FERROXCUBE

DATA SHEET

E13/6/3 E cores and accessories

Supersedes data of September 2004

2008 Sep 01



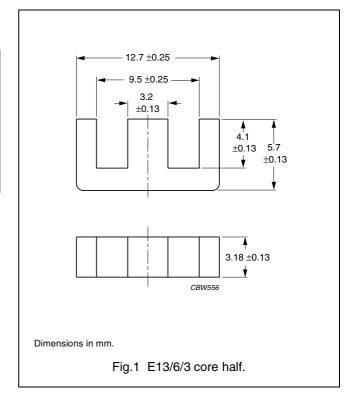
E13/6/3

E cores and accessories

CORE SETS

Effective core parameters

| SYMBOL | PARAMETER | VALUE | UNIT |
|------------------|---------------------------|-------|------------------|
| Σ(I/A) | core factor (C1) 2.74 m | | mm ⁻¹ |
| V _e | effective volume 281 | | mm ³ |
| l _e | effective length | 27.8 | mm |
| A _e | effective area 10.1 | | mm ² |
| A _{min} | minimum area 10.1 m | | mm ² |
| m | mass of core half ≈ 0.7 g | | g |



Core halves

 A_L measured in combination with a non-gapped core half, clamping force for A_L measurements, 8 ± 4 N.

| | | • | - | |
|----------|------------------------|----------------|-----------------|-------------------|
| GRADE | A _L (nH) | μ _e | AIR GAP (μm) | TYPE NUMBER |
| 3C90 | 63 ±5% | ≈138 | ≈ 250 | E13/6/3-3C90-A63 |
| | 100 ±8% | ≈ 219 | ≈140 | E13/6/3-3C90-A100 |
| | 160 ±8% | ≈ 350 | ≈ 75 | E13/6/3-3C90-A160 |
| | 250 ±20% | ≈ 548 | ≈ 40 | E13/6/3-3C90-A250 |
| | 315 ±20% | ≈ 690 | ≈ 30 | E13/6/3-3C90-A315 |
| | 730 ±25% | ≈1590 | ≈ 0 | E13/6/3-3C90 |
| 3C92 des | 540 ±25% | ≈1180 | ≈ 0 | E13/6/3-3C92 |
| 3C94 | 730 ±25% | ≈1590 | ≈ 0 | E13/6/3-3C94 |
| 3C96 des | 660 ±25% | ≈1 440 | ≈ 0 | E13/6/3-3C96 |

Core halves of high permeability grades

 A_L measured in combination with an non-gapped core half, clamping force for A_L measurements, 8 ± 4 N.

| GRADE | A _L (nH) | $\mu_{\mathbf{e}}$ | AIR GAP (μm) | TYPE NUMBER |
|-------|------------------------|--------------------|-----------------|--------------|
| 3E27 | 1300 ±25% | ≈ 2830 | ≈ 0 | E13/6/3-3E27 |

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Properties of core sets under power conditions

| | B (mT) at | CORE LOSS (W) at | | | |
|-------|---|--|---|---|--|
| GRADE | 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 | f = 500 kHz; B = 50 mT; T = 100 °C |
| 3C90 | ≥ 320 | ≤ 0.03 | ≤ 0.03 | _ | - |
| 3C92 | ≥ 370 | _ | ≤ 0.022 | ≤ 0.16 | _ |
| 3C94 | ≥ 320 | _ | ≤ 0.024 | ≤ 0.15 | _ |
| 3C96 | ≥ 340 | _ | ≤ 0.019 | ≤ 0.13 | ≤ 0.11 |

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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. |

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