

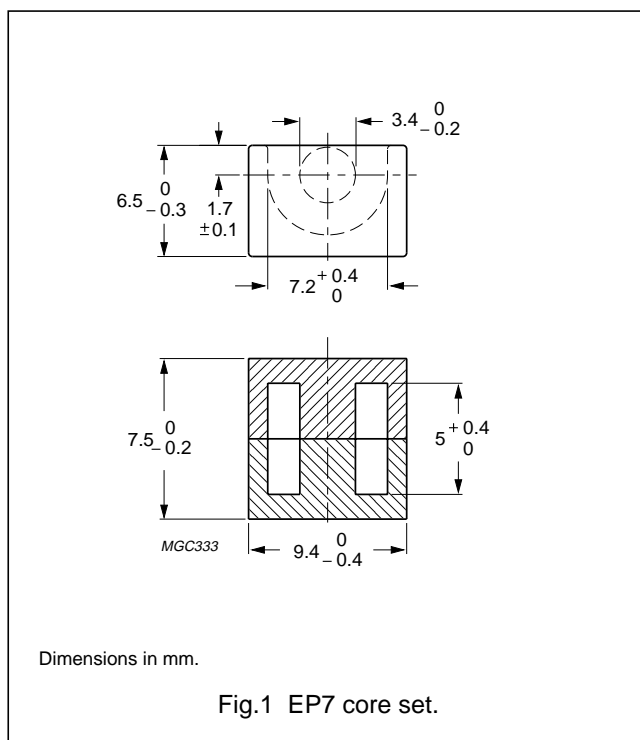
## EP cores and accessories

## EP7

## CORE SETS

## Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	1.45	mm <sup>-1</sup>
$V_e$	effective volume	165	mm <sup>3</sup>
$l_e$	effective length	15.5	mm
$A_e$	effective area	10.7	mm <sup>2</sup>
$A_{min}$	minimum area	8.55	mm <sup>2</sup>
$m$	mass of core set	≈0.8	g



## Core sets for general purpose transformers and power applications

Clamping force  $20 \pm 10$  N.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3H1 <sup>sup</sup>	63 ±3%	≈76	≈260	EP7-3H1-E63
	100 ±3%	≈121	≈150	EP7-3H1-A100
	160 ±5%	≈193	≈85	EP7-3H1-A160
	1200 ±25%	≈1450	≈0	EP7-3H1
3C81	25 ±3%	≈30	≈790	EP7-3C81-E25
	40 ±3%	≈48	≈440	EP7-3C81-A40
	63 ±3%	≈76	≈260	EP7-3C81-A63
	100 ±3%	≈121	≈150	EP7-3C81-A100
	160 ±5%	≈193	≈85	EP7-3C81-A160
	≥875	≥1060	≈0	EP7-3C81
3C85	25 ±3%	≈30	≈790	EP7-3C85-E25
	40 ±3%	≈48	≈440	EP7-3C85-A40
	63 ±3%	≈76	≈260	EP7-3C85-A63
	100 ±3%	≈121	≈150	EP7-3C85-A100
	160 ±5%	≈193	≈85	EP7-3C85-A160
	1120 ±25%	≈1350	≈0	EP7-3C85

## EP cores and accessories

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GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3F3	25 $\pm$ 3%	$\approx$ 30	$\approx$ 790	EP7-3F3-E25
	40 $\pm$ 3%	$\approx$ 48	$\approx$ 440	EP7-3F3-A40
	63 $\pm$ 3%	$\approx$ 76	$\approx$ 260	EP7-3F3-A63
	100 $\pm$ 3%	$\approx$ 121	$\approx$ 150	EP7-3F3-A100
	160 $\pm$ 5%	$\approx$ 193	$\approx$ 85	EP7-3F3-A160
	1000 $\pm$ 25%	$\approx$ 1210	$\approx$ 0	EP7-3F3
3F4 <sup>des</sup>	100 $\pm$ 3%	$\approx$ 121	$\approx$ 150	EP7-3F4-A100
	160 $\pm$ 5%	$\approx$ 193	$\approx$ 85	EP7-3F4-A160
	600 $\pm$ 25%	$\approx$ 730	$\approx$ 0	EP7-3F4
3H3	63 $\pm$ 3%	$\approx$ 76	$\approx$ 260	EP7-3H3-A63
	100 $\pm$ 3%	$\approx$ 121	$\approx$ 150	EP7-3H3-A100
	160 $\pm$ 5%	$\approx$ 193	$\approx$ 85	EP7-3H3-A160
	1120 $\pm$ 25%	$\approx$ 1350	$\approx$ 0	EP7-3H3

## Core sets of high permeability grades

Clamping force 20  $\pm$ 10 N.

