

PRODUCT OVERVIEW AND TYPE NUMBER STRUCTURE

Product overview EC cores

CORE TYPE	V_e (mm ³)	A_e (mm ²)	MASS (g)
EC35	6530	84.3	19
EC41	10800	121	30
EC52	18800	180	56
EC70	40 100	279	127

- In accordance with IEC 62317, part 11.

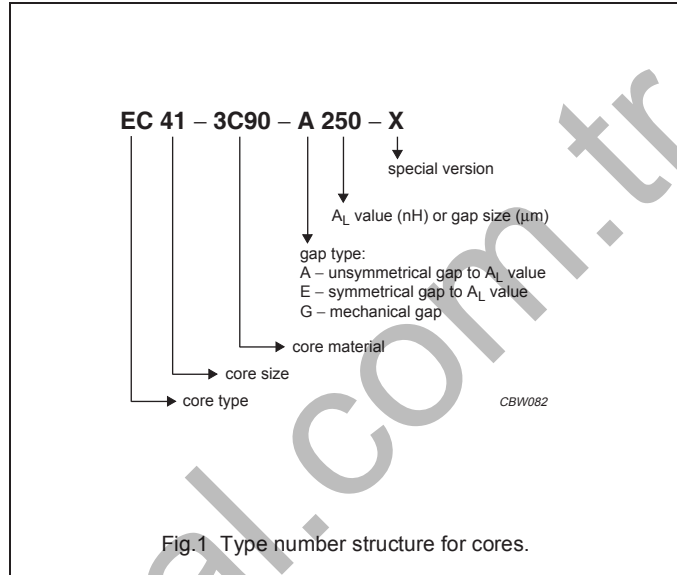


Fig.1 Type number structure for cores.

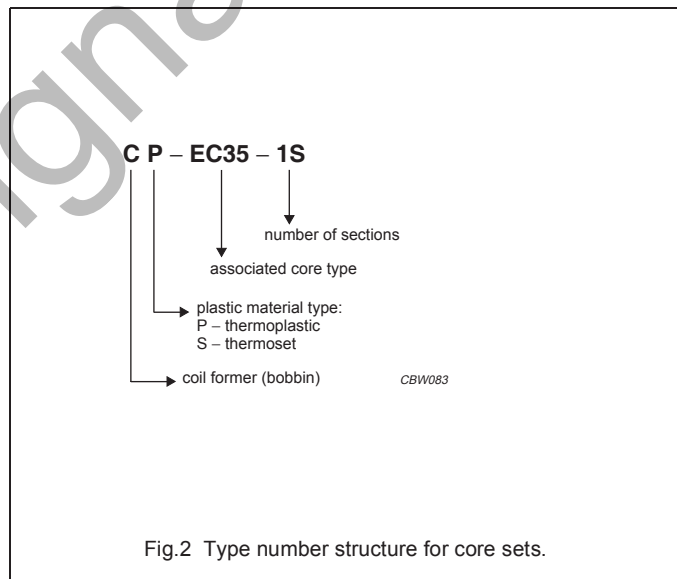
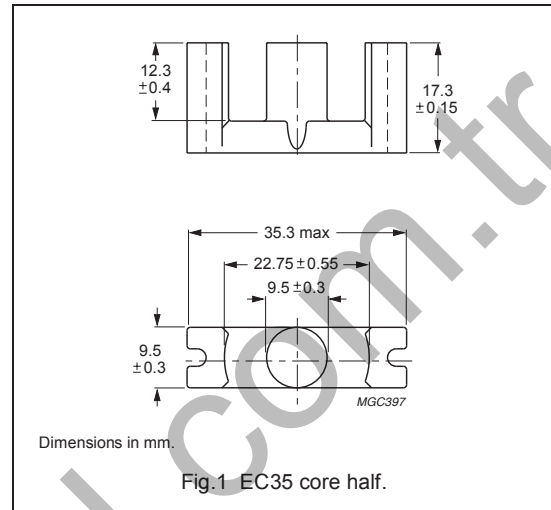


Fig.2 Type number structure for core sets.

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.918	mm ⁻¹
V_e	effective volume	6530	mm ³
l_e	effective length	77.4	mm
A_e	effective area	84.3	mm ²
A_{min}	minimum area	71	mm ²
m	mass of core half	≈ 19	g



Core halves

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

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3C81 ^{sup}	100 ± 3% ⁽¹⁾	≈ 73	≈ 1470	EC35-3C81-E100
	160 ± 3% ⁽¹⁾	≈ 117	≈ 820	EC35-3C81-E160
	250 ± 3%	≈ 184	≈ 470	EC35-3C81-A250
	315 ± 5%	≈ 231	≈ 350	EC35-3C81-A315
	400 ± 10%	≈ 290	≈ 260	EC35-3C81-A400
	≥ 2250	≥ 1640	≈ 0	EC35-3C81
3C90 ^{sup}	100 ± 3% ⁽¹⁾	≈ 73	≈ 1470	EC35-3C90-E100
	160 ± 3% ⁽¹⁾	≈ 117	≈ 820	EC35-3C90-E160
	250 ± 3%	≈ 184	≈ 470	EC35-3C90-A250
	315 ± 5%	≈ 231	≈ 350	EC35-3C90-A315
	400 ± 10%	≈ 290	≈ 260	EC35-3C90-A400
	2100 ± 25%	≈ 1530	≈ 0	EC35-3C90

