

DATA SHEET

EPX7

EPX cores and accessories

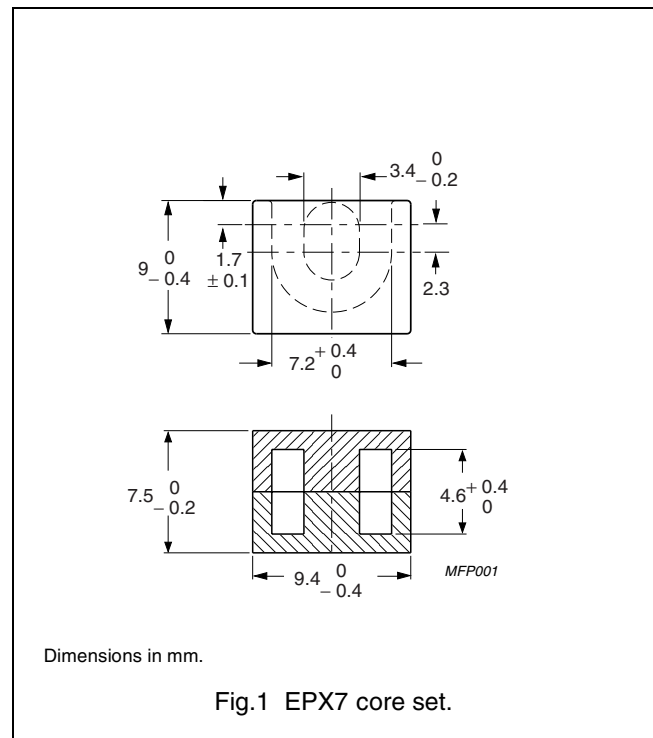
Supersedes data of September 2004

2008 Sep 01

CORE SETS

Effective core parameters

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------|------------------|-------|------------------|
| $\Sigma(l/A)$ | core factor (C1) | 0.931 | mm ⁻¹ |
| V_e | effective volume | 255 | mm ³ |
| l_e | effective length | 15.4 | mm |
| A_e | effective area | 16.5 | mm ² |
| A_{min} | minimum area | 14.5 | mm ² |
| m | mass of core set | ≈ 2.1 | g |



Core sets for general purpose transformers and power applications

Clamping force for A_L measurements, 30 ± 10 N.

| GRADE | A_L (nH) | μ_e | AIR GAP (μm) | TYPE NUMBER |
|-------------------------|------------------|---------|---------------------------|-------------|
| 3C94 | $1950 \pm 25 \%$ | ≈ 1440 | ≈ 0 | EPX7-3C94 |
| 3C96 <small>des</small> | $1750 \pm 25 \%$ | ≈ 1300 | ≈ 0 | EPX7-3C96 |
| 3F35 <small>des</small> | $1400 \pm 25 \%$ | ≈ 1040 | ≈ 0 | EPX7-3F35 |

Core sets for filter applications

Clamping force for A_L measurements, 30 ± 10 N.

| GRADE | A_L (nH) | μ_e | AIR GAP (μm) | TYPE NUMBER |
|-------------------------|------------------|---------|---------------------------|-------------|
| 3B46 <small>des</small> | $2500 \pm 25 \%$ | ≈ 1850 | ≈ 0 | EPX7-3B46 |

EPX cores and accessories

EPX7

Core sets of high permeability gradesClamping force for A_L measurements, 30 ± 10 N.

| GRADE | A_L (nH) | μ_e | AIR GAP (μm) | TYPE NUMBER |
|-------------------------|-----------------------|----------------|---------------------------|----------------|
| 3E55 <small>des</small> | $63 \pm 3 \%$ | ≈ 47 | ≈ 450 | EPX7-3E55-A63 |
| | $100 \pm 3 \%$ | ≈ 74 | ≈ 250 | EPX7-3E55-A100 |
| | $160 \pm 3 \%$ | ≈ 119 | ≈ 150 | EPX7-3E55-A160 |
| | $250 \pm 5 \%$ | ≈ 185 | ≈ 90 | EPX7-3E55-A250 |
| | $315 \pm 5 \%$ | ≈ 233 | ≈ 70 | EPX7-3E55-A315 |
| | $400 \pm 8 \%$ | ≈ 296 | ≈ 50 | EPX7-3E55-A400 |
| | $8400 + 40 / - 30 \%$ | ≈ 6220 | ≈ 0 | EPX7-3E55 |
| 3E6 | $9300 + 40 / - 30 \%$ | ≈ 6890 | ≈ 0 | EPX7-3E6 |

