



EP Cores

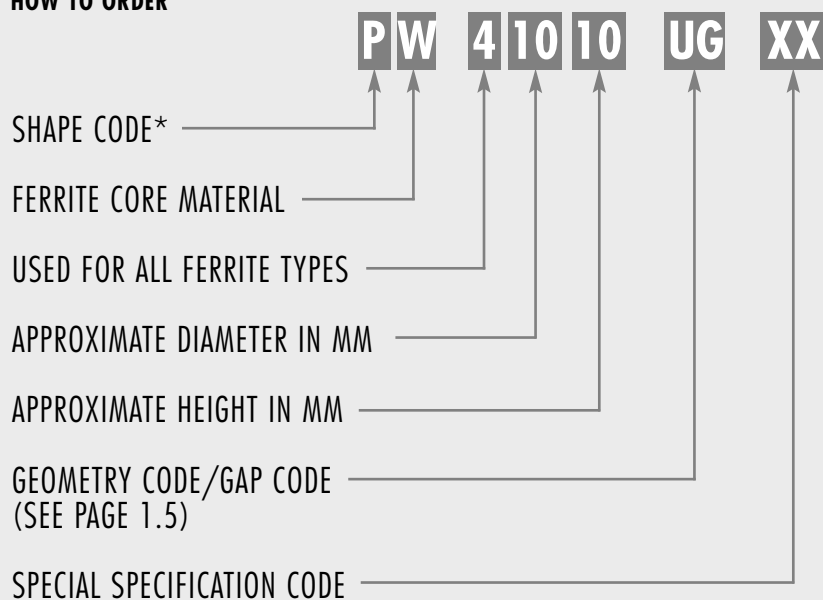
Section 9

EP CORES

EP cores are round center-post cubical shapes which enclose the coil completely except for the printed circuit board terminals. This particular shape minimizes the effect of air gaps formed at mating surfaces in the magnetic path and provides a larger volume ratio to total space used. EP cores provide excellent shielding.

Typical applications for EP cores include differential and telecom inductors and power transformers.

HOW TO ORDER



*SHAPE CODES: P — EP core



EP

Core Data (ungapped)

Any practical gap is available. See page 1.8-1.11

MECHANICAL DIMENSIONS (mm)						
PART	CORE TYPE	FIG.	A	B	2B	C
P_40707UG	EP7	1	$9.2 \pm .2$	$3.7 \pm .05$	$7.4 \pm .1$	$6.35 \pm .15$
P_41010UG	EP10	1	$11.5 \pm .3$	$5.15 \pm .1$	$10.3 \pm .2$	$7.6 \pm .2$
P_41313UG	EP13	1	$12.8 + 0, - .6$	$6.45 \pm .08$	$12.9 \pm .16$	$9 + 0, - .4$
P_41717UG	EP17	1	$18 \pm .4$	$8.4 \pm .1$	$16.8 \pm .2$	$11 \pm .25$
P_42120UG	EP20	1	$24 \pm .5$	$10.7 \pm .1$	$21.4 \pm .2$	$15 \pm .35$

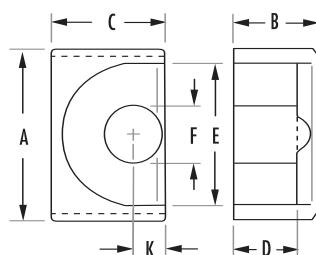
To order, add material code to part number.

