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# DATA SHEET

**ETD29/16/10**

**ETD cores and accessories**

Supersedes data of September 2004

2008 Sep 01

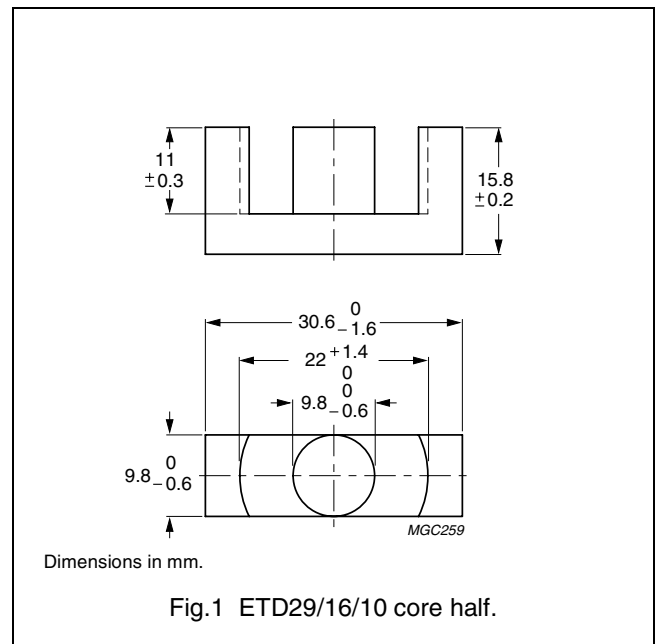


**FERROXCUBE**  
A YAGEO COMPANY

**CORE SETS**

**Effective core parameters**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.947	mm <sup>-1</sup>
$V_e$	effective volume	5470	mm <sup>3</sup>
$l_e$	effective length	72.0	mm
$A_e$	effective area	76.0	mm <sup>2</sup>
$A_{min}$	minimum area	71.0	mm <sup>2</sup>
$m$	mass of core half	≈ 14	g



**Core halves**

Clamping force for  $A_L$  measurements, 40 ± 20 N. Gapped cores are available on request.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3C90	2350 ± 25%	≈ 1770	≈ 0	ETD29/16/10-3C90
3C94	2350 ± 25%	≈ 1770	≈ 0	ETD29/16/10-3C94
3C95 <small>des</small>	2860 ± 25%	≈ 2160	≈ 0	ETD29/16/10-3C95
3C96 <small>des</small>	2200 ± 25%	≈ 1660	≈ 0	ETD29/16/10-3C96
3F3	2200 ± 25%	≈ 1660	≈ 0	ETD29/16/10-3F3
3F35 <small>des</small>	1600 ± 25%	≈ 1210	≈ 0	ETD29/16/10-3F35

## ETD cores and accessories

ETD29/16/10

## 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; $\hat{B}$ = 200 mT; T = 100 °C	f = 100 kHz; $\hat{B}$ = 100 mT; T = 100 °C	f = 100 kHz; $\hat{B}$ = 200 mT; T = 25 °C	f = 100 kHz; $\hat{B}$ = 200 mT; T = 100 °C	f = 400 kHz; $\hat{B}$ = 50 mT; T = 100 °C
3C90	≥330	≤ 0.66	≤ 0.69	–	–	–
3C94	≥330	–	≤ 0.5	–	≤ 3.0	–
3C95	≥330	–	–	≤ 3.23	≤ 3.06	–
3C96	≥340	–	≤ 0.37	–	≤ 2.4	–
3F3	≥320	–	≤ 0.65	–	–	≤ 1.1
3F35	≥300	–	–	–	–	–

