

# DATA SHEET

**E13/6/3**

**E cores and accessories**

Supersedes data of September 2004

2008 Sep 01

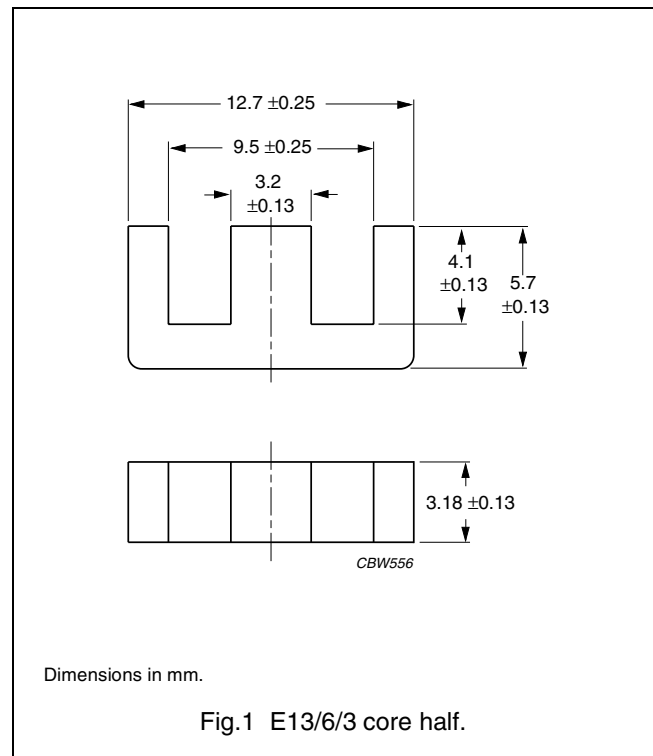


**FERROXCUBE**  
A YAGEO COMPANY

**CORE SETS**

**Effective core parameters**

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



**Core halves**

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

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu$ m)	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 <small>des</small>	540 ± 25%	≈ 1180	≈ 0	E13/6/3-3C92
3C94	730 ± 25%	≈ 1590	≈ 0	E13/6/3-3C94
3C96 <small>des</small>	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,  $8 \pm 4$  N.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu$ m)	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
<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.
<b>Preferred</b>		These products are recommended for use in current designs and are available via our sales channels.
<b>Support</b>		These products are <b>not</b> recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.