A_L (mH/1000T) min

PART	CORE TYPE	FIG.	POWER MATERIALS			HIGH PERMEABILITY MATERIALS	
			R	P	F*	J	W
P_40707UG	EP7	1	810	880	1,240	1,930	3,600
P_41010UG	EP10	1	780	850	1,200	1,850	3,360
P_41313UG	EP13	1	1,150	1,250	2,000	2,800	5,000
P_41717UG	EP17	1	1,790	1,950	3,100	4,400	8,000
P_42120UG	EP20	1	3,170	3,450	5,000	7,200	13,500

* F material nominal $\pm 25\%$

FIGURE 1



EP

Core Data (ungapped)

MECHANICAL DIMENSIONS (mm)						
PART	FIG.	D	2D	E	F	K
P_40707UG	1	2.5 min	5.0 min	7.2 min	3.4 max	1.7 ± .1
P_41010UG	1	3.6 min	7.2 min	9.2 min	3.45 max	1.85 ± .1
P_41313UG	1	4.5 + .2, - 0	9 + .4, - 0	9.7 + .6, - 0	4.5 + 0, - .3	2.4 ± .1
P_41717UG	1	5.7 ± .15	11.4 ± .3	12 ± .4	5.7 ± .18	3.3 ± .2
P_42120UG	1	7.2 ± .15	14.4 ± .3	16.5 ± .4	8.8 ± .25	4.5 ± .2

MAGNETIC DATA							
PART	FIG.	l_e (mm)	A_e (mm ²)	A_{min} (mm ²)	V_e (mm ³)	CORE WEIGHT (grams per set)	W_{aAc} (cm ⁴)
P_40707UG	1	15.5	10.7	8.55	165	1.4	0.003
P_41010UG	1	19.3	11.3	8.55	215	2.8	0.01
P_41313UG	1	24.2	19.5	14.0	472	5.1	0.03
P_41717UG	1	29.5	33.7	25.5	999	11.6	0.08
P_42120UG	1	41.1	78.7	60.8	3,230	27.6	0.24

AVAILABLE HARDWARE

	SURFACE MOUNT BOBBIN	PRINTED CIRCUIT BOBBIN	MOUNTING CLAMP
P_40707UG	✓	✓	✓
P_41010UG	✓	✓	✓
P_41313UG	✓	✓	✓
P_41717UG	✓	✓	✓
P_42120UG	✓	✓	✓

Printed Circuit Bobbins

MECHANICAL DIMENSIONS (mm)													
PART	CORE SIZE	FIG.	A REF	B REF	C MAX	D MIN	E NOM	F NOM	G NOM	H REF	J MAX	K REF	L REF
PCB07076B	40707	1	9.14	7.39	7.11	3.42	3.5	4.49	3.73	4.57	4.72	2.51	5.05
PCB10108A	41010	2	10.99	10.99	8.99	3.55	5.58	4.9	3.4	5.38	7.11	2.48	7.49
PCB17178A	41717	3	18.99	18.99	11.45	5.99	9.47	7.11	4.69	7.49	11.1	-	-

FIGURE 1

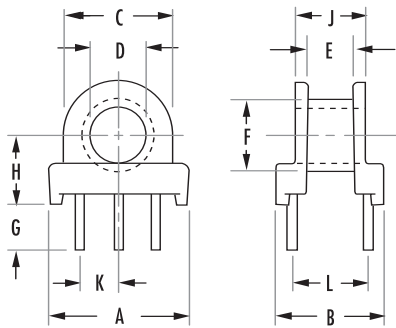


FIGURE 2

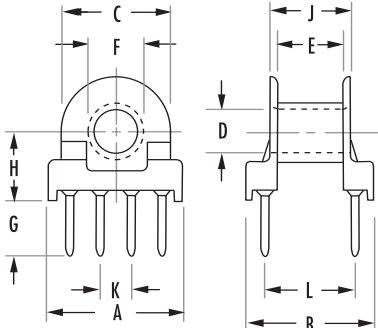
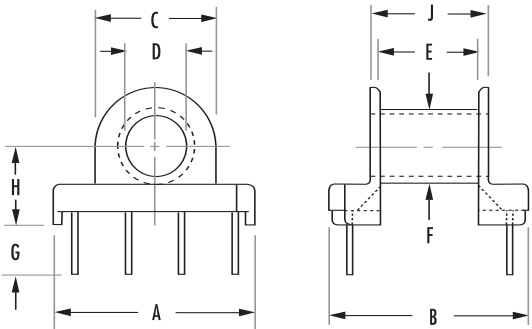