Note

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

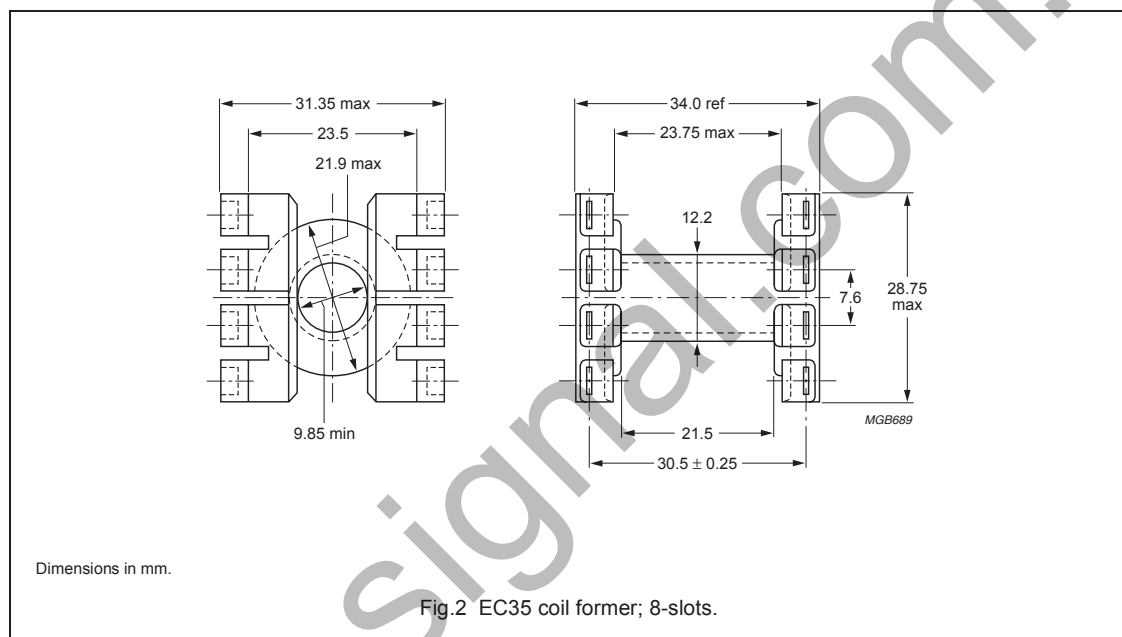
Properties of core sets under power conditions

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	≥ 320	≤ 1.40	–
3C90	≥ 320	≤ 0.79	≤ 0.83

COIL FORMERS

General data 8-slots EC35 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 and area product for 8-slots EC35 coil former for insertable pins