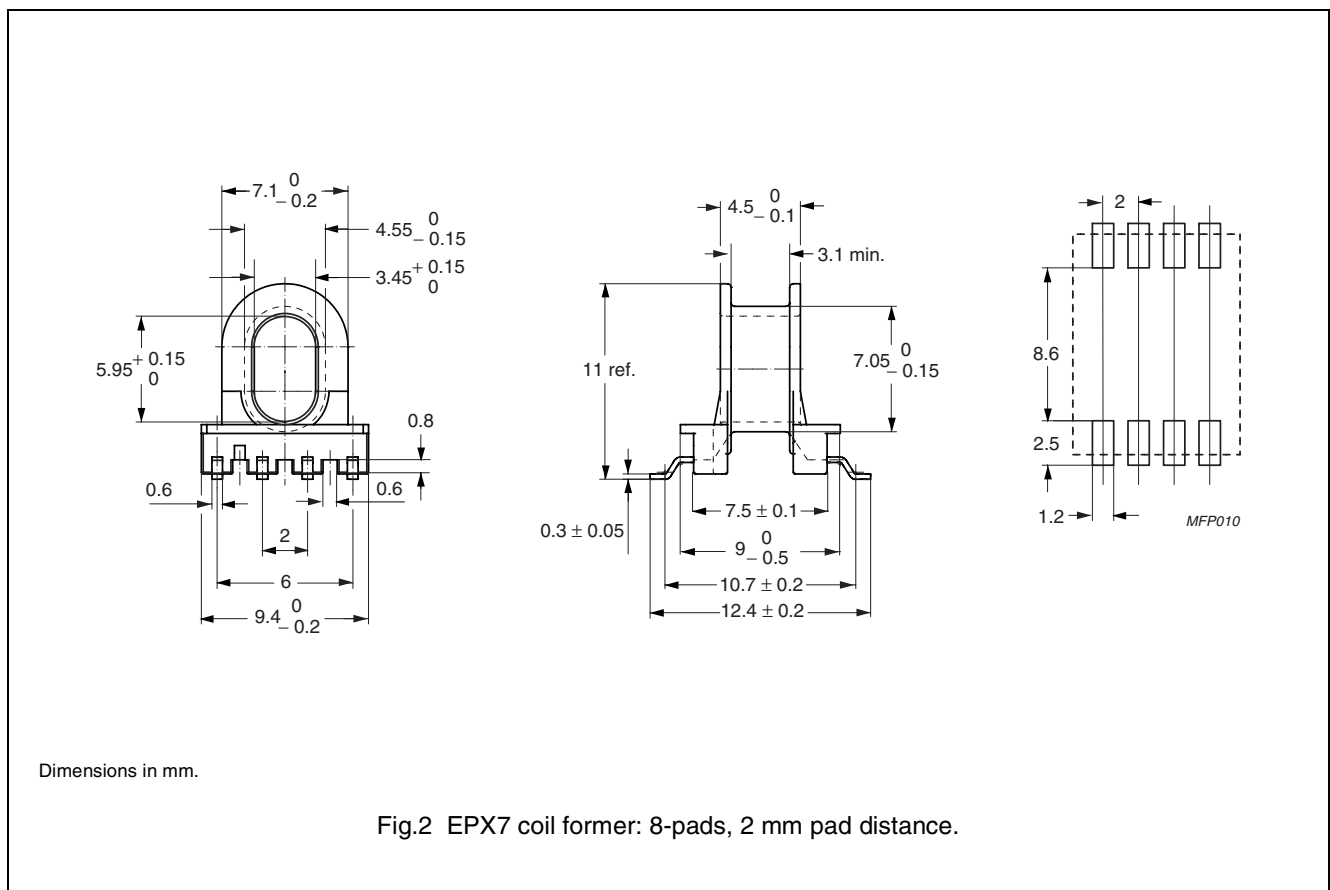
Properties under power conditions

| GRADE | B (mT) at | CORE LOSS (W) at | | | |
|-------|---|---|---|--|---|
| | H = 250 A/m; f = 10 kHz; T = 100 °C | f = 100 kHz; $\hat{B} = 100$ mT; T = 100 °C | f = 100 kHz; $\hat{B} = 200$ mT; T = 100 °C | f = 500 kHz; $\hat{B} = 50$ mT; T = 100 °C | f = 500 kHz; $\hat{B} = 100$ mT; T = 100 °C |
| 3C94 | ≥ 320 | ≤ 0.02 | ≤ 0.13 | – | – |
| 3C96 | ≥ 340 | ≤ 0.015 | ≤ 0.1 | ≤ 0.08 | – |
| 3F35 | ≥ 300 | – | – | ≤ 0.03 | ≤ 0.25 |

COIL FORMERS

General data

| PARAMETER | SPECIFICATION |
|-------------------------------|--|
| Coil former material | Sumikon PM9630 (PF), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E41429(M) |
| Pin material | copper-tin alloy (CuSn), nickel flash, gold plated |
| Maximum operating temperature | 180 °C, "IEC 60085", class H |
| Resistance to soldering heat | "IEC 60068-2-20", Part 2, Test Tb, method 1B, 350 °C, 3.5 s |
| Solderability | "IEC 60068-2-20", Part 2, Test Ta, method 1, 235 °C, 2 s |