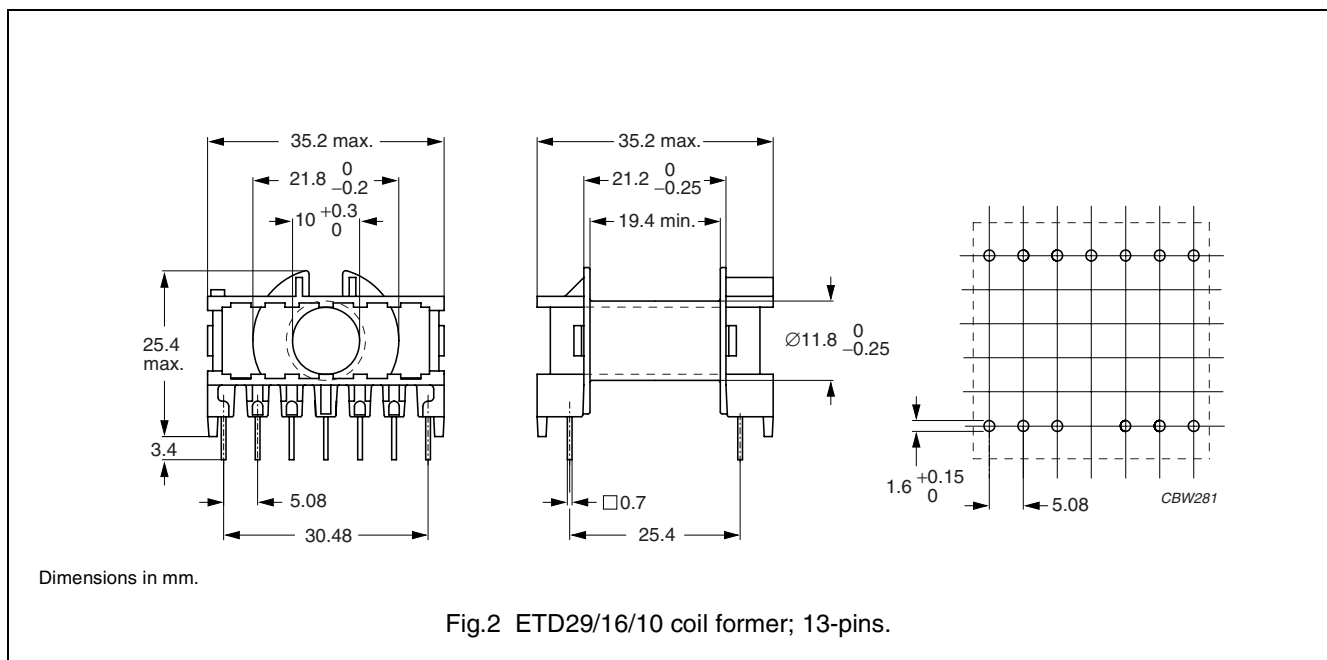
## Properties of core sets under power conditions (continued)

GRADE	B (mT) at	CORE LOSS (W) at			
	H = 250 A/m; f = 25 kHz; T = 100 °C	f = 500 kHz; $\hat{B}$ = 50 mT; T = 100 °C	f = 500 kHz; $\hat{B}$ = 100 mT; T = 100 °C	f = 1 MHz; $\hat{B}$ = 30 mT; T = 100 °C	f = 3 MHz; $\hat{B}$ = 10 mT; T = 100 °C
3C90	≥330	–	–	–	–
3C94	≥330	–	–	–	–
3C95	≥330	–	–	–	–
3C96	≥340	≤ 2.0	–	–	–
3F3	≥320	–	–	–	–
3F35	≥300	≤ 0.74	≤ 5.7	–	–

**COIL FORMER**

**General data 13-pins ETD29/16/10 coil former**

PARAMETER	SPECIFICATION
Coil former material	polybutyleneterephthalate (PBT), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E45329(R)
Pin material	copper-tin alloy (CuSn), tin (Sn) 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



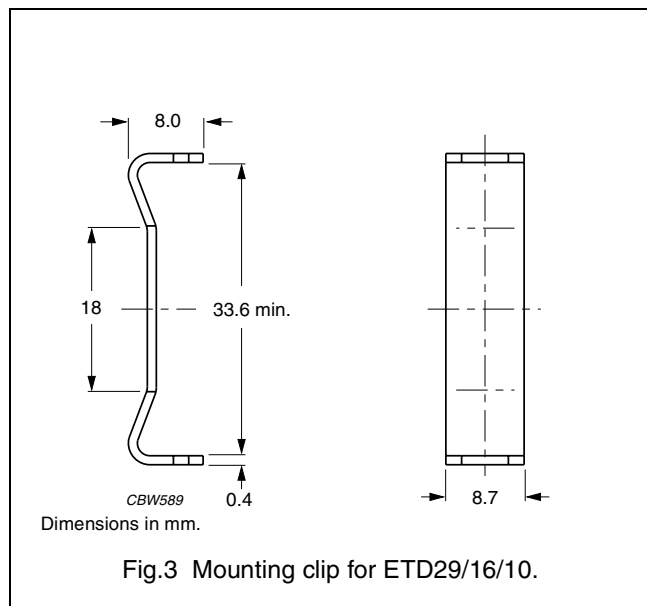
**Winding data and area product for 13-pins ETD29/16/10 coil former**

NUMBER OF SECTIONS	WINDING AREA (mm <sup>2</sup> )	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm <sup>4</sup> )	TYPE NUMBER
1	95	19.4	53	7220	CPH-ETD29-1S-13P

**MOUNTING PARTS**

**General data**

ITEM	REMARKS	FIGURE	TYPE NUMBER
Mounting clip	material: stainless steel	3	CLI-ETD29






**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
<b>Prototype</b>		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.
<b>Design-in</b>		These products are recommended for new designs.
<b>Preferred</b>		These products are recommended for use in current designs and are available via our sales channels.
<b>Support</b>		These products are <b>not</b> recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.