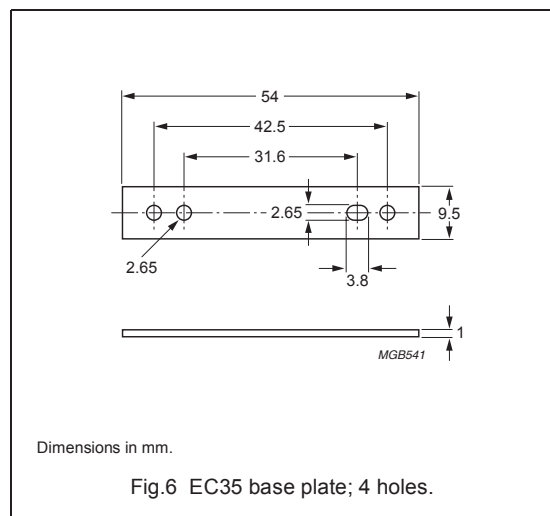
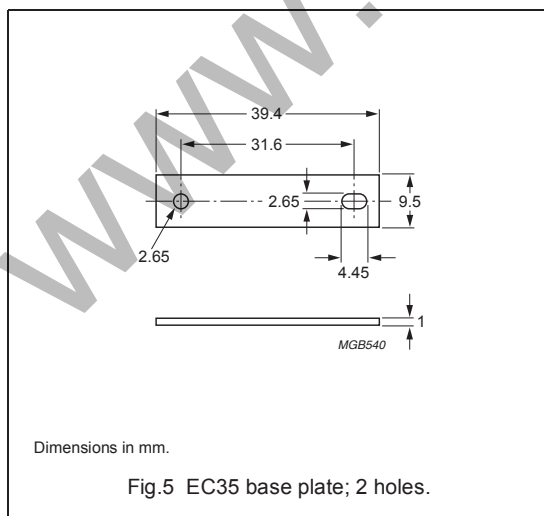
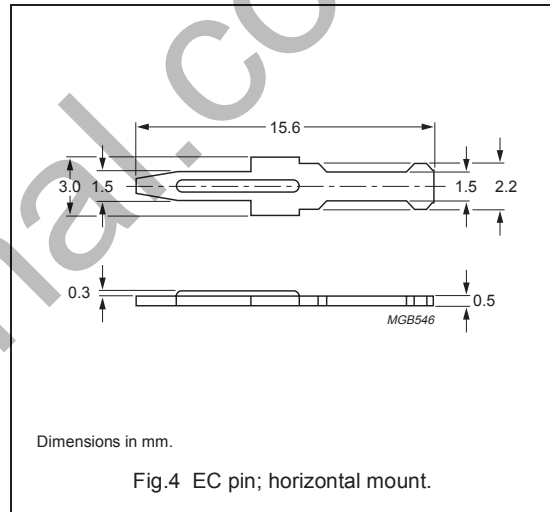
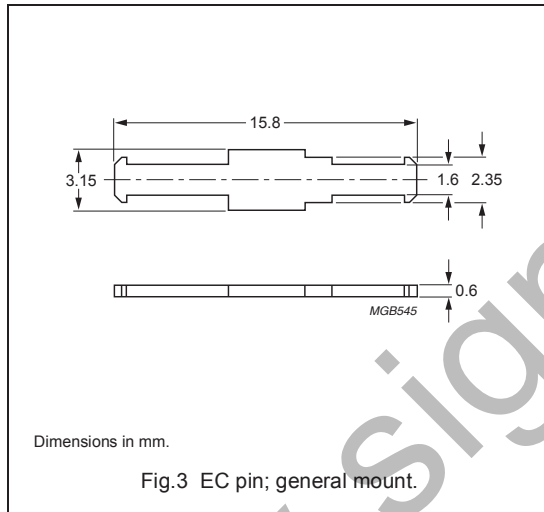
Coil formers with inserted pins are available on request.

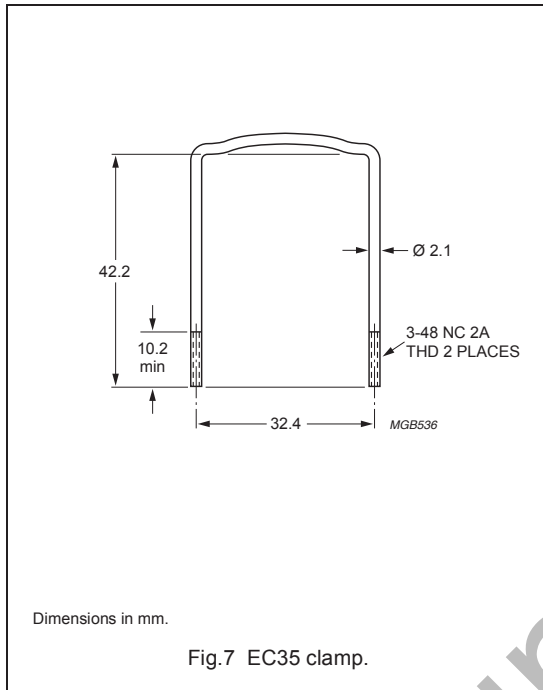
NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	97.1	21.5	53.1	8190	CP-EC35-1S

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 (Sn) plated	general	3	PIN-EC
		horizontal	4	PIN/H-EC
Base plate 2 holes	aluminium		5	BPL2-EC35
Base plate 4 holes	aluminium		6	BPL4-EC35
Clamp	copper-zinc alloy (CuZn)		7	CLM/U-EC35

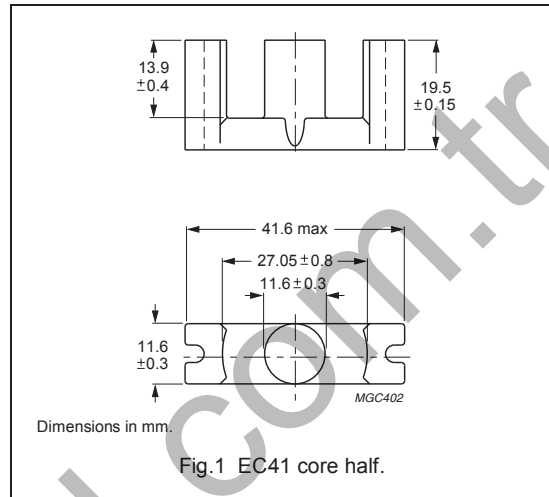




CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.735	mm ⁻¹
V_e	effective volume	10800	mm ³
l_e	effective length	89.3	mm
A_e	effective area	121	mm ²
A_{min}	minimum area	106	mm ²
m	mass of core half	≈ 30	g



