

# DATA SHEET

**EC70**

EC cores and accessories

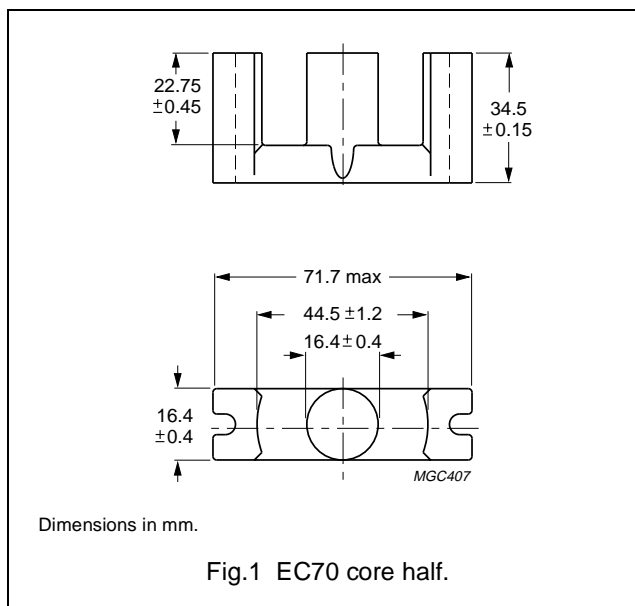
Supersedes data of February 2002

2004 Sep 01

**CORE SETS**

**Effective core parameters**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.514	mm <sup>-1</sup>
$V_e$	effective volume	40100	mm <sup>3</sup>
$l_e$	effective length	144	mm
$A_e$	effective area	279	mm <sup>2</sup>
$A_{min}$	minimum area	211	mm <sup>2</sup>
$m$	mass of core half	≈ 127	g



**Core halves**

$A_L$  measured in combination with an non-gapped core half, unless stated otherwise.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu$ m)	TYPE NUMBER
3C81 <sup>sup</sup>	250 ± 3% <sup>(1)</sup>	≈ 102	≈ 1830	EC70-3C81-E250
	315 ± 3% <sup>(1)</sup>	≈ 130	≈ 1370	EC70-3C81-E315
	400 ± 3% <sup>(1)</sup>	≈ 165	≈ 1020	EC70-3C81-E400
	630 ± 5%	≈ 256	≈ 580	EC70-3C81-A630
	1000 ± 10%	≈ 406	≈ 320	EC70-3C81-A1000
	≥ 4000	≥ 1620	≈ 0	EC70-3C81
3C90 <sup>sup</sup>	250 ± 3% <sup>(1)</sup>	≈ 102	≈ 1830	EC70-3C90-E250
	315 ± 3% <sup>(1)</sup>	≈ 130	≈ 1370	EC70-3C90-E315
	400 ± 3% <sup>(1)</sup>	≈ 165	≈ 1020	EC70-3C90-E400
	630 ± 5%	≈ 256	≈ 580	EC70-3C90-A630
	1000 ± 10%	≈ 406	≈ 320	EC70-3C90-A1000
	3900 ± 25%	≈ 1580	≈ 0	EC70-3C90

**Note**

1. Measured in combination with an equal gapped core half (symmetrical air gap).

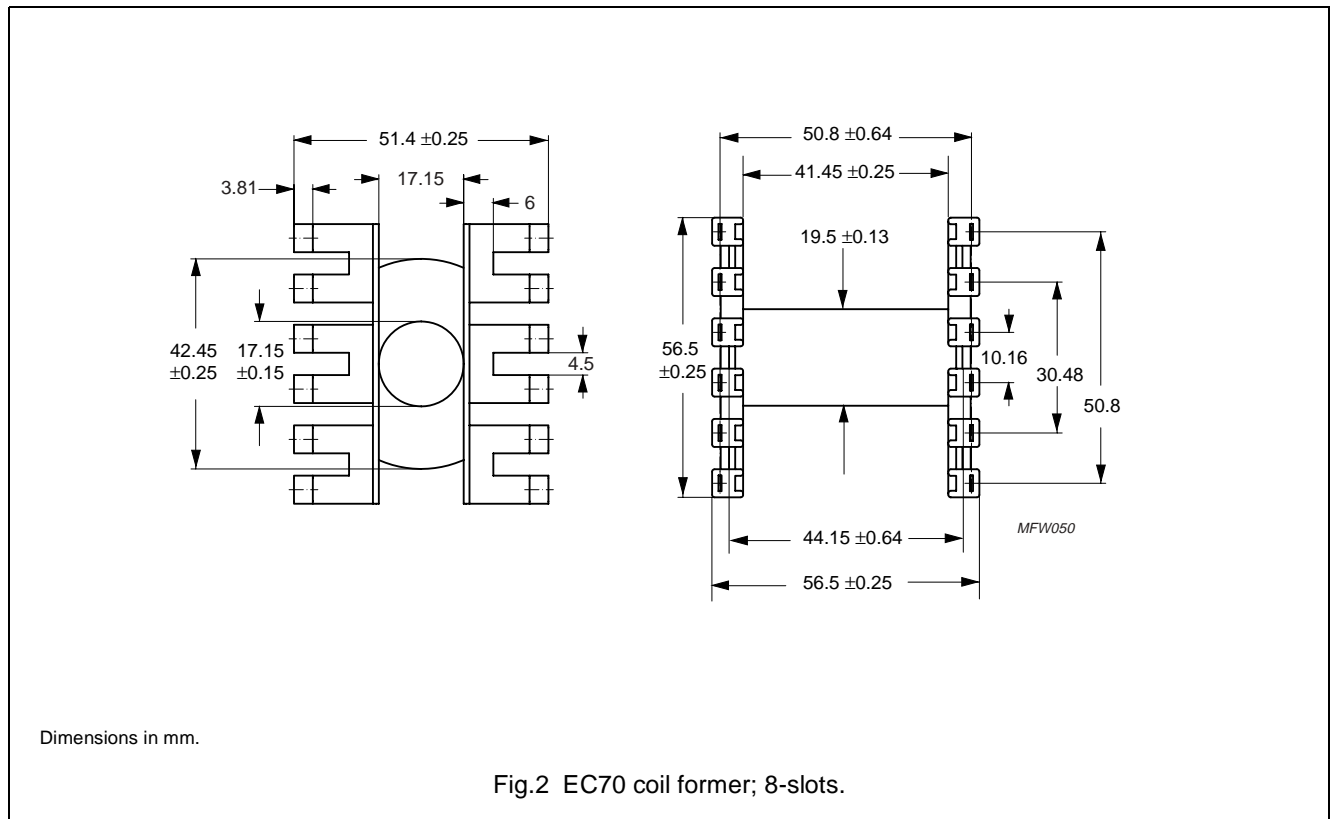
**Properties of core sets under power conditions**