GRADE	$A_L$ (nH)	$\mu_e$	TYPE NUMBER
3E1	2100 $\pm$ 25%	$\approx$ 2540	EP7-3E1
3E25 <sup>sup</sup>	$\geq$ 2500	$\geq$ 3020	EP7-3E25
3E27	$\geq$ 2500	$\geq$ 3020	EP7-3E27
3E5	5200 +40/-30%	$\approx$ 6290	EP7-3E5
3E6	5800 +40/-30%	$\approx$ 7000	EP7-3E6

## 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 = 400 kHz; $\hat{B}$ = 50 mT; T = 100 °C	f = 1 MHz; $\hat{B}$ = 30 mT; T = 100 °C	f = 3 MHz; $\hat{B}$ = 10 mT; T = 100 °C
3C81	$\geq$ 315	$\leq$ 0.04	–	–	–	–
3C85	$\geq$ 315	$\leq$ 0.03	$\leq$ 0.03	–	–	–
3F3	$\geq$ 315	–	$\leq$ 0.02	$\leq$ 0.035	–	–
3F4	$\geq$ 250	–	–	–	$\leq$ 0.033	$\leq$ 0.053

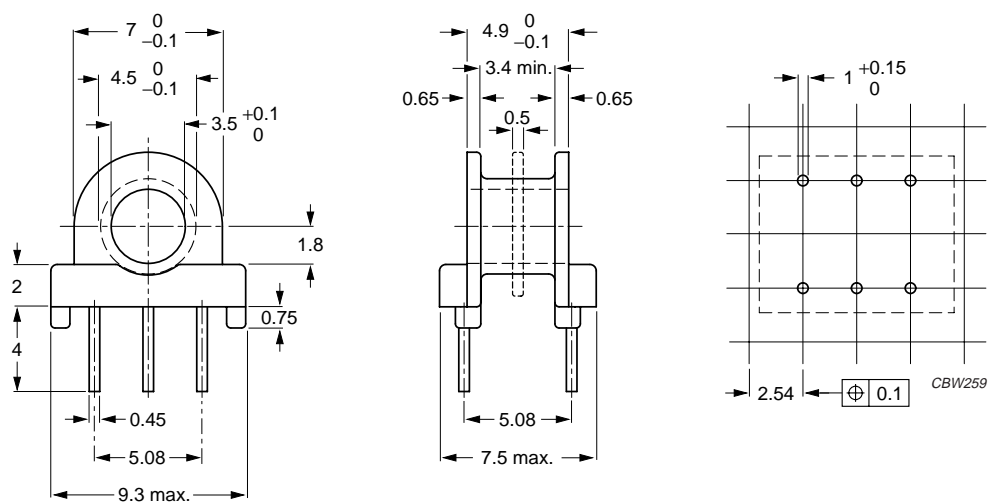
## EP cores and accessories

## EP7

## COIL FORMERS

## General data CSH-EP7-1S-6P

PARAMETER	SPECIFICATION
Coil former material	phenolformaldehyde (PF), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E46770(M)
Pin material	copper-tin alloy (CuSn), tin-lead alloy (SnPb) plated
Maximum operating temperature	180 °C, "IEC 85" class H
Resistance to soldering heat	"IEC 68-2-20", Part 2, Test Tb, method 1B, 350 °C, 3.5 s
Solderability	"IEC 68-2-20", Part 2, Test Ta, method 1, 235 °C, 2 s



Dimensions in mm.

Fig.2 EP7 coil former: 6-pins.

## Winding data for 6-pins EP7 coil former

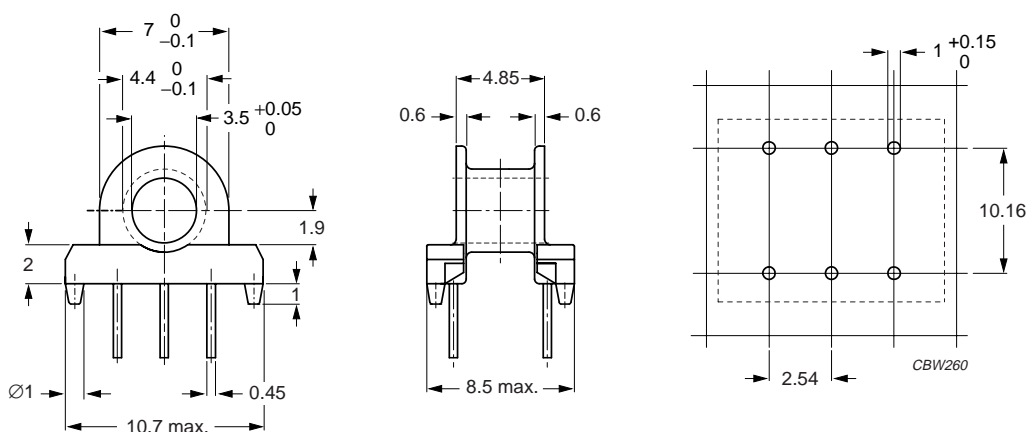
NUMBER OF SECTIONS	WINDING AREA (mm <sup>2</sup> )	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	4.1	3.6	17.9	CSH-EP7-1S-6P
2	2 × 1.75	2 × 1.45	17.9	CSH-EP7-2S-6P-T

## EP cores and accessories

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## General data CSH-EP7-1S-6P-A

PARAMETER	SPECIFICATION
Coil former material	phenolformaldehyde (PF), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E46770(M)
Pin material	copper-tin alloy (CuSn), tin-lead alloy (SnPb) plated
Maximum operating temperature	180 °C, "IEC 85" class H
Resistance to soldering heat	"IEC 68-2-20", Part 2, Test Tb, method 1B, 350 °C, 3.5 s
Solderability	"IEC 68-2-20", Part 2, Test Ta, method 1, 235 °C, 2 s



Dimensions in mm.