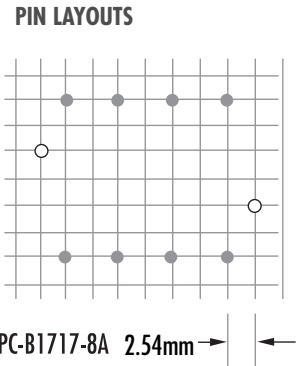
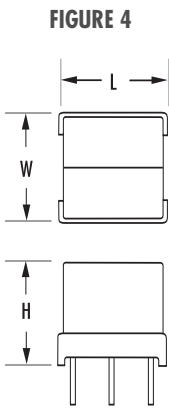
FIGURE 3



Printed Circuit Bobbins

	NOMINAL WINDING AREA PER SECTION cm ²	AVERAGE LENGTH OF TURN (mm)	BOBBIN MATERIAL	PIN MATERIAL	PIN DIAMETER (mm)	BOARD CLEARANCE (mm)*			
							Length	Width	Height
PCB07076B	0.04	18	Phenolic	Tin coated Phosphor Bronze	0.40 square	with clamp	12.3	9.8	10.4
						no clamp	9.5	72.6	9.9
PCB10108A	0.11	21.3	Phenolic	Tin coated Phosphor Bronze	0.66	with clamp	14	13	12
						no clamp	72	11.1	11.3
PCB17178A	0.18	28.7	Phenolic	Tin coated Phosphor Bronze	0.66	with clamp	21.3	20.3	16.3
						no clamp	19.3	19.3	15.7

*reference figure 4 for board clearance



- Holes for bobbin pins
- Holes for clip pins

Surface Mount Bobbins

MECHANICAL DIMENSIONS (mm)												
PART	CORE SIZE	FIG.	A REF	B REF	C MAX	D MIN	E NOM	F NOM	H REF	J MAX	K REF	L REF
SMB07076A	40707	1	9.19	8.58	7.11	3.4	3.6	4.49	3.5	4.9	10.59	12.7
SMB10108A	41010	2	11.5	10.49	9.09	3.5	5.79	4.8	4.49	7.11	12.49	14.6
SMB1313TA	41313	3	12.8	13.005	9.6	4.49	7.59	5.79	5.25	8.78	15.39	16.99

FIGURE 1

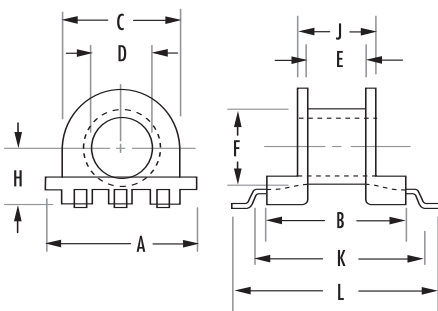


FIGURE 2

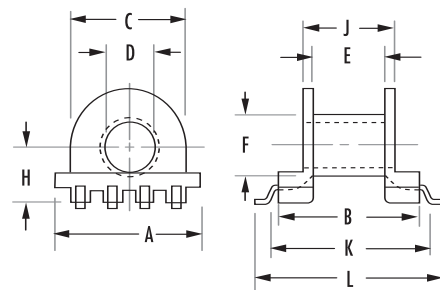
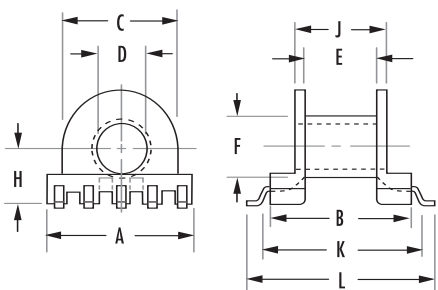


