

# DATA SHEET

**E19/8/9**

**E cores and accessories**

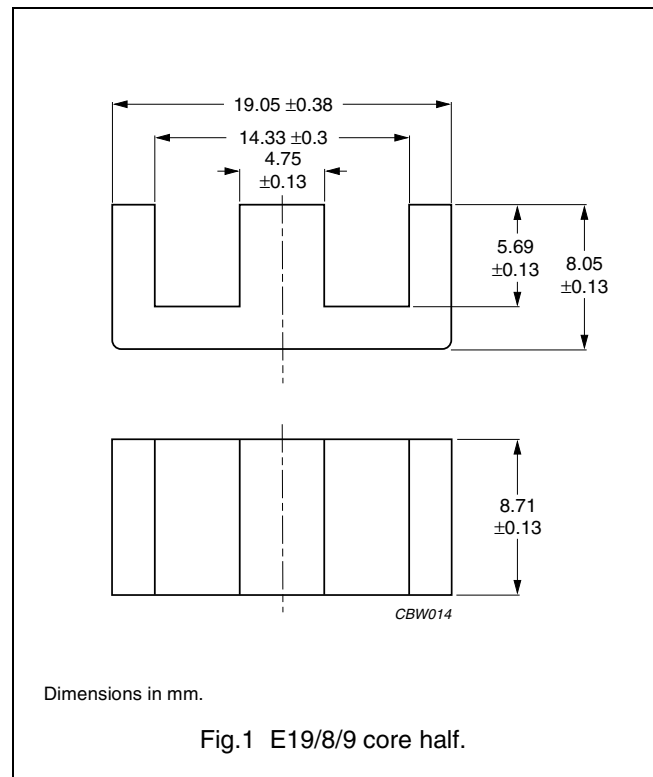
Supersedes data of September 2004

2008 Sep 01

**CORE SETS**

**Effective core parameters**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.960	mm <sup>-1</sup>
$V_e$	effective volume	1650	mm <sup>3</sup>
$l_e$	effective length	39.9	mm
$A_e$	effective area	41.3	mm <sup>2</sup>
$A_{min}$	minimum area	41.1	mm <sup>2</sup>
m	mass of core half	≈ 4.0	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)	$\mu_e$	TOTAL AIR GAP ( $\mu$ m)	TYPE NUMBER
3C81	63 ± 5% <sup>(1)</sup>	≈ 48	≈ 1280	E19/8/9-3C81-E63
	100 ± 8% <sup>(1)</sup>	≈ 77	≈ 700	E19/8/9-3C81-E100
	160 ± 8%	≈ 123	≈ 390	E19/8/9-3C81-A160
	250 ± 15%	≈ 192	≈ 220	E19/8/9-3C81-A250
	315 ± 15%	≈ 242	≈ 170	E19/8/9-3C81-A315
	2740 ± 25%	≈ 2680	≈ 0	E19/8/9-3C81
3C90	63 ± 5% <sup>(1)</sup>	≈ 48	≈ 1300	E19/8/9-3C90-E63
	100 ± 8% <sup>(1)</sup>	≈ 77	≈ 700	E19/8/9-3C90-E100
	160 ± 8%	≈ 123	≈ 380	E19/8/9-3C90-A160
	250 ± 15%	≈ 192	≈ 220	E19/8/9-3C90-A250
	315 ± 15%	≈ 240	≈ 170	E19/8/9-3C90-A315
	2150 ± 25%	≈ 2100	≈ 0	E19/8/9-3C90
3C91 <span style="background-color: black; color: white; padding: 0 2px;">des</span>	2740 ± 25%	≈ 2680	≈ 0	E19/8/9-3C91
3C92 <span style="background-color: black; color: white; padding: 0 2px;">des</span>	1640 ± 25%	≈ 1250	≈ 0	E19/8/9-3C92
3C94	2150 ± 25%	≈ 2100	≈ 0	E19/8/9-3C94
3C96 <span style="background-color: black; color: white; padding: 0 2px;">des</span>	1830 ± 25%	≈ 1410	≈ 0	E19/8/9-3C96

