

DATA SHEET

EP17

EP cores and accessories

Supersedes data of September 2004

2008 Sep 01

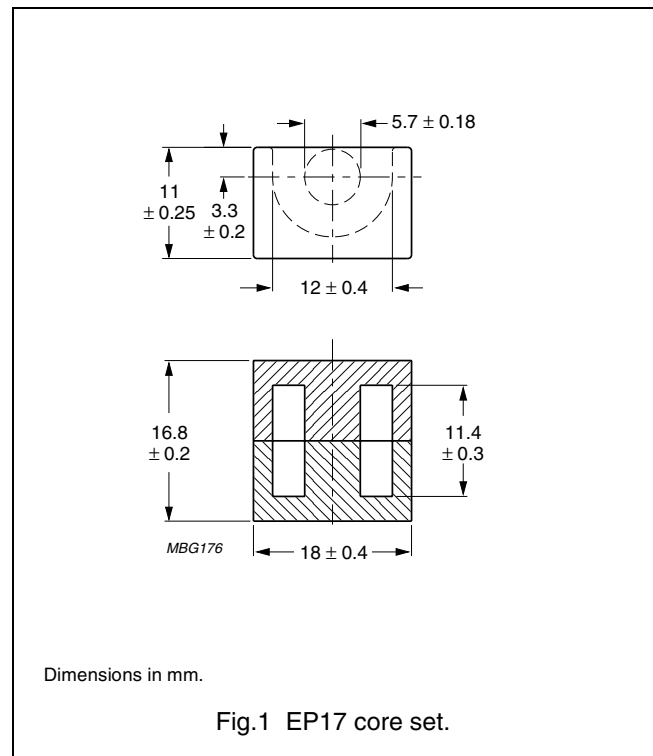


FERROXCUBE
A YAGEO COMPANY

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.870	mm ⁻¹
V_e	effective volume	999	mm ³
l_e	effective length	29.5	mm
A_e	effective area	33.7	mm ²
A_{min}	minimum area	25.5	mm ²
m	mass of set	≈ 12	g



Core sets for general purpose transformers and power applications

Clamping force for A_L measurements, 40 ± 10 N.

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3C81	63 ± 3%	≈ 44	≈ 1020	EP17-3C81-E63
	100 ± 3%	≈ 70	≈ 560	EP17-3C81-A100
	160 ± 3%	≈ 111	≈ 310	EP17-3C81-A160
	250 ± 3%	≈ 174	≈ 180	EP17-3C81-A250
	315 ± 5%	≈ 219	≈ 135	EP17-3C81-A315
	2670 ± 25%	≈ 1860	≈ 0	EP17-3C81
3C91 <small>des</small>	2670 ± 25%	≈ 1860	≈ 0	EP17-3C91
3C94	63 ± 3%	≈ 44	≈ 1020	EP17-3C94-E63
	100 ± 3%	≈ 70	≈ 560	EP17-3C94-A100
	160 ± 3%	≈ 111	≈ 310	EP17-3C94-A160
	250 ± 3%	≈ 174	≈ 180	EP17-3C94-A250
	315 ± 5%	≈ 219	≈ 135	EP17-3C94-A315
	2500 ± 25%	≈ 1740	≈ 0	EP17-3C94
3C96 <small>des</small>	2200 ± 25%	≈ 1530	≈ 0	EP17-3C96

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3F3	63 \pm 3%	\approx 44	\approx 1020	EP17-3F3-E63
	100 \pm 3%	\approx 70	\approx 560	EP17-3F3-A100
	160 \pm 3%	\approx 111	\approx 310	EP17-3F3-A160
	250 \pm 3%	\approx 174	\approx 180	EP17-3F3-A250
	315 \pm 5%	\approx 219	\approx 135	EP17-3F3-A315
	2200 \pm 25%	\approx 1530	\approx 0	EP17-3F3

Core sets of high permeability gradesClamping force for A_L measurements, 40 \pm 10 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3E27	7100 \pm 25%	\approx 4950	\approx 0	EP17-3E27

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 315	\leq 0.23	–	–	–
3C91	\geq 315	–	\leq 0.06 ⁽¹⁾	\leq 0.36 ⁽¹⁾	–
3C94	\geq 320	–	\leq 0.08	\leq 0.45	–
3C96	\geq 340	–	\leq 0.06	\leq 0.36	\leq 0.15
3F3	\geq 315	–	\leq 0.15	–	\leq 0.2

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	\geq 315	–	–	–	–
3C91	\geq 315	–	–	–	–
3C94	\geq 320	–	–	–	–
3C96	\geq 340	\leq 0.3	–	–	–
3F3	\geq 315	–	–	–	–