FIGURE 3



Surface Mount Bobbins

	NOMINAL WINDING AREA PER SECTION cm^2	AVERAGE LENGTH OF TURN (mm)	BOBBIN MATERIAL	PIN THICKNESS (mm)
SMB07076A	0.044	17.7	L.C.P.	0.30
SMB10108A	0.120	21.3	L.C.P.	0.30
SMB1313TA	0.138	23.8	L.C.P.	0.30

Mounting Clamps

PART	CORE SIZE	FIG.	MECHANICAL DIMENSIONS (NOMINAL) (mm)								MATERIAL	MATERIAL THICKNESS
			A	B	C	D	E	F	G	H		
OAC070716 YOKE	40707	2	9.6	12.16	4.97	3.98	2.08	5.89	0.4	-	Nickel Silver	0.40
OBC070712 CLAMP	40707	1	10.38	7.18	4.97	-	-	-	-	-	Nickel Silver	0.30
OOC10102A YOKE/ CLAMP	41010	3	16.51	12.14	6.4	4.95	2.59	9.52	2.48	1.01	Phosphor Bronze	0.38
	41010	1	13.005	8.59	6.5	-	-	-	-	-	Phosphor Bronze	0.30
OAC131316 YOKE	41313	4	16.51	13.004	7.51	3.98	2.59	11.68	2.99	1.21	Nickel Silver	0.40
OBC131314 CLAMP	41313	1	14.07	12.64	7.51	-	-	-	-	-	Nickel Silver	0.36
OOC17172A YOKE/ CLAMP	41717	5	19.99	18.59	8.99	5.004	5.004	15.59	5.004	0.99	Phosphor Bronze	0.40
	41717	1	19.17	16.58	8.99	-	-	-	-	-	Phosphor Bronze	0.30
OAC212016 YOKE	42120	6	22.27	24.61	11.98	3.5	4.57	17.6	2.54	0.99	Nickel Silver	0.40
OBC212016 CLAMP	42120	1	24.99	21.48	11.98	-	-	-	-	-	Nickel Silver	0.40

Yoke and Clamp are required for assembly.

Part numbers OOC10102A & OOC17172A are for yoke/clamp set.

Mounting Clamps

FIGURE 1

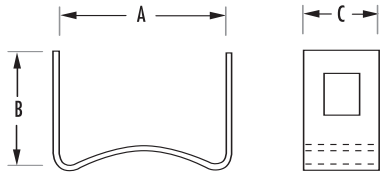


FIGURE 2

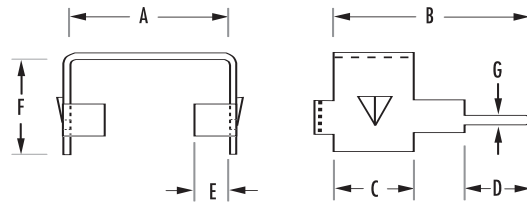


FIGURE 3

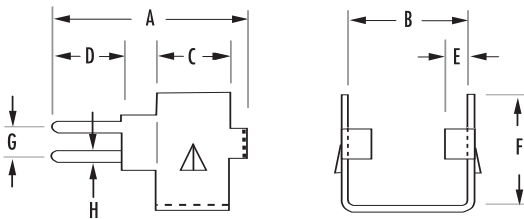


FIGURE 4

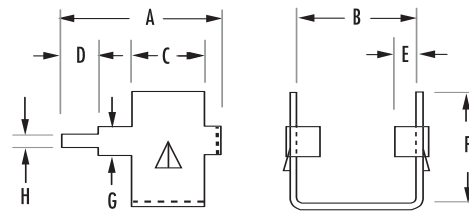


FIGURE 5

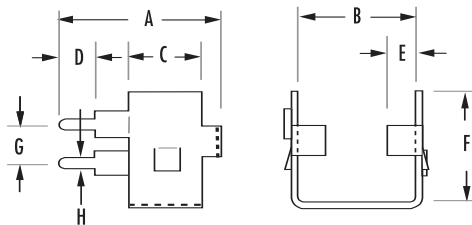


FIGURE 6

