DATA SHEET

E50/27/15
E cores and accessories

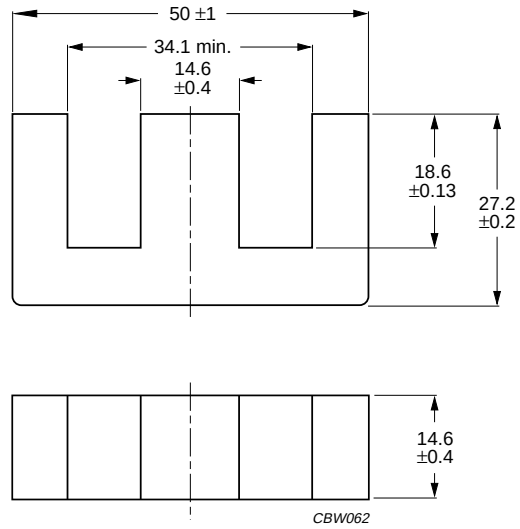
Supersedes data of February 2002 2004 Sep 01

FERROXCUBE
A YAGEO COMPANY

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.530	mm^{-1}
V_e	effective volume	26900	mm^3
l_e	effective length	120	mm
A_e	effective area	225	mm^2
A_{min}	minimum area	213	mm^2
m	mass of core half	≈ 68	g



Dimensions in mm.

Fig.1 E50/27/15 core half.

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	AIR GAP (μm)	TYPE NUMBER
3C81	100 ±5%(1)	≈ 42	≈ 5400	E50/27/15-3C81-E100
	160 ±5%(1)	≈ 68	≈ 2760	E50/27/15-3C81-E160
	250 ±5%(1)	≈ 106	≈ 1500	E50/27/15-3C81-E250
	315 ±5%(1)	≈ 134	≈ 1100	E50/27/15-3C81-E315
	400 ±8%(1)	≈ 170	≈ 820	E50/27/15-3C81-E400
	630 ±10%	≈ 267	≈ 460	E50/27/15-3C81-A630
	5500 ±25%	≈ 2330	≈ 0	E50/27/15-3C81
3C90	100 ±5%(1)	≈ 42	≈ 5400	E50/27/15-3C90-E100
	160 ±5%(1)	≈ 68	≈ 2760	E50/27/15-3C90-E160
	250 ±5%(1)	≈ 106	≈ 1500	E50/27/15-3C90-E250
	315 ±5%(1)	≈ 134	≈ 1100	E50/27/15-3C90-E315
	400 ±8%(1)	≈ 170	≈ 820	E50/27/15-3C90-E400
	630 ±10%	≈ 267	≈ 460	E50/27/15-3C90-A630
	4350 ±25%	≈1850	≈ 0	E50/27/15-3C90
3C91 des	5500 ±25%	≈ 2330	≈ 0	E50/27/15-3C91
3C92 des	3200 ±25%	≈ 1350	≈ 0	E50/27/15-3C92
3C94	4350 ±25%	≈1850	≈ 0	E50/27/15-3C94

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	f = 100 kHz; $\hat{B}$ = 200 mT; T = 100 °C	f = 400 kHz; $\hat{B}$ = 50 mT; T = 100 °C
3C81	≥320	≤ 5.5	–	–	–
3C90	≥320	≤ 2.7	≤ 3.4	–	–
3C91	≥320	–	≤ 2.1(1)	≤ 12(1)	–
3C92	≥370	–	≤ 2.7	≤ 16	–
3C94	≥320	–	≤ 2.7	≤ 16	–

Note

1. Measured at 60 °C.

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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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.