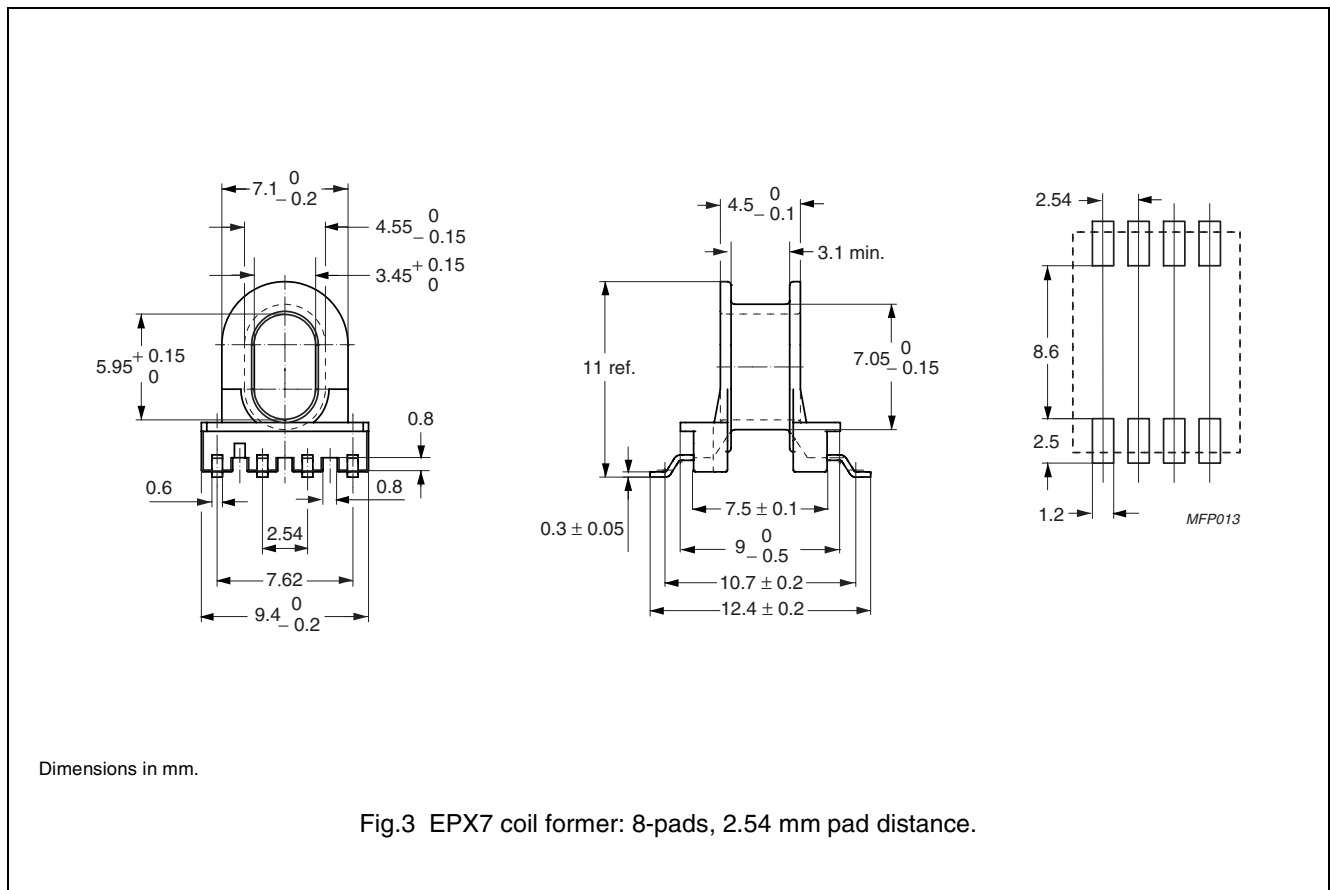


Winding data and area product for 8-pads EPX7 coil former

| NUMBER OF SECTIONS | WINDING AREA (mm ²) | NOMINAL WINDING WIDTH (mm) | AVERAGE LENGTH OF TURN (mm) | AREA PRODUCT Ae x Aw (mm ⁴) | TYPE NUMBER |
|--------------------|---------------------------------|----------------------------|-----------------------------|---|-------------------|
| 1 | 3.64 | 3.4 | 23.3 | 60.1 | CSHS-EPX7-1S-8P-T |

General data CSHS-EPX7-1S-8P

| PARAMETER | SPECIFICATION |
|-------------------------------|--|
