



RM Cores

Section 8

RM CORES

RM Cores are square-designed cores that offer all the magnetic and mechanical advantages of pot cores, plus the added feature of maximizing magnetic performance while minimizing PC board space.

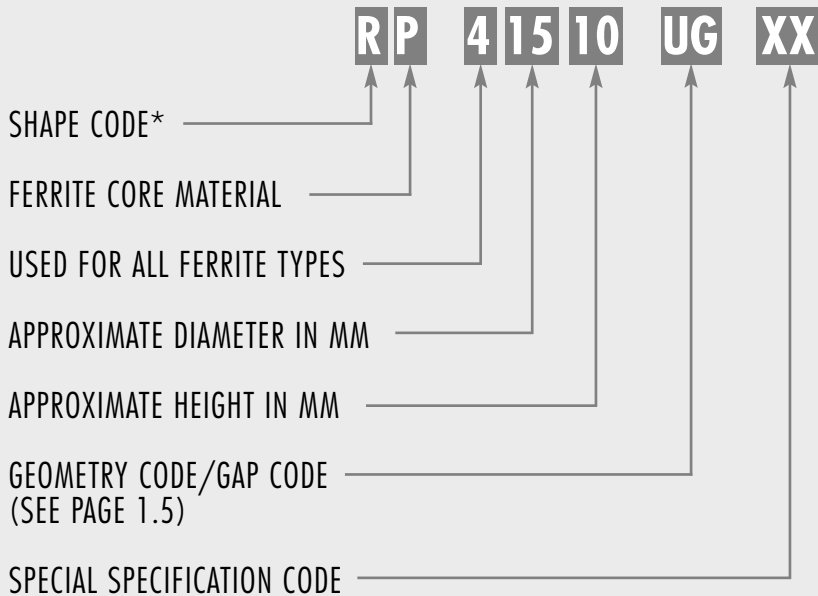
Easy to assemble and adaptable to automation, completed units provide at least 40% savings in mounting area compared to a similar size pot core assembly.

RM cores are available in seven standard sizes. Three of the sizes are also available as low profile cores.

Printed circuit bobbins or plain bobbins are available.

Typical applications include differential inductors, power inductors, filter inductors, telecom inductors and broadband transformers.

HOW TO ORDER



*SHAPE CODES

N — RM Core with solid centerpost

R — RM Core with center hole

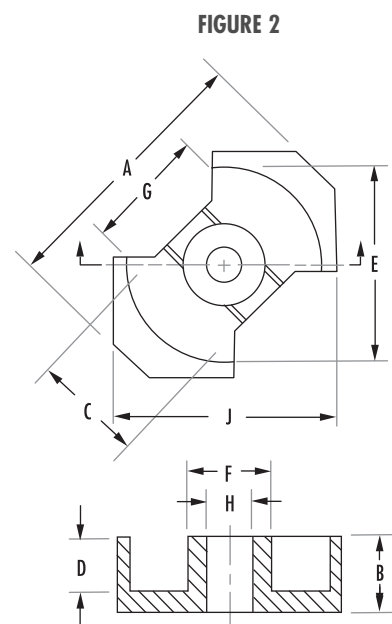
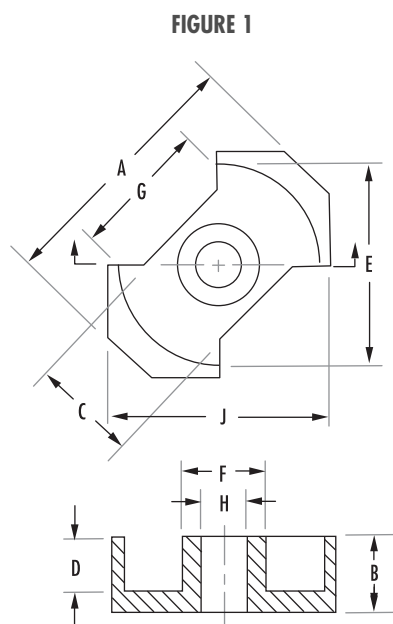