Fig.3 EP7 coil former: 6-pins (A).

## Winding data for 6-pins EP7 coil former

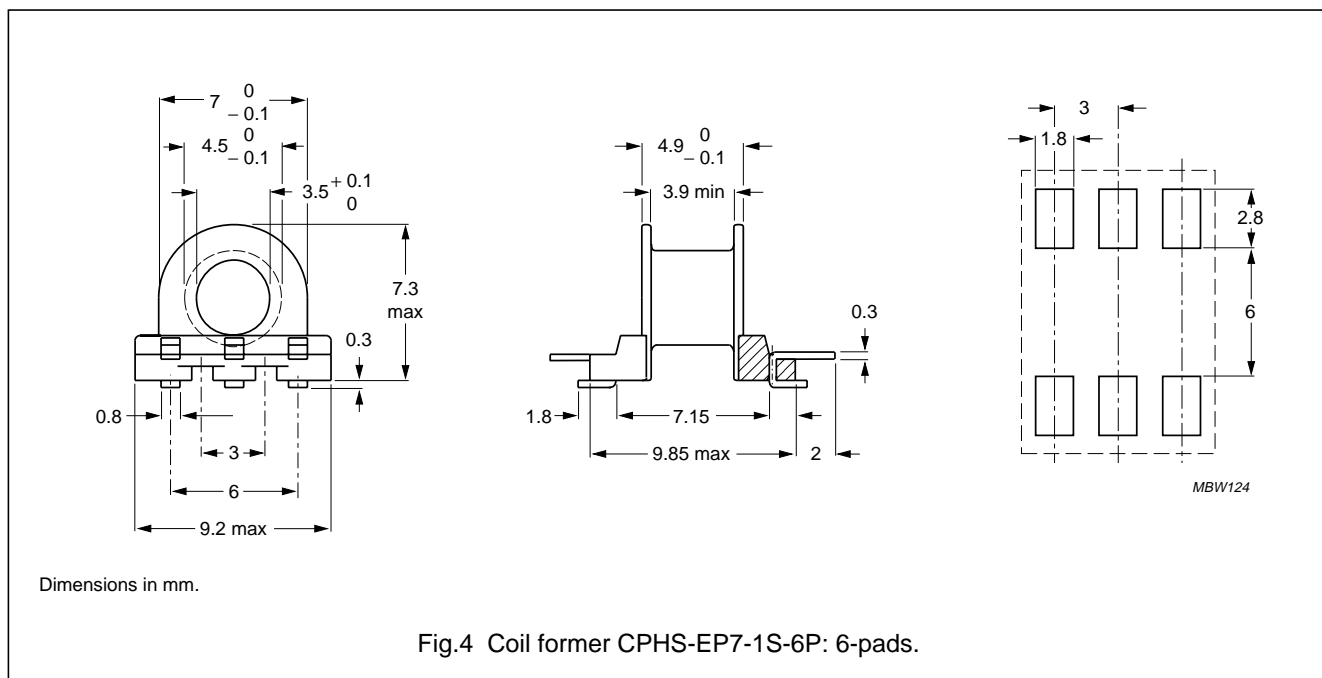
NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm <sup>2</sup> )	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	4.3	3.5	17.7	CSH-EP7-1S-6P-B

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## General data for 6-pads SMD coil former

PARAMETER	SPECIFICATION
Coil former material	Liquid crystal polymer (LCP), glass reinforced, flame retardant in accordance with "UL 94V-0"; UL file number: E83005(M)
Solder pad material	copper-tin alloy (CuSn), tin-lead alloy (SnPb) plated
Maximum operating temperature	155 °C, "IEC 85" class F
Resistance to soldering heat	"IEC 68-2-20", Part 2, Test Tb, method 1B, 350 °C, 3.5 s
Solderability	"IEC 68-2-20", Part 2, Test Ta, method 1: 235 °C, 2 s



## Winding data for 6-pads SMD coil former

NUMBER OF SECTIONS	WINDING AREA (mm <sup>2</sup> )	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	4.7	3.9	17.9	CPHS-EP7-1S-6P

EP cores and accessories

EP7

**MOUNTING PARTS**

**General data**

ITEM	REMARKS	FIGURE	TYPE NUMBER
Mounting clip	stainless steel (CrNi); to be used in combination with CSH-EP7-1S-6P-B	6	CLI/P-EP7
Mounting clip	stainless steel (CrNi); clamping force $\approx 22$ N	6	CLI-EP7

