

DATA SHEET

E13/6/6

E cores and accessories

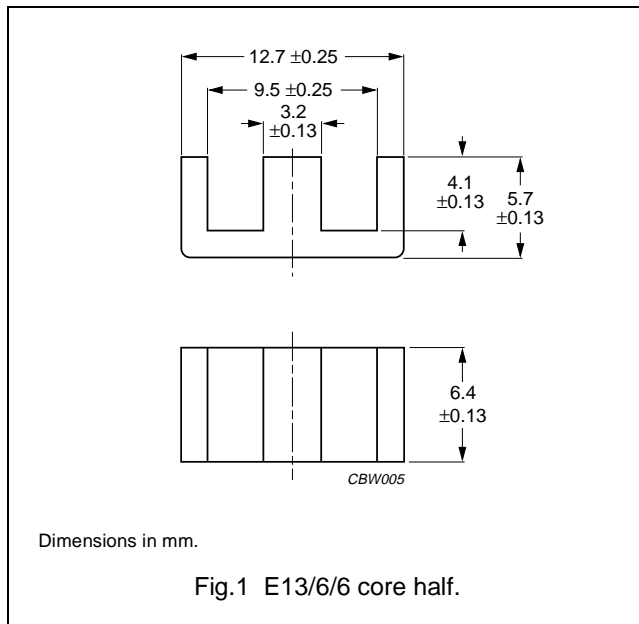
Supersedes data of February 2002

2004 Sep 01

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	1.37	mm ⁻¹
V_e	effective volume	559	mm ³
l_e	effective length	27.7	mm
A_e	effective area	20.2	mm ²
A_{min}	minimum area	20.2	mm ²
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)	μ_e	AIR GAP (μ m)	TYPE NUMBER
3C81	63 ± 5%	≈ 70	≈ 560	E13/6/6-3C81-A63
	100 ± 8%	≈ 110	≈ 310	E13/6/6-3C81-A100
	160 ± 8%	≈ 175	≈ 175	E13/6/6-3C81-A160
	250 ± 20%	≈ 275	≈ 100	E13/6/6-3C81-A250
	315 ± 20%	≈ 340	≈ 75	E13/6/6-3C81-A315
	1950 ± 25%	≈ 2130	≈ 0	E13/6/6-3C81
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
3C91 <small>des</small>	1950 ± 25%	≈ 2130	≈ 0	E13/6/6-3C91
3C92 <small>des</small>	1080 ± 25%	≈ 1180	≈ 0	E13/6/6-3C92
3C94	1470 ± 25%	≈ 1605	≈ 0	E13/6/6-3C94
3C96 <small>des</small>	1250 ± 25%	≈ 1360	≈ 0	E13/6/6-3C96

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GRADE	A _L (nH)	μ _e	AIR GAP (μm)	TYPE NUMBER
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 	1000 ±25%	≈ 1090	≈ 0	E13/6/6-3F35

Core halves of high permeability gradesA_L measured in combination with a non-gapped core half, clamping force for A_L measurements, 15 ±5 N.

GRADE	A _L (nH)	μ _e	AIR GAP (μm)	TYPE NUMBER
3E27	2600 ±25%	≈ 2840	≈ 0	E13/6/6-3E27

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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	≤ 0.12	–	–	–
3C90	≥320	≤ 0.06	≤ 0.06	–	–
3C91	≥320	–	≤ 0.037 ⁽¹⁾	≤ 0.25 ⁽¹⁾	–
3C92	≥370	–	≤ 0.048	≤ 0.33	–
3C94	≥320	–	≤ 0.048	≤ 0.33	–
3C96	≥340	–	≤ 0.037	≤ 0.25	–
3F3	≥320	–	≤ 0.06	–	≤ 0.11
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	≥320	–	–	–	–
3C91	≥320	–	–	–	–
3C92	≥370	–	–	–	–
3C94	≥320	–	–	–	–
3C96	≥340	≤ 0.21	–	–	–
3F3	≥315	–	–	–	–
3F35	≥300	≤ 0.075	≤ 0.6	–	–

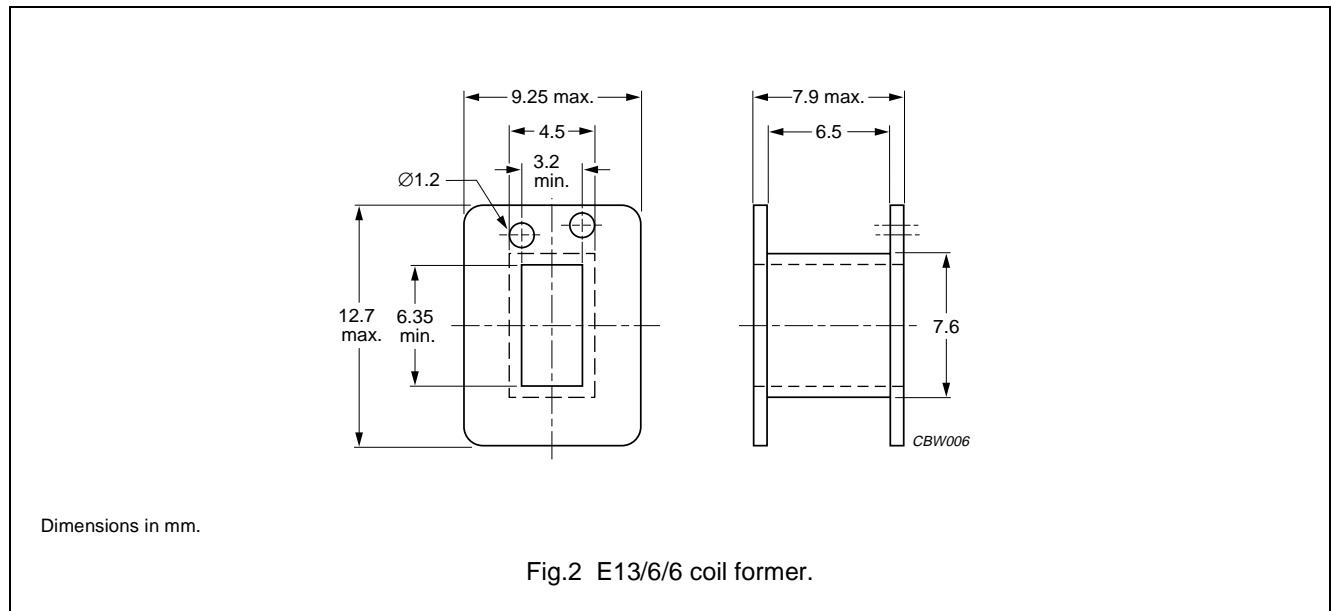
Note

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



Winding data for E13/6/6 coil former

NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	15.4	6.5	32.0	CP-E13/6/6-1S

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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

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