Core halves

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

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3C81 ^{sup}	100 ± 3% ⁽¹⁾	≈ 59	≈ 2200	EC41-3C81-E100
	160 ± 3% ⁽¹⁾	≈ 94	≈ 1220	EC41-3C81-E160
	250 ± 3% ⁽¹⁾	≈ 147	≈ 705	EC41-3C81-E250
	315 ± 5%	≈ 186	≈ 530	EC41-3C81-A315
	400 ± 5%	≈ 236	≈ 390	EC41-3C81-A400
	≥ 2800	≥ 1640	≈ 0	EC41-3C81
3C90 ^{sup}	100 ± 3% ⁽¹⁾	≈ 59	≈ 2200	EC41-3C90-E100
	160 ± 3% ⁽¹⁾	≈ 94	≈ 1220	EC41-3C90-E160
	250 ± 3% ⁽¹⁾	≈ 147	≈ 705	EC41-3C90-E250
	315 ± 5%	≈ 186	≈ 530	EC41-3C90-A315
	400 ± 5%	≈ 236	≈ 390	EC41-3C90-A400
	2700 ± 25%	≈ 1580	≈ 0	EC41-3C90

Note

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

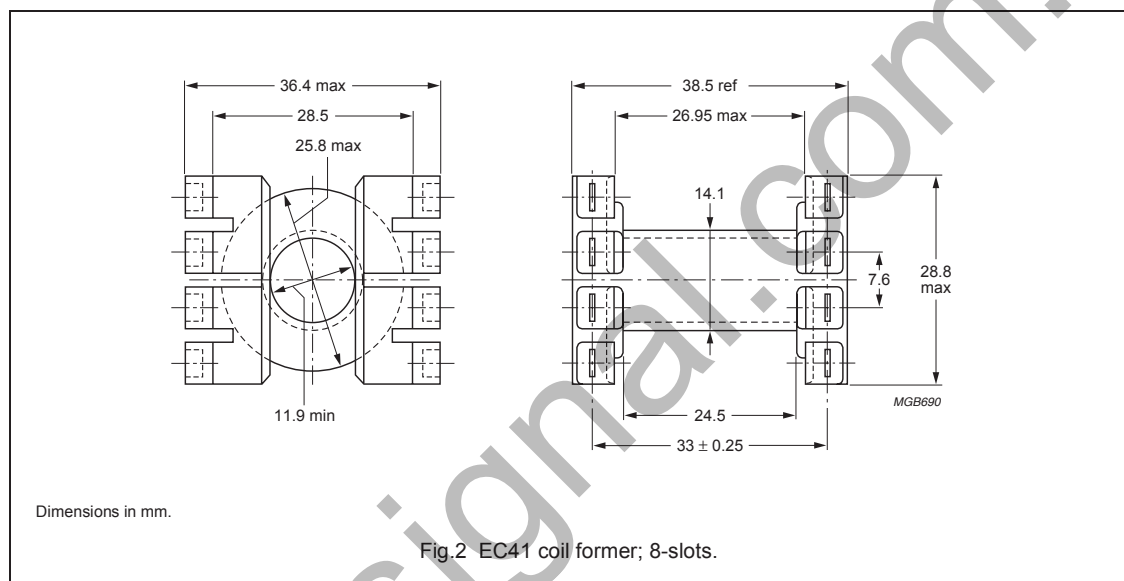
Properties of core sets under power conditions

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	≥320	≤ 2.2	-
3C90	≥320	≤ 1.3	≤ 1.4

COIL FORMERS

General data 8-slots EC41 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 and area product for 8-slots EC41 coil former for insertable pins

