DATA SHEET

E80/38/20
E cores and accessories

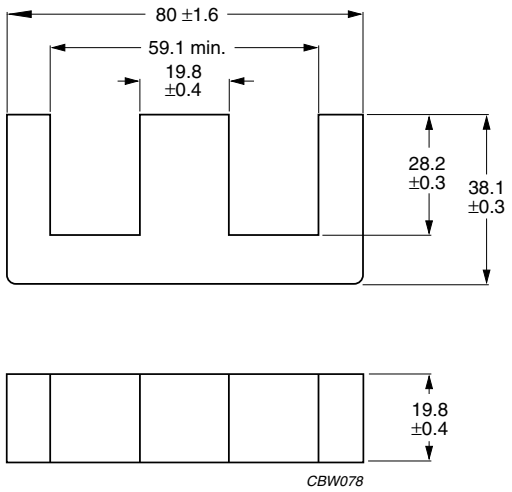
Supersedes data of September 2004 2008 Sep 01

FERROXCUBE
A YAGEO COMPANY

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.470	mm^{-1}
V_e	effective volume	72300	mm^3
l_e	effective length	184	mm
A_e	effective area	392	mm^2
A_{min}	minimum area	392	mm^2
m	mass of core half	≈ 180	g



Dimensions in mm.

Fig.1 E80/38/20 core half.

Core halves

A_L measured in combination with a non-gapped core half, clamping force for A_L measurements 60 ±20 N, unless stated otherwise.

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3C90	100 ±5%(1)	≈ 37	≈ 10800	E80/38/20-3C90-E100
	160 ±5%(1)	≈ 60	≈ 5540	E80/38/20-3C90-E160
	250 ±5%(1)	≈ 93	≈ 2900	E80/38/20-3C90-E250
	315 ±5%(1)	≈ 118	≈ 2120	E80/38/20-3C90-E315
	400 ±8%(1)	≈ 149	≈ 1540	E80/38/20-3C90-E400
	630 ±10%(1)	≈ 235	≈ 860	E80/38/20-3C90-E630
	5070 ±25%	≈ 1890	≈ 0	E80/38/20-3C90
3C92 des	3600 ±25%	≈ 1350	≈ 0	E80/38/20-3C92
3C94	5070 ±25%	≈ 1890	≈ 0	E80/38/20-3C94
3C95 des	6730 ±25%	≈ 2510	≈ 0	E80/38/20-3C95
3F3	100 ±5%(1)	≈ 37	≈ 10800	E80/38/20-3F3-E100
	160 ±5%(1)	≈ 60	≈ 5540	E80/38/20-3F3-E160
	250 ±5%(1)	≈ 93	≈ 2900	E80/38/20-3F3-E250
	315 ±5%(1)	≈ 118	≈ 2120	E80/38/20-3F3-E315
	400 ±8%(1)	≈ 149	≈ 1540	E80/38/20-3F3-E400
	630 ±10%(1)	≈ 235	≈ 860	E80/38/20-3F3-E630
	4590 ±25%	≈ 1710	≈ 0	E80/38/20-3F3

Note

1. Measured in combination with an equal gapped core half.

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 = 25 °C	f = 100 kHz; $\hat{B}$ = 200 mT; T = 100 °C	f = 400 kHz; $\hat{B}$ = 50 mT; T = 100 °C
3C90	≥320	≤ 7.2	≤ 10	–	–	–
3C92	≥370	–	≤ 7.5	–	≤ 45	–
3C94	≥320	–	≤ 7.5	–	≤ 45	–
3C95	≥320	–	–	≤ 45.5	≤ 43.4	–
3F3	≥320	–	≤ 9.0	–	–	≤ 15.4

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.