "UL 94V-2"; UL file number E41938(M)
Maximum operating temperature	130 °C, "IEC 60085", class B



Dimensions in mm.

Fig.2 E13/6/6 coil former.

**Winding data and area product for E13/6/6 coil former**

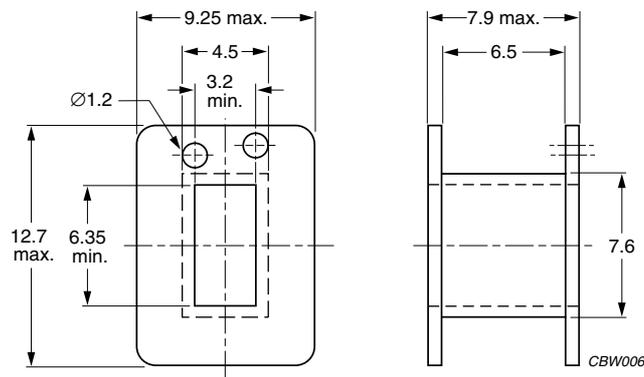
NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm <sup>2</sup> )	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm <sup>4</sup> )	TYPE NUMBER
1	15.4	6.5	32.0	311	CP-E13/6/6-1S

E cores and accessories

E13/6/6  
(814E250)

General data for E13/6/6 coil former

ITEM	SPECIFICATION
Coil former material	polyphenylenesulfide (PPS), glass reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E54700
Maximum operating temperature	130 °C, "IEC 60085", class B



Dimensions in mm.

Fig.3 E13/6/6 coil former.

Winding data and area product for E13/6/6 coil former

NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm <sup>2</sup> )	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm <sup>4</sup> )	TYPE NUMBER
1	15.4	6.5	32.0	311	CP-E13/6/6-1S-A

## E cores and accessories

E13/6/6  
(814E250)

## 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
<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.