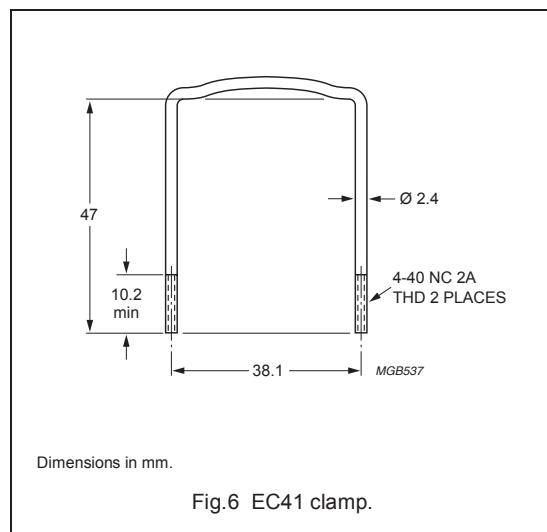
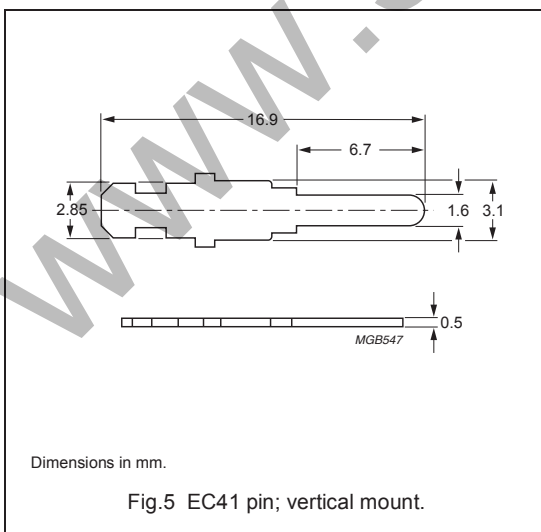
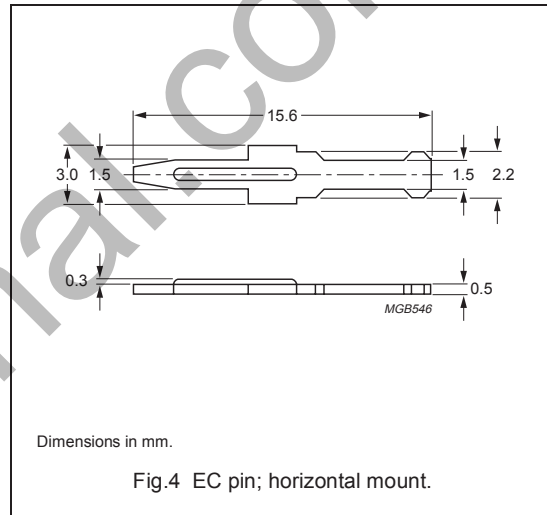
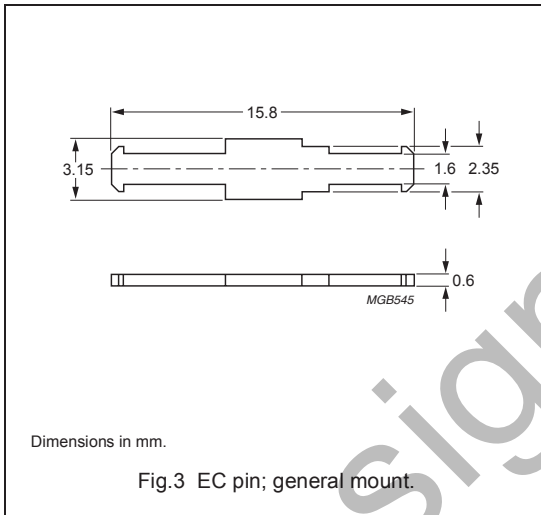
Coil formers with inserted pins are available on request.

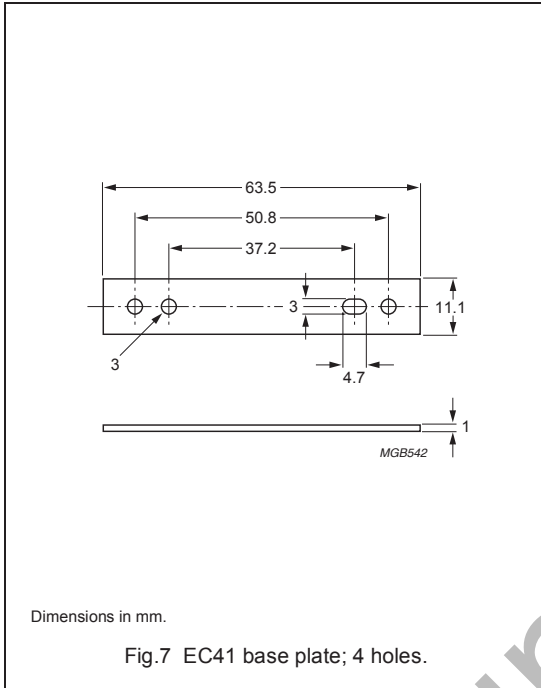
NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	137.5	24.5	62.4	16600	CP-EC41-1S

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 (Sn) plated	general	3	PIN-EC
		horizontal	4	PIN/H-EC
		vertical	5	PIN/V-EC41
Clamp	copper-zinc alloy (CuZn)		6	CLM/U-EC41
Base plate 4 holes	aluminium (Al)		7	BPL4-EC41



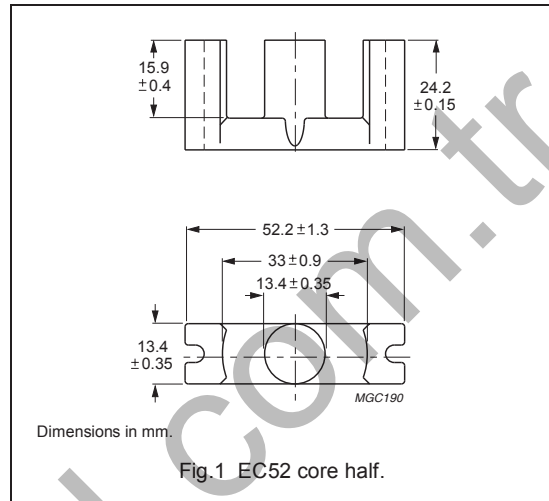


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CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.581	mm ⁻¹
V_e	effective volume	18800	mm ³
l_e	effective length	105	mm
A_e	effective area	180	mm ²
A_{min}	minimum area	141	mm ²
m	mass of core half	≈ 56	g