## E cores and accessories

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GRADE	$A_L$ (nH)	$\mu_e$	TOTAL AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3F3	$63 \pm 5\%^{(1)}$	$\approx 48$	$\approx 1300$	E19/8/9-3F3-E63
	$100 \pm 8\%^{(1)}$	$\approx 77$	$\approx 700$	E19/8/9-3F3-E100
	$160 \pm 8\%$	$\approx 123$	$\approx 380$	E19/8/9-3F3-A250
	$250 \pm 15\%$	$\approx 192$	$\approx 220$	E19/8/9-3F3-A315
	$315 \pm 15\%$	$\approx 240$	$\approx 170$	E19/8/9-3F3-A400
	$1830 \pm 25\%$	$\approx 1410$	$\approx 0$	E19/8/9-3F3
3F35 <small>des</small>	$1490 \pm 25\%$	$\approx 1150$	$\approx 0$	E19/8/9-3F35

**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	$4250 \pm 25\%$	$\approx 3270$	$\approx 0$	E19/8/9-3E27

**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	$\geq 320$	$\leq 0.4$	–	–	–
3C90	$\geq 320$	$\leq 0.17$	$\leq 0.18$	–	–
3C91	$\geq 320$	–	$\leq 0.11^{(1)}$	$\leq 0.68^{(1)}$	–
3C92	$\geq 370$	–	$\leq 0.14$	$\leq 0.85$	–
3C94	$\geq 320$	–	$\leq 0.14$	$\leq 0.85$	–
3C96	$\geq 340$	–	$\leq 0.11$	$\leq 0.68$	–
3F3	$\geq 320$	–	$\leq 0.18$	–	$\leq 0.31$
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	$\geq 340$	$\leq 0.6$	–	–	–
3F3	$\geq 315$	–	–	–	–
3F35	$\geq 300$	$\leq 0.22$	$\leq 1.7$	–	–

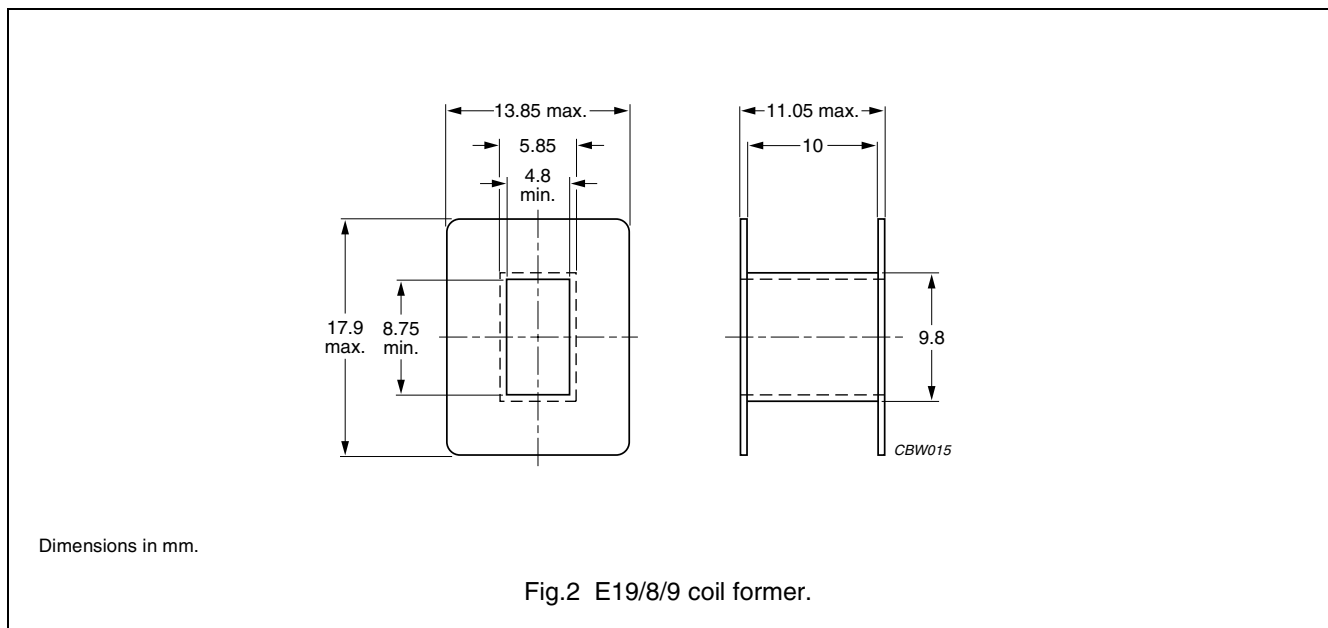
**Note**

1. Measured at 60 °C.

**COIL FORMER**

**General data for E19/8/9 coil former**

PARAMETER	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	105 °C, "IEC 60085", class A



**Winding data and area product for E19/8/9 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	39.7	10	45.2	1640	CP-E19/8/9-1S

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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

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.
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