RM Core Data (ungapped)

Any practical gap available. See page 1.8 - 1.11

MECHANICAL DIMENSIONS								
PART	CORE TYPE	FIG.		A MAX	B	2B	C	D
R_41110UG	RM4	1	mm	11.8	5.20 ± .050	10.400	4.45 nom	3.61 ± .100
			in	0.465	.205 ± .002	.410 ± .004	0.175 nom	.142 ± .004
R_41500UG	RM5/low profile	2	mm	14.9	2.160 ± .050	4.320 ± .100	6.6 nom	.760 ± .100
			in	0.587	.085 ± .002	.170 ± .004	0.260 nom	.030 ± .004
R_41505UG	RM5/low profile	2	mm	14.9	2.490 ± .050	4.980 ± .100	6.6 nom	.585 ± .100
			in	0.587	.098 ± .002	.196 ± .004	0.260 nom	.023 ± .004
R_41510UG	RM5	2	mm	14.9	5.200 ± .050	10.400 ± .100	6.6 nom	3.250 ± .100
			in	0.587	.205 ± .002	.410 ± .004	0.260 nom	.128 ± .004
N_41510UG	RM5 No center hole	2	mm	14.6 +0, -.6	5.2 ± .05	10.4 ± .1	6.8 + 0, -.4	3.25 ± .1
R_41812UG	RM6-R	3	mm	18.3	6.200 ± .050	12.4 ± .1	7.4	4.100 ± .100
			in	0.720	.244 ± .002	.488 ± .004	0.292 nom	.161 ± .004
N_41812UG	RM6-R no center hole	3	mm	17.9 + 0, -.7	6.2 ± .05	12.4 ± .1	7. + 0, -.4	4.0 + .2, - 0
R_41912UG	RM6-S	4	mm	18.3	6.200 ± .050	12.400 ± .100	8.200 nom	4.100 ± .100
			in	0.720	.244 ± .002	.488 ± .004	0.323 nom	.161 ± .004

To order, add material code to part number.



RM Core Data (ungapped)

MECHANICAL DIMENSIONS					
2D	E	F	G	H	J
7.21 ± .200	8.15 ± .200	3.800 ± .10	5.79 ref	2.05 ± .05	9.600 ± .200
.284 ± .008	.321 ± .008	.150 ± .004	0.228 ref	0.081 ± .002	.378 ± .008
1.520 ± .200	10.400 ± .200	4.800 ± .100	6.71 nom	2.050 ± .050	12.050 ± .250
.060 ± .008	0.409 ± .008	.189 ± .004	0.264 nom	.081 ± .002	.474 ± .010
1.170 ± .200	10.400 ± .200	4.800 ± .100	6.71 nom	2.050 ± .050	12.050 ± .250
.046 ± .008	0.409 ± .008	.189 ± .004	0.264 nom	.081 ± .002	.474 ± .010
6.520 ± .200	10.400 ± .200	4.800 ± .100	6.71 nom	2.050 ± .050	12.050 ± .250
.256 ± .008	0.409 ± .008	.189 ± .004	0.264 nom	.081 ± .002	.474 ± .010
6.5 ± .2	10.2 + .4, - 0	4.9 + 0, - .2	6.0 min	-	12.3 + 0, - .5
8.200 ± .200	12.650 ± .250	6.250 ± .150	5.850 nom	3.050 ± .050	14.400 ± .300
0.323 ± .008	.498 ± .010	.246 ± .006	0.250 nom	.120 ± .002	.567 ± .012
8 + .4, - 0	12.4 + .5, - 0	6.4 + 0, - .2	-	-	14.7 + 0, - .6
8.200 ± .200	12.650 ± .250	6.250 ± .150	9.000 nom	3.050 ± .050	14.400 ± .300
0.323 ± .008	.498 ± .010	.246 ± .006	0.355 nom	.120 ± .002	.567 ± .012