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
3C81	≥330	≤ 8.2	–
3C90	≥330	≤ 4.9	≤ 5.1

**COIL FORMERS**

**General data 8-slots EC70 coil former for insertable pins**

PARAMETER	SPECIFICATION
Coil former material	polyamide (PA6.6), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E44716(M)
Maximum operating temperature	130 °C, "IEC 60085", class B



**Winding data 8-slots EC70 coil former for insertable pins; see note 1**

NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm <sup>2</sup> )	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	465	41.5	97.3	CP-EC70-1S

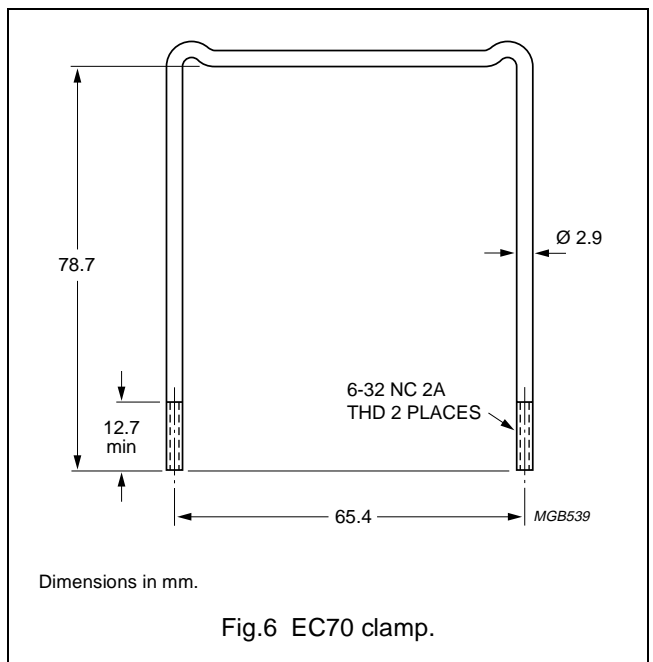
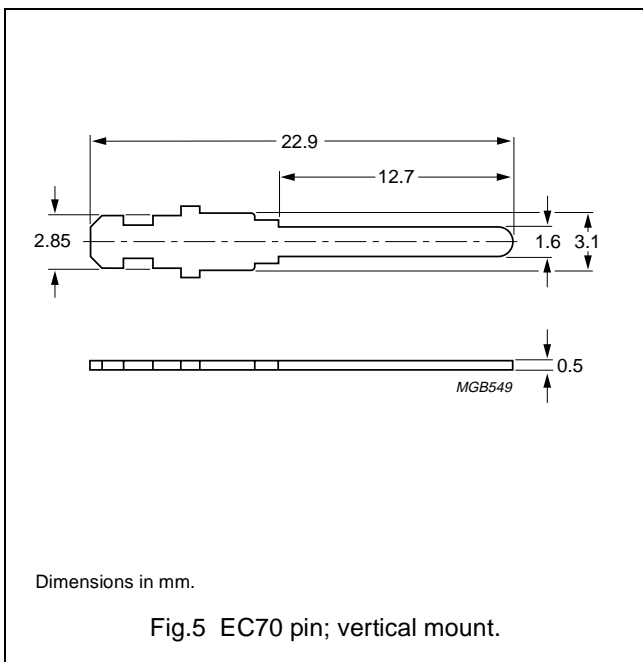
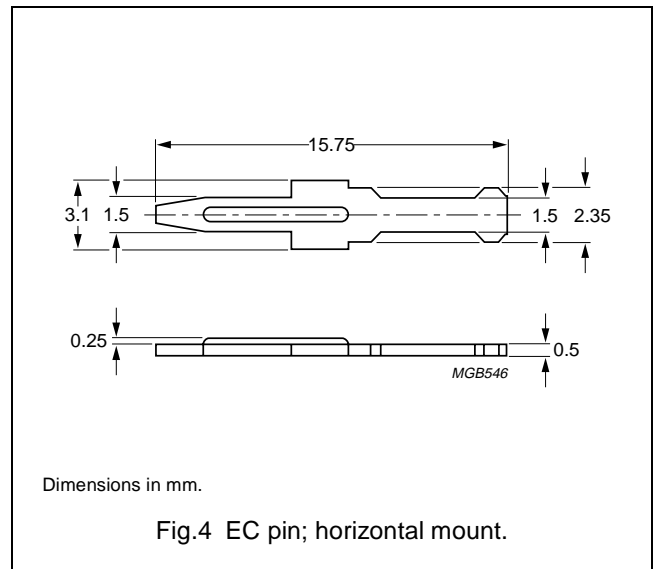
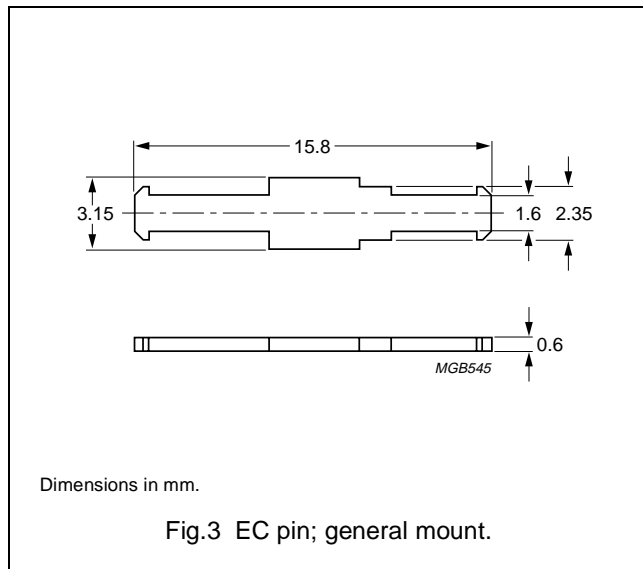
**Note**

