

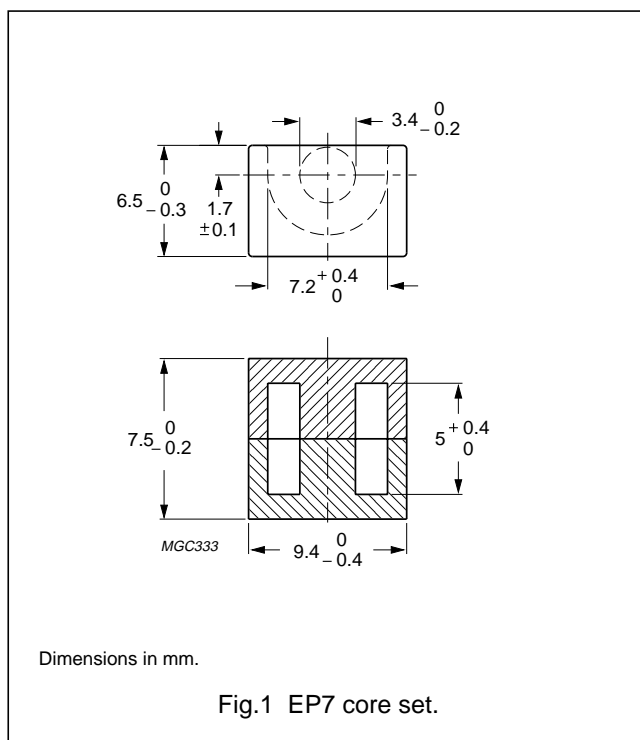
EP cores and accessories

EP7

CORE SETS

Effective core parameters

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



Core sets for general purpose transformers and power applications

Clamping force 20 ± 10 N.

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

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GRADE	A_L (nH)	μ_e	AIR GAP (μm)	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 ^{des}	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)	μ_e	TYPE NUMBER
3E1	2100 \pm 25%	\approx 2540	EP7-3E1
3E25 ^{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

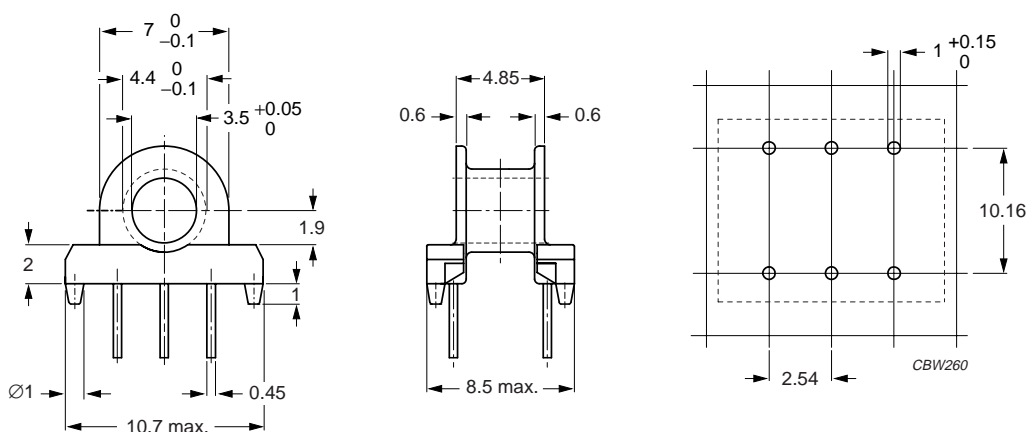
GRADE	B (mT) at	CORE LOSS (W) at				
	H = 250 A/m; f = 25 kHz; T = 100 °C	f = 25 kHz; \hat{B} = 200 mT; T = 100 °C	f = 100 kHz; \hat{B} = 100 mT; T = 100 °C	f = 400 kHz; \hat{B} = 50 mT; T = 100 °C	f = 1 MHz; \hat{B} = 30 mT; T = 100 °C	f = 3 MHz; \hat{B} = 10 mT; T = 100 °C
3C81	\geq 315	\leq 0.04	–	–	–	–
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

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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

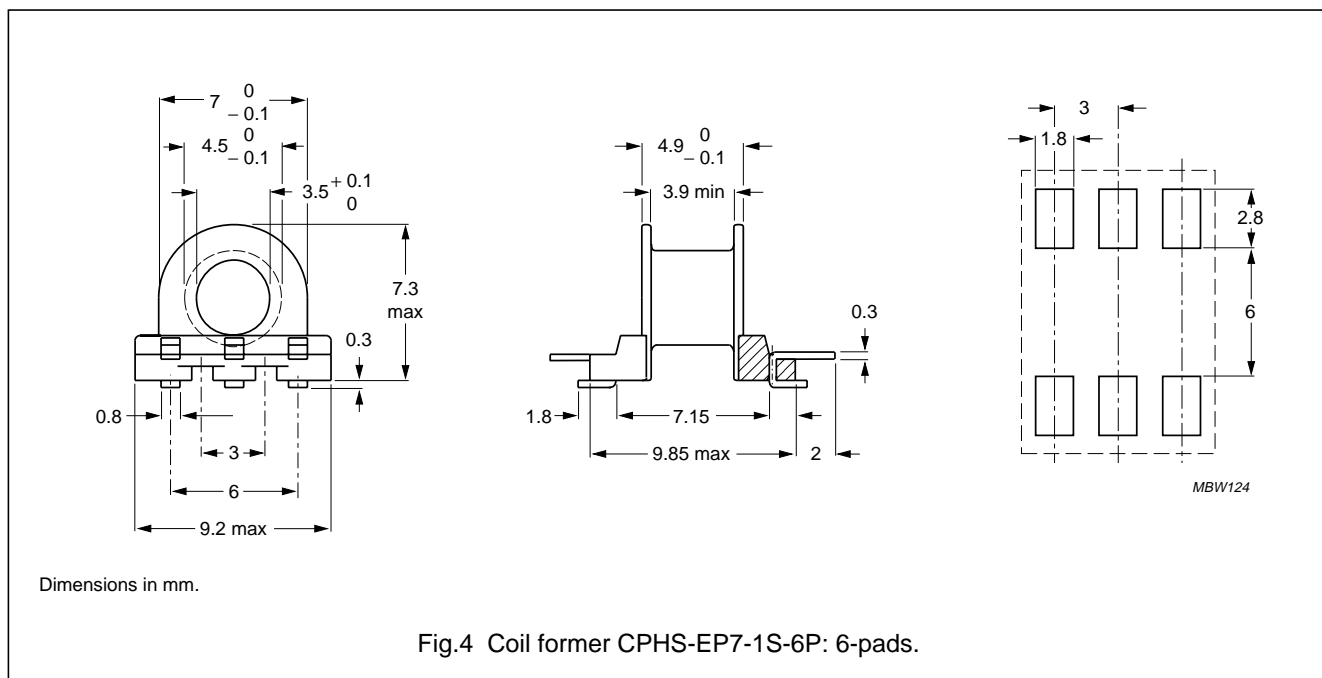
NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm ²)	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	4.3	3.5	17.7	CSH-EP7-1S-6P-B

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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 ²)	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	4.7	3.9	17.9	CPHS-EP7-1S-6P

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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 ≈ 22 N	6	CLI-EP7

