

DATA SHEET

E19/8/9
(813E343)
E cores and accessories

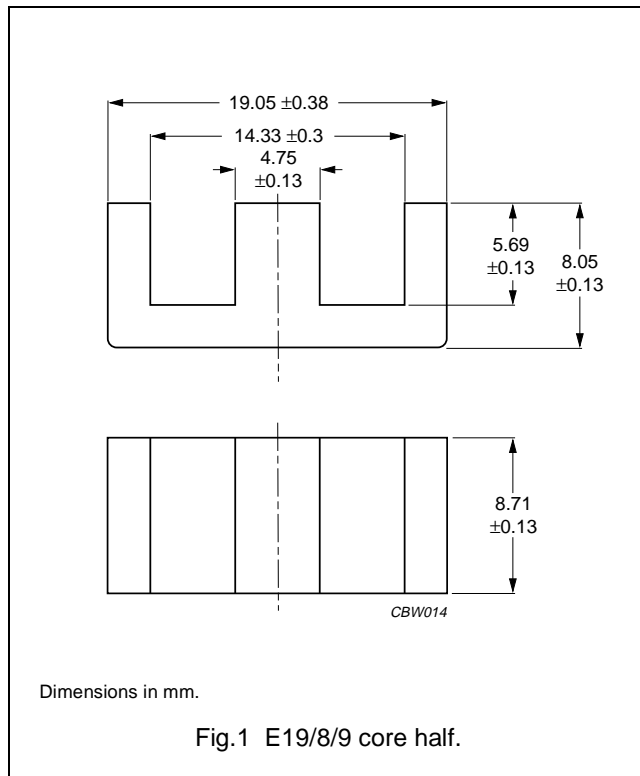
Supersedes data of February 2002

2004 Sep 01

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.960	mm ⁻¹
V_e	effective volume	1650	mm ³
l_e	effective length	39.9	mm
A_e	effective area	41.3	mm ²
A_{min}	minimum area	41.1	mm ²
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)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C81	63 ± 5% ⁽¹⁾	≈ 48	≈ 1280	E19/8/9-3C81-E63
	100 ± 8% ⁽¹⁾	≈ 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% ⁽¹⁾	≈ 48	≈ 1300	E19/8/9-3C90-E63
	100 ± 8% ⁽¹⁾	≈ 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 <small>des</small>	2740 ± 25%	≈ 2680	≈ 0	E19/8/9-3C91
3C92 <small>des</small>	1640 ± 25%	≈ 1250	≈ 0	E19/8/9-3C92
3C94	2150 ± 25%	≈ 2100	≈ 0	E19/8/9-3C94
3C96 <small>des</small>	1830 ± 25%	≈ 1410	≈ 0	E19/8/9-3C96

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

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 gradesClamping force for A_L measurements, 20 ± 10 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3E27	$4250 \pm 25\%$	≈ 3270	≈ 0	E19/8/9-3E27

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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	≤ 0.4	–	–	–
3C90	≥320	≤ 0.17	≤ 0.18	–	–
3C91	≥320	–	≤ 0.11 ⁽¹⁾	≤ 0.68 ⁽¹⁾	–
3C92	≥370	–	≤ 0.14	≤ 0.85	–
3C94	≥320	–	≤ 0.14	≤ 0.85	–
3C96	≥340	–	≤ 0.11	≤ 0.68	–
3F3	≥320	–	≤ 0.18	–	≤ 0.31
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	≤ 0.6	–	–	–
3F3	≥315	–	–	–	–
3F35	≥300	≤ 0.22	≤ 1.7	–	–

Note

1. Measured at 60 °C.

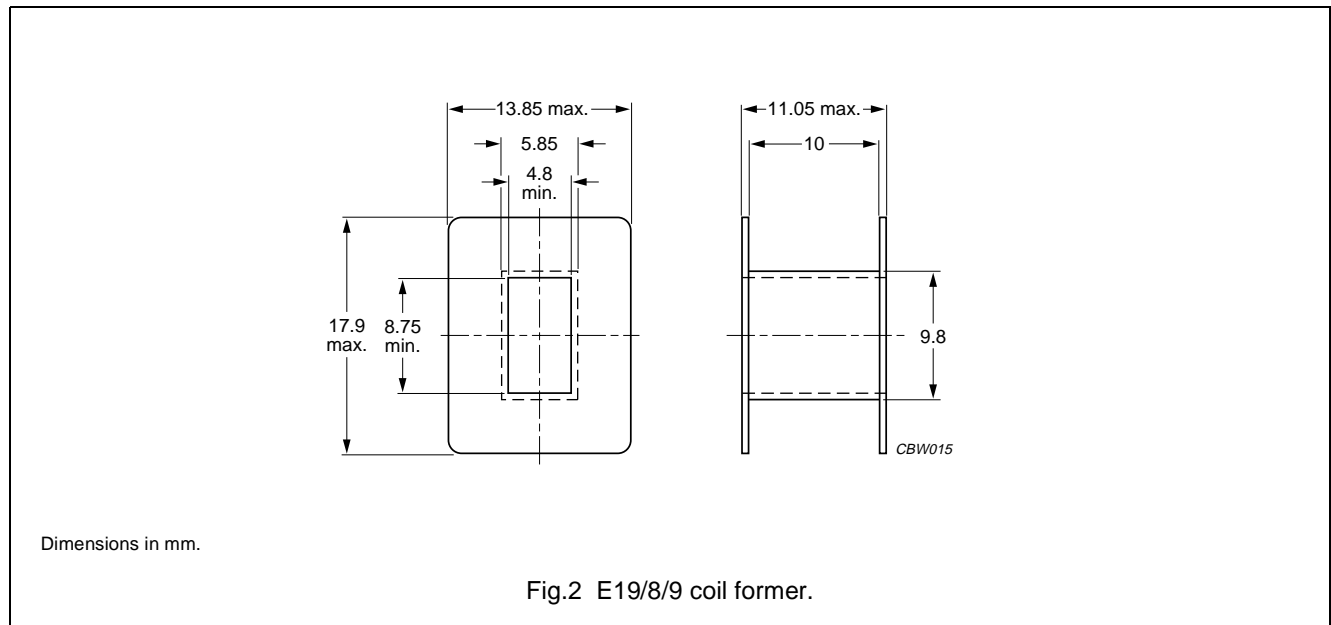
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COIL FORMER

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 for E19/8/9 coil former

NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	39.7	10	45.2	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

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