FIGURE 3

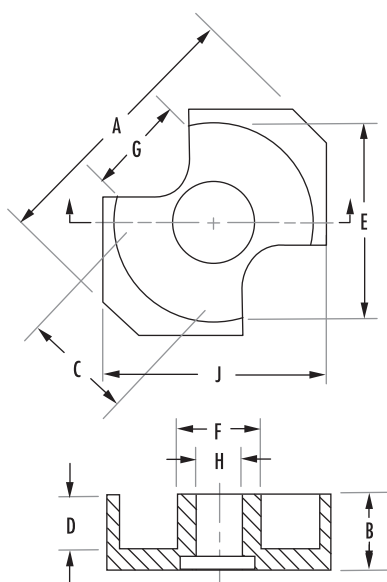
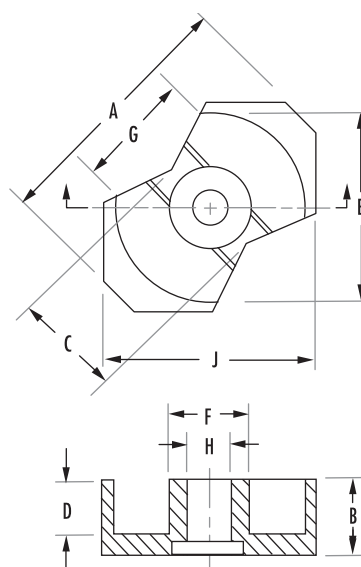


FIGURE 4

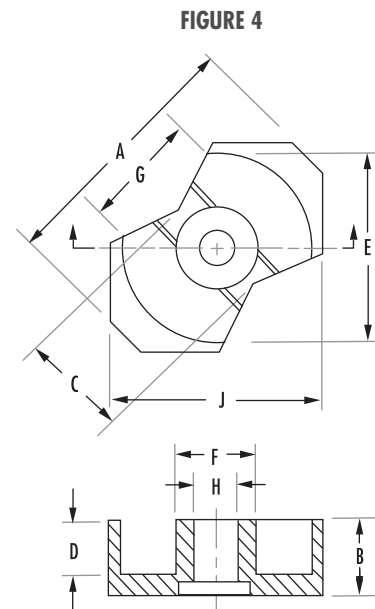
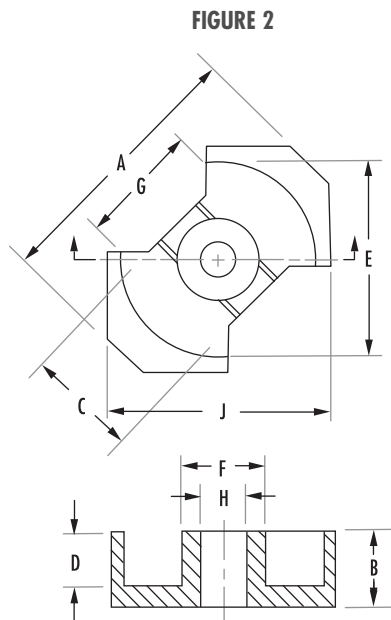


RM Core Data (ungapped)

Any practical gap available. See page 1.8 - 1.11

MECHANICAL DIMENSIONS								
PART	CORE TYPE	FIG.	A MAX	B	2B	C	D	
N_41912UG	RM6-S no center hole	4	mm	18.30	6.200 ± .050	12.400 ± .100	8.200 nom	4.100 ± .100
			in	0.720	.244 ± .002	.488 ± .004	.323 nom	.161 ± .004
N_42309UG	RM8/low profile no center hole	2	mm	23.20	7.87 ± .050	15.74 ± .100	10.800	1.270 ± .130
			in	0.913	.155 ± .002	.310 ± .004	0.425	.050 ± .005
R_42316UG	RM8	2	mm	23.20	8.200 ± .050	16.400 ± .100	10.800	5.530 ± .130
			in	0.913	.323 ± .002	.646 ± .004	0.425	.218 ± .005
N_42316UG	RM8 no center hole	2	mm	23.2 + 0, -.9	8.2 ± .05	16.4 ± .1	11.0 + 0, -.5	5.5 ± .1
			in					
N_42809UG	RM10/low profile no center hole	2	mm	28.50	4.750 ± .050	9.500 ± .100	13.200 ± .250	1.900 ± .150
			in	1.122	.187 ± .002	.374 ± .004	.520 ± .010	.074 ± .006
R_42819UG	RM10	2	mm	28.50	9.300 ± .050	18.600 ± .100	13.200 ± .250	6.400 ± .150
			in	1.122	.366 ± .002	.732 ± .004	.520 ± .010	.250 ± .006
N_42819UG	RM10 no center hole	2	mm	28.5 + 0, -1.3	9.3 ± .05	18.6 ± .1	13.5 + 0, -.5	6.2 + .3, - 0
			in					
N_43723UG	RM12	4	mm	37.4 + 0, -1.3	12.25 ± .05	24.5 ± .1	16.1 + 0, -.5	8.4 + .3, - 0