Core halves

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

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3C81 ^{sup}	160 ± 3% ⁽¹⁾	≈ 74	≈ 1920	EC52-3C81-E160
	250 ± 3% ⁽¹⁾	≈ 116	≈ 1100	EC52-3C81-E250
	315 ± 3% ⁽¹⁾	≈ 147	≈ 830	EC52-3C81-E315
	400 ± 3%	≈ 185	≈ 620	EC52-3C81-A400
	630 ± 5%	≈ 290	≈ 350	EC52-3C81-A630
	≥ 3550	≥ 1640	≈ 0	EC52-3C81
3C90 ^{sup}	160 ± 3% ⁽¹⁾	≈ 74	≈ 1920	EC52-3C90-E160
	250 ± 3% ⁽¹⁾	≈ 116	≈ 1100	EC52-3C90-E250
	315 ± 3% ⁽¹⁾	≈ 147	≈ 830	EC52-3C90-E315
	400 ± 3%	≈ 185	≈ 620	EC52-3C90-A400
	630 ± 5%	≈ 290	≈ 350	EC52-3C90-A630
	3600 ± 25%	≈ 1660	≈ 0	EC52-3C90

Note

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

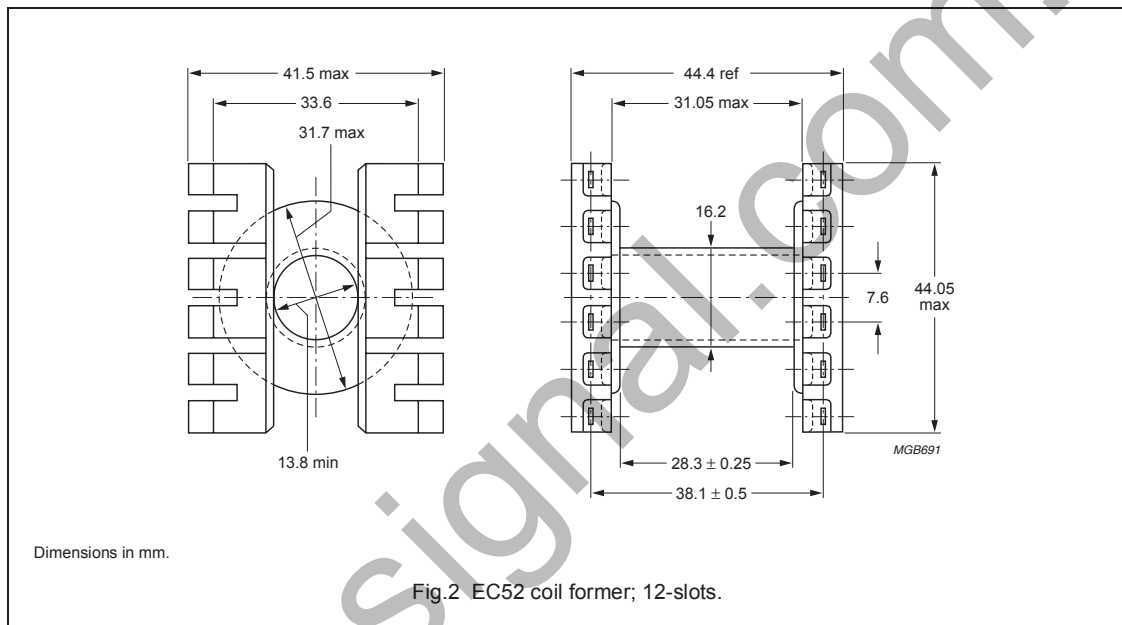
Properties of core sets under power conditions

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	≥320	≤ 3.8	–
3C90	≥320	≤ 2.3	≤ 2.4

COIL FORMERS

General data 12-slots EC52 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(R)
Maximum operating temperature	130 °C, "IEC 60085", class B



