

DATA SHEET

E31/13/9

E cores and accessories

Supersedes data of September 2004

2008 Sep 01

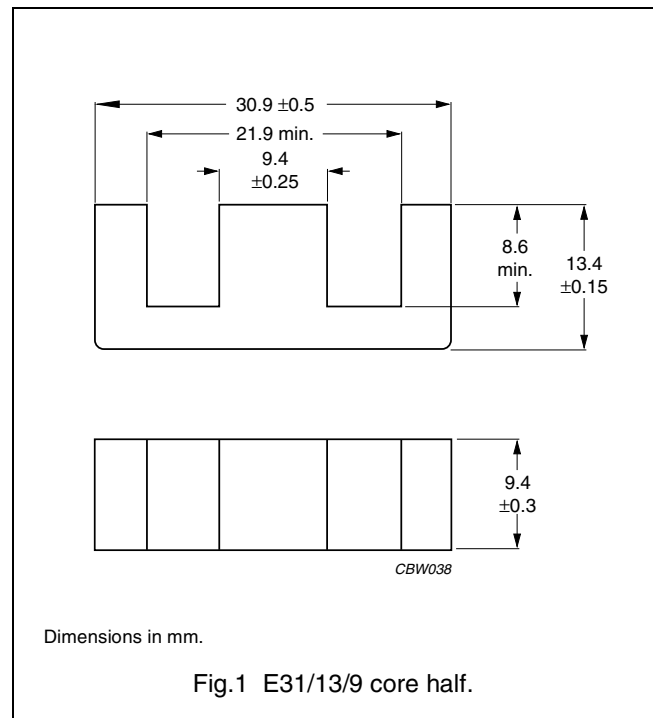


FERROXCUBE
A YAGEO COMPANY

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.740	mm ⁻¹
V_e	effective volume	5150	mm ³
l_e	effective length	61.9	mm
A_e	effective area	83.2	mm ²
A_{min}	minimum area	83.2	mm ²
m	mass of core half	≈ 13	g



Core halves

A_L measured in combination with a non-gapped core half, clamping force for A_L measurements 40 ± 20 N, unless stated otherwise.

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3C90	$100 \pm 5\%^{(1)}$	≈ 59	≈ 1560	E31/13/9-3C90-E100
	$160 \pm 5\%^{(1)}$	≈ 95	≈ 840	E31/13/9-3C90-E160
	$250 \pm 5\%$	≈ 148	≈ 480	E31/13/9-3C90-A250
	$315 \pm 5\%$	≈ 186	≈ 360	E31/13/9-3C90-A315
	$400 \pm 8\%$	≈ 237	≈ 270	E31/13/9-3C90-A400
	$630 \pm 15\%$	≈ 373	≈ 150	E31/13/9-3C90-A630
	$2970 \pm 25\%$	≈ 1760	≈ 0	E31/13/9-3C90

Note

1. Measured in combination with an equal gapped core half, clamping force for A_L measurements, 40 ± 20 N.

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
3C90	≥ 320	≤ 0.52	≤ 0.58




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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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.