To order, add material code to part number.



RM Core Data (ungapped)

MECHANICAL DIMENSIONS					
2D	E	F	G	H	J
8.200 ± .200	12.650 ± .250	6.250 ± .150	9.000 nom	-	14.400 ± .300
0.323 ± .008	.498 ± .010	.246 ± .006	0.355 nom	-	.567 ± .012
2.54 ± .250	17.350 ± .350	8.400 ± .150	11.700 nom	-	19.300 ± .400
.100 ± .010	.683 ± .014	.331 ± .006	0.460 nom	-	.760 ± .016
11.050 ± .250	17.350 ± .350	8.400 ± .150	11.700 nom	4.500 ± .100	19.300 ± .400
.435 ± .010	.683 ± .014	.331 ± .006	0.415 nom	0.177 ± .004	.760 ± .016
11 ± .2	17.0 + .6, - 0	8.55 + 0, - .3	9.5 min	-	19.7 + 0, - .8
3.800 ± .300	21.650 ± .450	10.700 ± .200	11.400 nom	-	24.15 ± .550
.148 ± .012	.852 ± .018	.421 ± .008	0.450 nom	-	.951 ± .022
12.700 ± .300	21.650 ± .450	10.700 ± .200	11.400 nom	5.563 ± .100	24.15 ± .550
.500 ± .012	.852 ± .018	.421 ± .008	0.450 nom	0.219 ± .005	.951 ± .022
12.4 + .6, - 0	21.2 + .9, - 0	10.9 + 0, - .4	10.9 min	-	24.7 + 0, - 1.1
16.8 + .6, - 0	24.9 + 1.1, - 0	12.8 + 0, - .4	12.9 min	-	29.8 + 0, - 1.1

RM Core Data (ungapped)

Any practical gap available. See page 1.8 - 1.11

PART	CORE TYPE	FIG.	A_L (mH/1000T)			HIGH PERMEABILITY MATERIALS		
			R	P	F*	J	W	
R_41110UG	RM4	1	Min	690	750	1,200	1,480	2,100
R_41500UG	RM5/low profile	2	Min	1,950	2,030	3,380	5,250	-
R_41505UG	RM5/low profile	2	Min	2,290	2,390	3,980	6,180	-
R_41510UG	RM5	2	Min	1,290	1,400	2,100	3,100	4,200
N_41510UG	RM5	2	Min	1,290	1,400	2,100	3,100	4,200
R_41812UG	RM6-R	3	Min	1,640	1,750	2,800	4,480	5,400
N_41812UG	RM6-R no center hole	3	Min	1,790	1,950	3,080	5,030	6,020
R_41912UG	RM6-S	4	Min	1,490	1,620	2,600	4,040	5,400

To order, add material code to part number.