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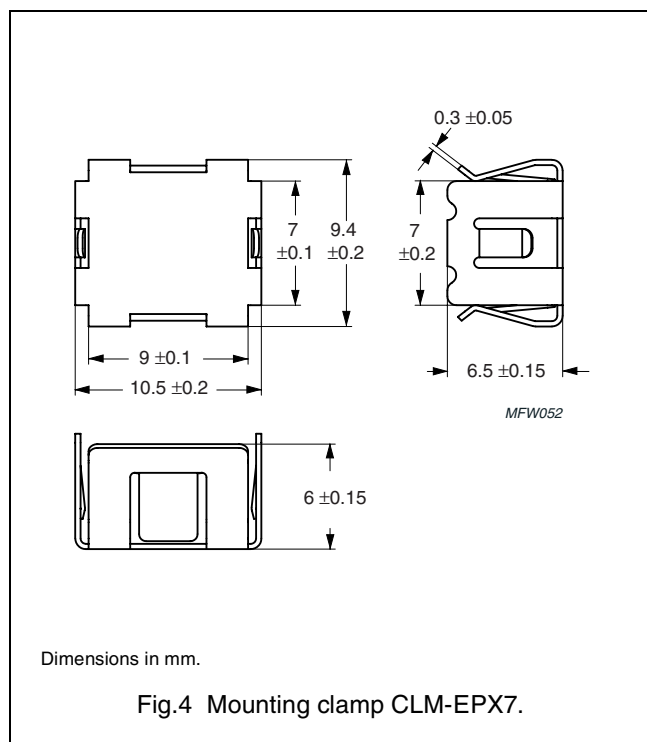
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|--------------------|---|----------------------------|-----------------------------|---|-----------------|
| 1 | 3.64 | 3.4 | 23.3 | 60.1 | CSHS-EPX7-1S-8P |

MOUNTING PARTS

General data

| ITEM | REMARKS | FIGURE | TYPE NUMBER |
|----------------|---|--------|-------------|
| Mounting clamp | stainless steel (CrNi); to be used in combination with CSHS-EPX7-1S-8P or CSHS-EPX7-1S-8P-T | 4 | CLM-EPX7 |






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. |