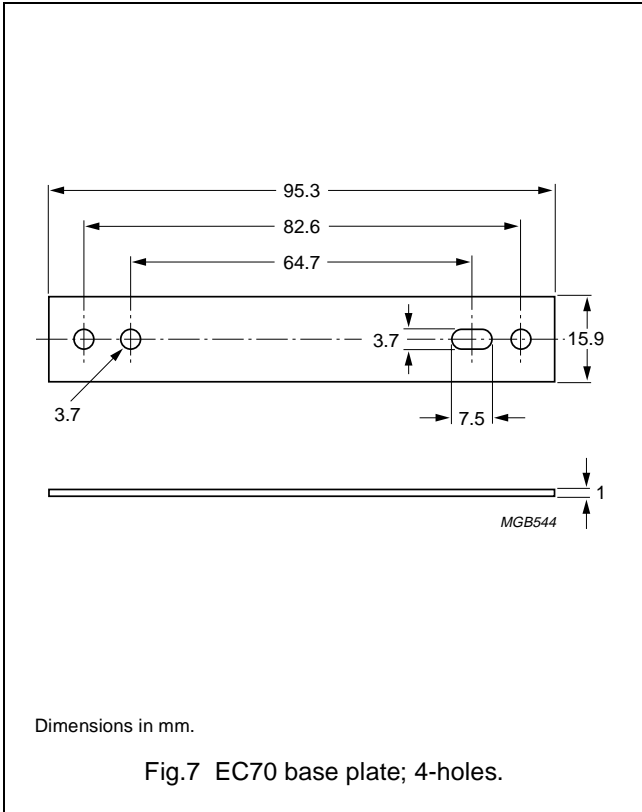
- Coil formers with inserted pins are available on request.

**MOUNTING PARTS**

**General data and ordering information**

ITEM	REMARKS	MOUNT	FIGURE	TYPE NUMBER
Insertable pins	solderability: "IEC 68-2-20", Part 2, Test Ta, method 1 material: copper-zinc alloy (CuZn), tin-lead alloy (SnPb) plated, transition to lead-free (Sn) ongoing.	general	3	PIN-EC
		horizontal	4	PIN/H-EC
		vertical	5	PIN/V-EC70
Clamp	copper-zinc alloy (CuZn)		6	CLM/U-EC70
Base plate 4 holes	aluminium		7	BPL4-EC70








**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**

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<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.