

# DATA SHEET

**ETD59**

**ETD cores and accessories**

Product specification  
Supersedes data of November 1997  
File under Ferrite Ceramics, MA01

1999 Dec 23

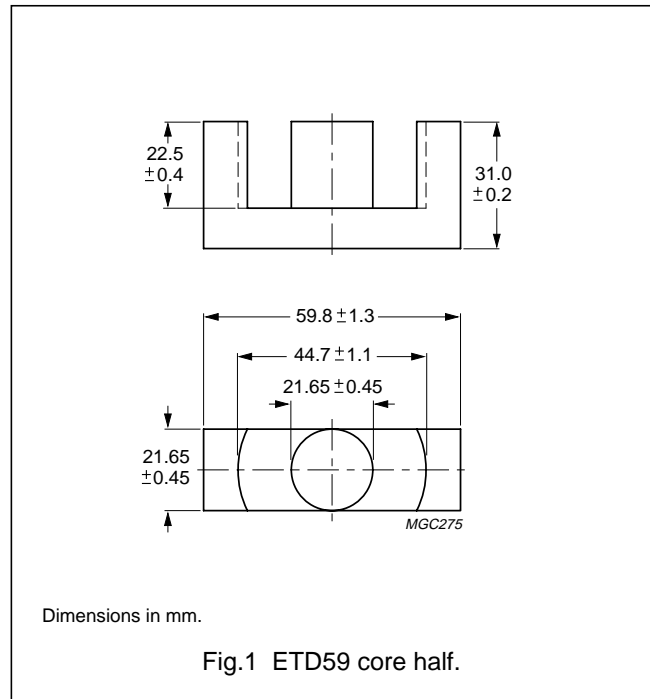
## ETD cores and accessories

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## CORE SETS

## Effective core parameters

| SYMBOL        | PARAMETER         | VALUE  | UNIT             |
|---------------|-------------------|--------|------------------|
| $\Sigma(I/A)$ | core factor (C1)  | 0.378  | mm <sup>-1</sup> |
| $V_e$         | effective volume  | 51 500 | mm <sup>3</sup>  |
| $l_e$         | effective length  | 139    | mm               |
| $A_e$         | effective area    | 368    | mm <sup>2</sup>  |
| $A_{min}$     | minimum area      | 360    | mm <sup>2</sup>  |
| m             | mass of core half | ≈130   | g                |



## Core halves

Clamping force for  $A_L$  measurements,  $70 \pm 20$  N. Gapped cores are available on request.

| GRADE | $A_L$<br>(nH)   | $\mu_e$ | AIR GAP<br>( $\mu\text{m}$ ) | TYPE NUMBER |
|-------|-----------------|---------|------------------------------|-------------|
| 3C90  | $6000 \pm 25\%$ | ≈1950   | ≈0                           | ETD59-3C90  |
| 3F3   | $5600 \pm 25\%$ | ≈1800   | ≈0                           | ETD59-3F3   |

## Properties of core sets under power conditions

| GRADE | B (mT) at                                 | CORE LOSS (W) at                                 |   |  |
|-------|---|--|---|--|
|       | H = 250 A/m;<br>f = 25 kHz;<br>T = 100 °C | f = 25 kHz;<br>$\dot{B}$ = 200 mT;<br>T = 100 °C | f = 100 kHz;<br>$\dot{B}$ = 100 mT;<br>T = 100 °C | f = 400 kHz;<br>$\dot{B}$ = 50 mT;<br>T = 100 °C |
| 3C90  | ≥330                                      | ≤6.2   | ≤7.3  | –  |
| 3F3   | ≥320                                      | –  | ≤6.7  | ≤12.8  |

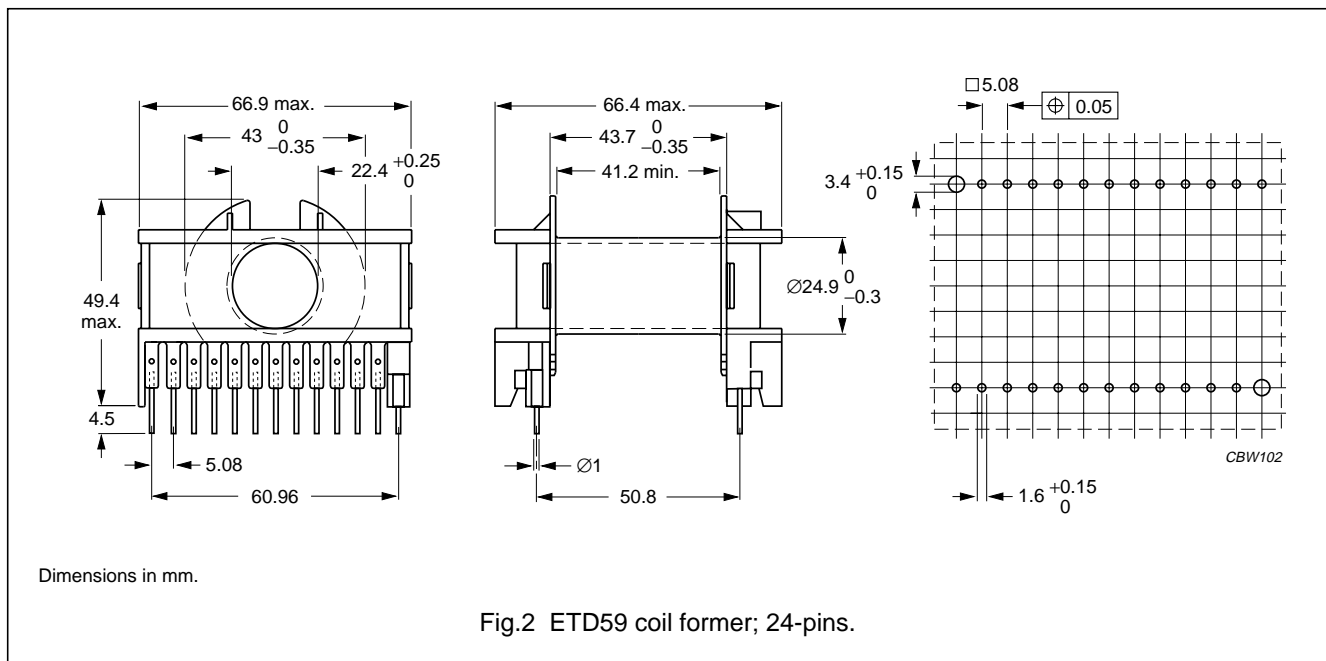
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COIL FORMER

General data 24-pins ETD59 coil former

| PARAMETER                     | SPECIFICATION  |
|-------------------------------|--|
| Coil former material          | polybutyleneterephthalate (PBT), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E41613(M) |
| Pin material                  | copper-tin alloy (CuSn), tin-lead alloy (SnPb) plated  |
| Maximum operating temperature | 155 °C, "IEC 60085" class F  |
| 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  |



Winding data for 24-pins ETD59 coil former

| NUMBER OF SECTIONS | WINDING AREA (mm <sup>2</sup> ) | MINIMUM WINDING WIDTH (mm) | AVERAGE LENGTH OF TURN (mm) | TYPE NUMBER      |
|--------------------|---------------------------------|----------------------------|-----------------------------|------------------|
| 1                  | 366                             | 41.2                       | 106                         | CPH-ETD59-1S-24P |

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**MOUNTING PARTS**

**General data**

| ITEM          | REMARKS                   | FIGURE | TYPE NUMBER |
|---------------|---------------------------|--------|-------------|
| Mounting clip | material: stainless steel | 3      | CLI-ETD59   |