Winding data and area product for 12-slots EC52 coil former for insertable pins

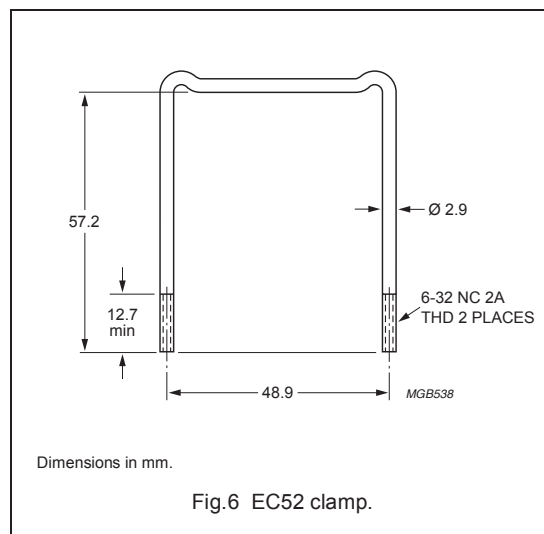
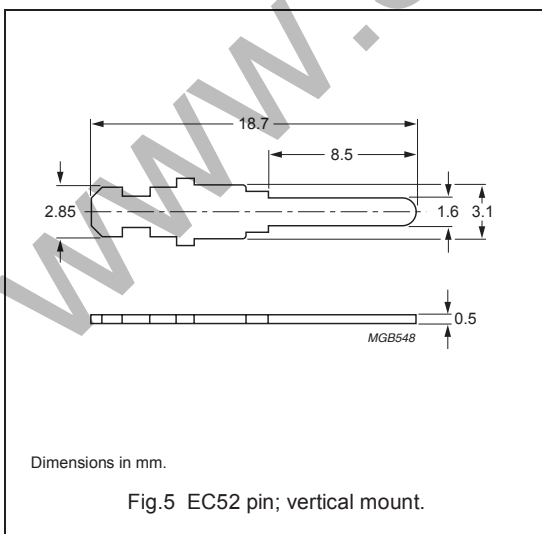
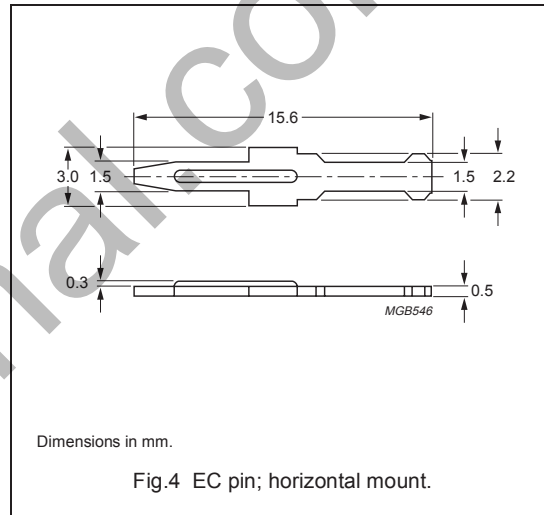
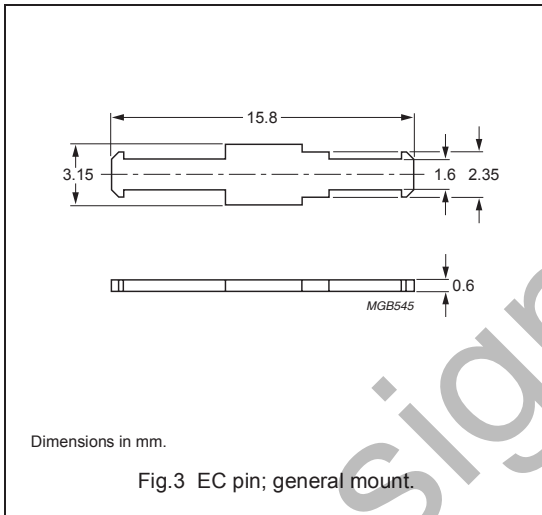
Coil formers with inserted pins are available on request.

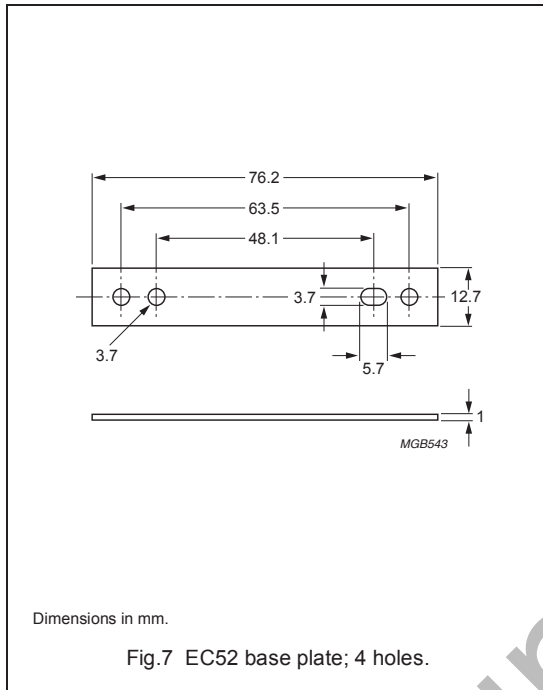
NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	212	28.3	74.9	38200	CP-EC52-1S

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 (Sn) plated	general	3	PIN-EC
		horizontal	4	PIN/H-EC
		vertical	5	PIN/V-EC52
Clamp	copper-zinc alloy (CuZn)		6	CLM/U-EC52
Base plate 4 holes	aluminium		7	BPL4-EC52





CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.514	mm ⁻¹
V_e	effective volume	40 100	mm ³
l_e	effective length	144	mm
A_e	effective area	279	mm ²
A_{min}	minimum area	211	mm ²
m	mass of core half	≈ 127	g

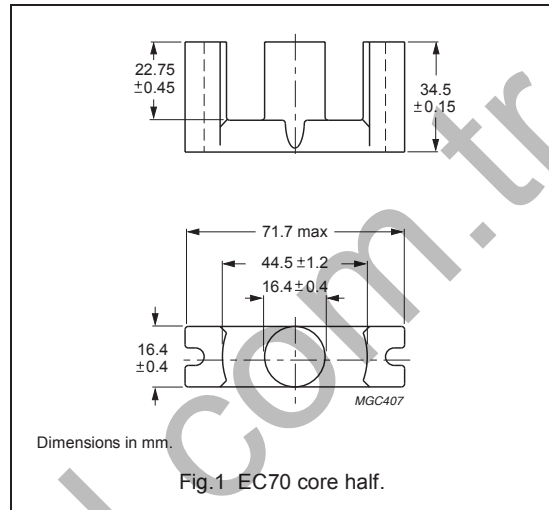


Fig.1 EC70 core half.

Core halves

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

GRADE	A_L (nH)	μ_e	TOTAL AIR GAP (μm)	TYPE NUMBER
3C81 ^{sup}	250 ± 3% ⁽¹⁾	≈ 102	≈ 1830	EC70-3C81-E250
	315 ± 3% ⁽¹⁾	≈ 130	≈ 1370	EC70-3C81-E315
	400 ± 3% ⁽¹⁾	≈ 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}	250 ± 3% ⁽¹⁾	≈ 102	≈ 1830	EC70-3C90-E250
	315 ± 3% ⁽¹⁾	≈ 130	≈ 1370	EC70-3C90-E315
	400 ± 3% ⁽¹⁾	≈ 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

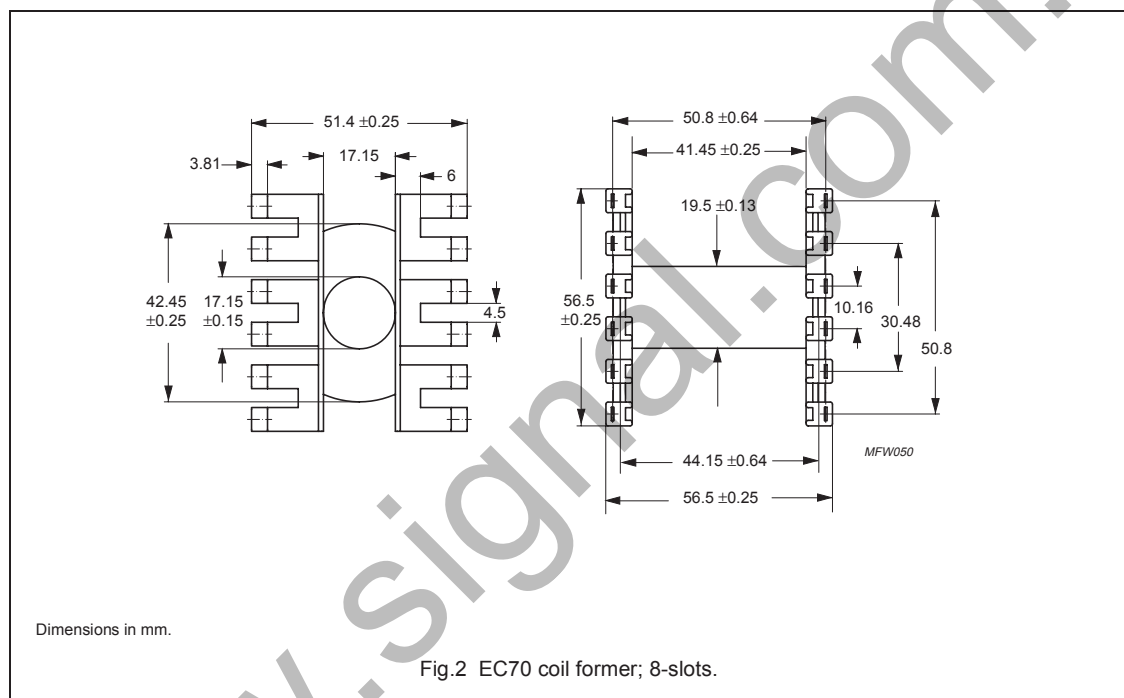
1. Measured in combination with an equal gapped core half (symmetrical air gap).

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; \hat{B} = 200 mT; T = 100 °C	f = 100 kHz; \hat{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 and area product for 8-slots EC70 coil former for insertable pins; see note 1**

NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	465	41.5	97.3	130000	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 (Sn) plated	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

