DATA SHEET

E13/6/3
E cores and accessories

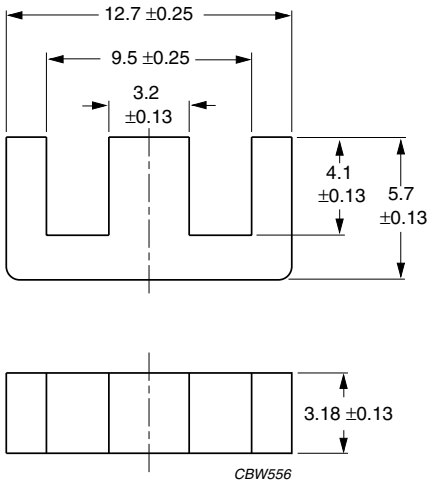
Supersedes data of September 2004 2008 Sep 01

FERROXCUBE
A YAGEO COMPANY

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	2.74	mm^{-1}
V_e	effective volume	281	mm^3
l_e	effective length	27.8	mm
A_e	effective area	10.1	mm^2
A_{min}	minimum area	10.1	mm^2
m	mass of core half	≈ 0.7	g



Dimensions in mm.

Fig.1 E13/6/3 core half.

Core halves

A_L measured in combination with a non-gapped core half, clamping force for A_L measurements, 8 ±4 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C90	63 ±5%	≈138	≈ 250	E13/6/3-3C90-A63
	100 ±8%	≈ 219	≈140	E13/6/3-3C90-A100
	160 ±8%	≈ 350	≈ 75	E13/6/3-3C90-A160
	250 ±20%	≈ 548	≈ 40	E13/6/3-3C90-A250
	315 ±20%	≈ 690	≈ 30	E13/6/3-3C90-A315
	730 ±25%	≈1590	≈ 0	E13/6/3-3C90
3C92 des	540 ±25%	≈1180	≈ 0	E13/6/3-3C92
3C94	730 ±25%	≈1590	≈ 0	E13/6/3-3C94
3C96 des	660 ±25%	≈1440	≈ 0	E13/6/3-3C96

Core halves of high permeability grades

A_L measured in combination with an non-gapped core half, clamping force for A_L measurements, 8 ±4 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3E27	1300 ±25%	≈ 2830	≈ 0	E13/6/3-3E27

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 = 500 kHz; $\hat{B}$ = 50 mT; T = 100 °C
3C90	≥ 320	≤ 0.03	≤ 0.03	–	–
3C92	≥ 370	–	≤ 0.022	≤ 0.16	–
3C94	≥ 320	–	≤ 0.024	≤ 0.15	–
3C96	≥ 340	–	≤ 0.019	≤ 0.13	≤ 0.11

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
Prototype	prot	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.
Design-in	des	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	sup	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.