

# DATA SHEET

**E80/38/20**

**E cores and accessories**

Supersedes data of September 2004

2008 Sep 01

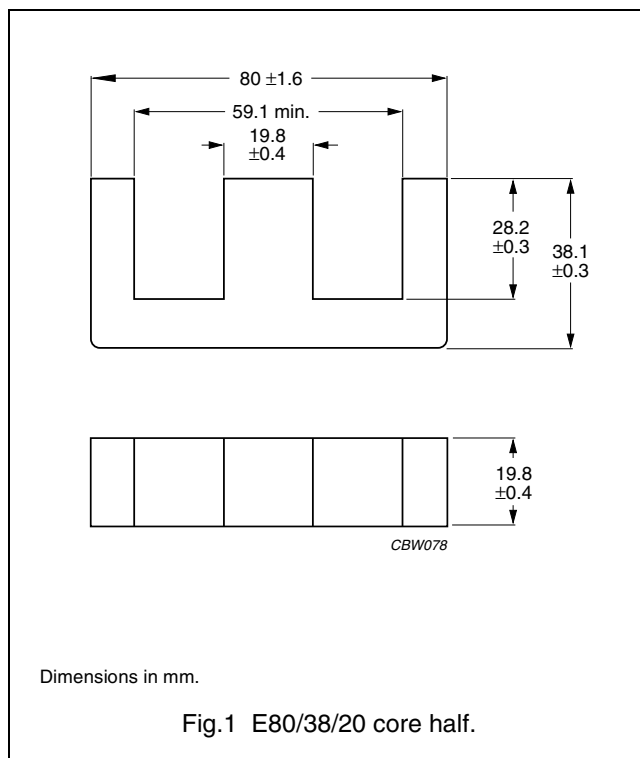


**FERROXCUBE**  
A YAGEO COMPANY

**CORE SETS**

**Effective core parameters**

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



**Core halves**

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

GRADE	$A_L$ (nH)	$\mu_e$	TOTAL AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3C90	100 ± 5% <sup>(1)</sup>	≈ 37	≈ 10800	E80/38/20-3C90-E100
	160 ± 5% <sup>(1)</sup>	≈ 60	≈ 5540	E80/38/20-3C90-E160
	250 ± 5% <sup>(1)</sup>	≈ 93	≈ 2900	E80/38/20-3C90-E250
	315 ± 5% <sup>(1)</sup>	≈ 118	≈ 2120	E80/38/20-3C90-E315
	400 ± 8% <sup>(1)</sup>	≈ 149	≈ 1540	E80/38/20-3C90-E400
	630 ± 10% <sup>(1)</sup>	≈ 235	≈ 860	E80/38/20-3C90-E630
	5070 ± 25%	≈ 1890	≈ 0	E80/38/20-3C90
3C92 <small>des</small>	3600 ± 25%	≈ 1350	≈ 0	E80/38/20-3C92
3C94	5070 ± 25%	≈ 1890	≈ 0	E80/38/20-3C94
3C95 <small>des</small>	6730 ± 25%	≈ 2510	≈ 0	E80/38/20-3C95
3F3	100 ± 5% <sup>(1)</sup>	≈ 37	≈ 10800	E80/38/20-3F3-E100
	160 ± 5% <sup>(1)</sup>	≈ 60	≈ 5540	E80/38/20-3F3-E160
	250 ± 5% <sup>(1)</sup>	≈ 93	≈ 2900	E80/38/20-3F3-E250
	315 ± 5% <sup>(1)</sup>	≈ 118	≈ 2120	E80/38/20-3F3-E315
	400 ± 8% <sup>(1)</sup>	≈ 149	≈ 1540	E80/38/20-3F3-E400
	630 ± 10% <sup>(1)</sup>	≈ 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
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