

DATA SHEET

E55/28/25

E cores and accessories

Supersedes data of September 2004

2008 Sep 01

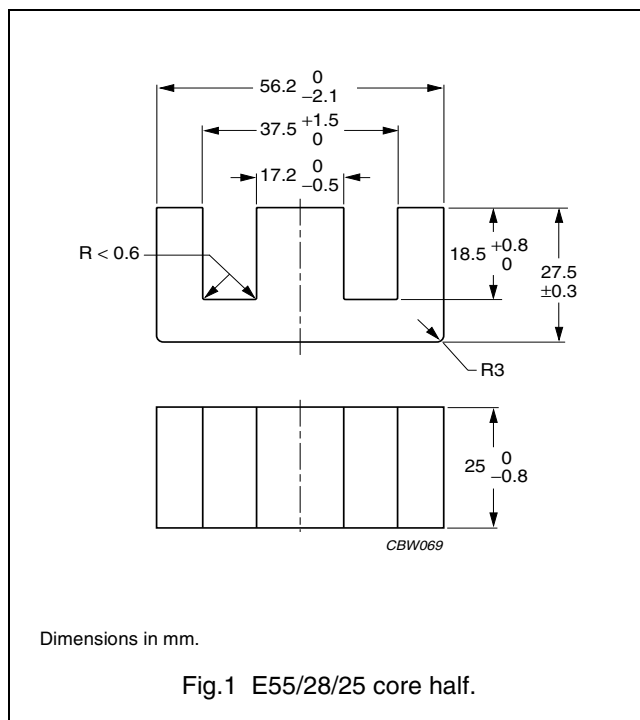


FERROXCUBE
A YAGEO COMPANY

CORE SETS

Effective core parameters

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------|-------------------|-------|------------------|
| $\Sigma(l/A)$ | core factor (C1) | 0.239 | mm ⁻¹ |
| V_e | effective volume | 52000 | mm ³ |
| l_e | effective length | 123 | mm |
| A_e | effective area | 420 | mm ² |
| A_{min} | minimum area | 411 | mm ² |
| m | mass of core half | ≈130 | g |



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 $\pm 5\%$ ⁽¹⁾ | ≈ 23 | ≈ 10440 | E55/28/25-3C90-E100 |
| | 160 $\pm 5\%$ ⁽¹⁾ | ≈ 37 | ≈ 5520 | E55/28/25-3C90-E160 |
| | 250 $\pm 5\%$ ⁽¹⁾ | ≈ 58 | ≈ 3040 | E55/28/25-3C90-E250 |
| | 315 $\pm 5\%$ ⁽¹⁾ | ≈ 73 | ≈ 2240 | E55/28/25-3C90-E315 |
| | 400 $\pm 8\%$ ⁽¹⁾ | ≈ 93 | ≈ 1660 | E55/28/25-3C90-E400 |
| | 630 $\pm 10\%$ ⁽¹⁾ | ≈ 147 | ≈ 940 | E55/28/25-3C90-E630 |
| | 8000 $\pm 25\%$ | ≈ 1860 | ≈ 0 | E55/28/25-3C90 |
| 3C92 des | 5800 $\pm 25\%$ | ≈ 1100 | ≈ 0 | E55/28/25-3C92 |
| 3C94 | 8000 $\pm 25\%$ | ≈ 1860 | ≈ 0 | E55/28/25-3C94 |
| 3C95 des | 9860 $\pm 25\%$ | ≈ 2300 | ≈ 0 | E55/28/25-3C95 |
| 3F3 | 100 $\pm 5\%$ ⁽¹⁾ | ≈ 23 | ≈ 10440 | E55/28/25-3F3-E100 |
| | 160 $\pm 5\%$ ⁽¹⁾ | ≈ 37 | ≈ 5520 | E55/28/25-3F3-E160 |
| | 250 $\pm 5\%$ ⁽¹⁾ | ≈ 58 | ≈ 3040 | E55/28/25-3F3-E250 |
| | 315 $\pm 5\%$ ⁽¹⁾ | ≈ 73 | ≈ 2240 | E55/28/25-3F3-E315 |
| | 400 $\pm 8\%$ ⁽¹⁾ | ≈ 93 | ≈ 1660 | E55/28/25-3F3-E400 |
| | 630 $\pm 10\%$ ⁽¹⁾ | ≈ 147 | ≈ 940 | E55/28/25-3F3-E630 |
| | 7400 $\pm 25\%$ | ≈ 1730 | ≈ 0 | E55/28/25-3F3 |

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 | f̂ = 25 kHz; B̂ = 200 mT; T = 100 °C | f̂ = 100 kHz; B̂ = 100 mT; T = 100 °C | f̂ = 100 kHz; B̂ = 200 mT; T = 25 °C | f̂ = 100 kHz; B̂ = 200 mT; T = 100 °C | f̂ = 400 kHz; B̂ = 50 mT; T = 100 °C |
| 3C90 | ≥330 | ≤ 5.7 | ≤ 7.3 | – | – | – |
| 3C92 | ≥370 | – | ≤ 4.8 | – | ≤ 31 | – |
| 3C94 | ≥330 | – | ≤ 4.8 | – | ≤ 31 | – |
| 3C95 | ≥330 | – | – | ≤ 32.8 | ≤ 31.2 | – |
| 3F3 | ≥310 | – | ≤ 6.6 | – | – | ≤ 12.7 |

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 |  | 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 |  | 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 |  | 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. |