

DATA SHEET

ER48/18/18

ER cores

Supersedes data of September 2004

2008 Sep 01

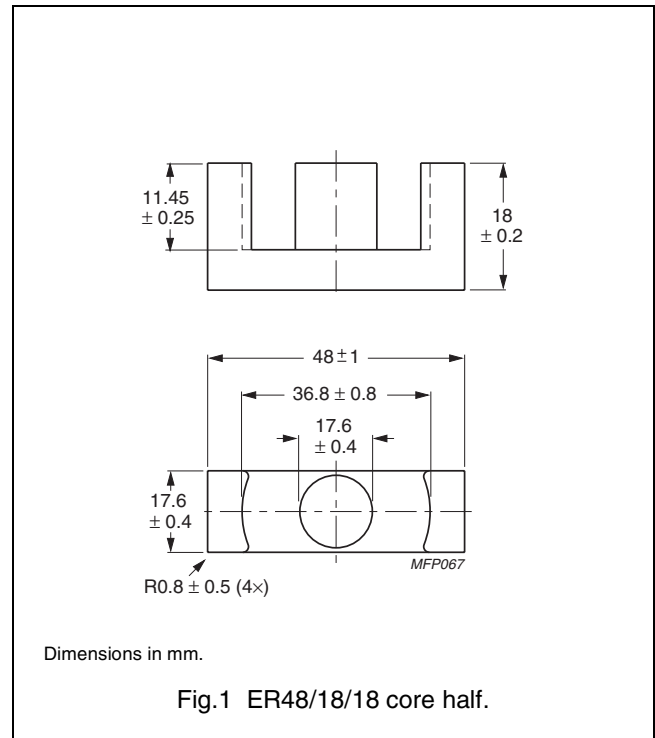


FERROXCUBE
A YAGEO COMPANY

CORE SETS

Effective core parameters

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------|-------------------|-------|------------------|
| $\Sigma(l/A)$ | core factor (C1) | 0.377 | mm ⁻¹ |
| V_e | effective volume | 20300 | mm ³ |
| l_e | effective length | 87.0 | mm |
| A_e | effective area | 231 | mm ² |
| A_{min} | minimum area | 221 | mm ² |
| m | mass of core half | ≈ 51 | g |



Core halves

Clamping force for A_L measurements, 50 ± 20 N.

| GRADE | A_L (nH) | μ_e | TOTAL AIR GAP (μm) | TYPE NUMBER |
|-------|-----------------|---------|---------------------------------|----------------------|
| 3C90 | $180 \pm 5\%$ | ≈ 54 | ≈ 2500 | ER48/18/18-3C90-E180 |
| | $265 \pm 5\%$ | ≈ 77 | ≈ 1500 | ER48/18/18-3C90-E265 |
| | $309 \pm 5\%$ | ≈ 93 | ≈ 1250 | ER48/18/18-3C90-E309 |
| | $370 \pm 5\%$ | ≈ 111 | ≈ 1000 | ER48/18/18-3C90-E370 |
| | $465 \pm 5\%$ | ≈ 140 | ≈ 750 | ER48/18/18-3C90-E465 |
| | $6400 \pm 25\%$ | ≈ 1920 | ≈ 0 | ER48/18/18-3C90 |
| 3C94 | $6400 \pm 25\%$ | ≈ 1920 | ≈ 0 | ER48/18/18-3C94 |

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; B = 200 mT; T = 100 °C | f = 100 kHz; B = 100 mT; T = 100 °C | f = 100 kHz; B = 200 mT; T = 100 °C |
| 3C90 | ≥330 | ≤ 2.4 | ≤ 2.5 | – |
| 3C94 | ≥330 | – | ≤ 2.1 | ≤ 12 |

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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| 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. |