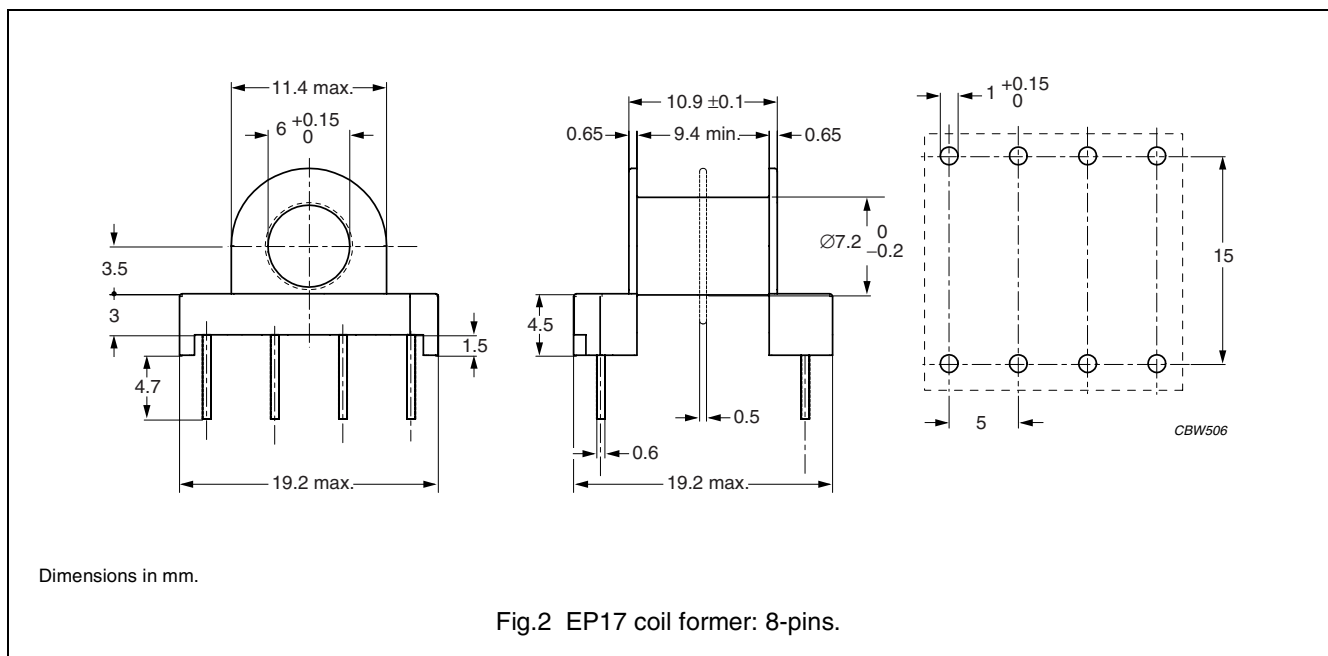
Note

1. Measured at 60 °C.

COIL FORMER

General data

PARAMETER	SPECIFICATION
Coil former material	phenolformaldehyde (PF), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E41429 (M)
Pin material	copper clad steel, tin (Sn) plated
Maximum operating temperature	180 °C, "IEC 60085", class H
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



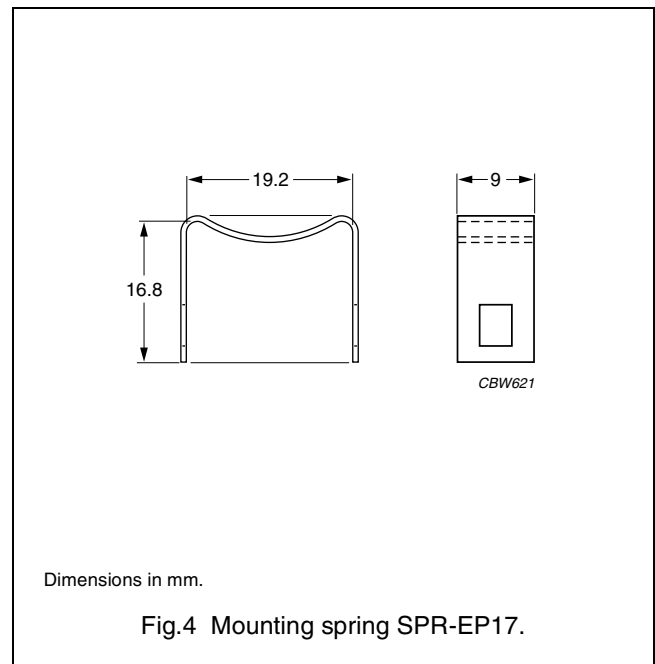
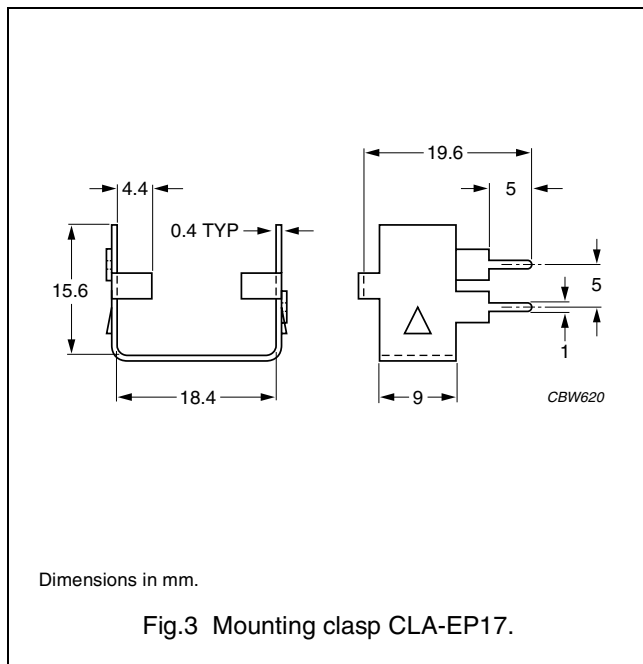
Winding data and area product for 8-pins EP17 coil former

NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	18.0	9.45	28.9	607	CSH-EP17-1S-8P
2	2 x 8.3	2 x 4.6	28.9	2 x 280	CSH-EP17-2S-8P

MOUNTING PARTS

General data

ITEM	REMARKS	FIGURE	TYPE NUMBER
Clasp	copper-tin alloy (CuSn), tin (Sn) plated	3	CLA-EP17
Spring	copper-tin alloy (CuSn), tin (Sn) plated	4	SPR-EP17






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
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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.