* F material nominal $\pm 25\%$

FIGURE 1

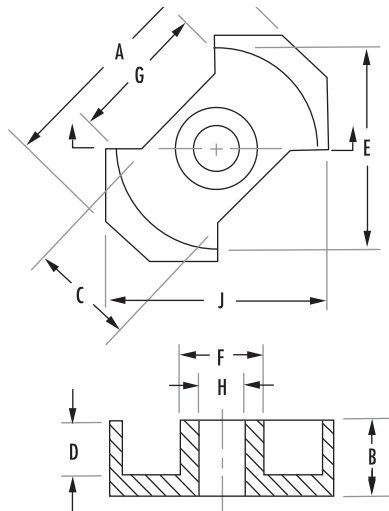
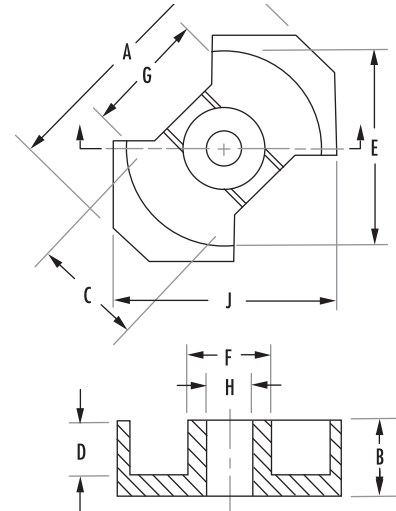


FIGURE 2



RM Core Data (ungapped)

MAGNETIC DATA						PRINTED CIRCUIT BOBBIN	MOUNTING CLAMP
l_e (mm)	A_e (mm ²)	A MIN (mm ²)	V_e (mm ³)	CORE WEIGHT (grams per set)	WaAc		
20.60	10.8	7.9	222.0	1.600	0.0080	✓	✓
11.8	18.3	15.0	217.0	1.052	-		
12.0	21.9	14.8	262.0	1.271	-		
21.40	21.0	13.9	449.0	3.000	0.2030	✓	✓
23.2	24.8	18.1	574	3.3	0.0219	✓	✓
25.60	32.0	22.6	819.0	5.100	0.0507	✓	✓
27.5	38.0	31.2	1,040	5.4	0.0507	✓	✓
27.00	31.0	22.6	837.0	4.800	0.0507	✓	✓

FIGURE 3

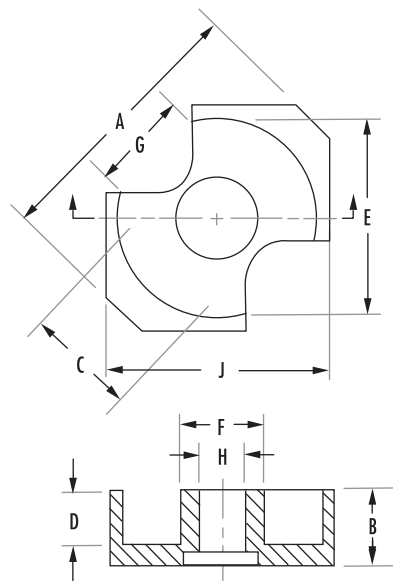
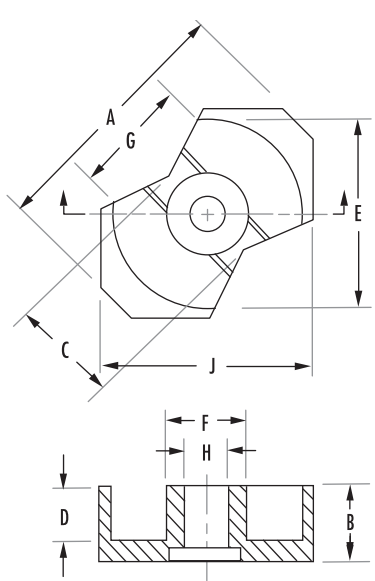


FIGURE 4



RM Core Data (ungapped)

Any practical gap available. See page 1.8 - 1.11

PART	CORE TYPE	FIG.		A_L (mH/1000T)			A_L (mH/1000T)	
				R	P	F*	J	W
N_41912UG	RM6-S	4						
	no center hole		Min	1,660	1,800	2,880	4,500	6,020
N_42309UG	RM8/low profile	5						
	no center hole		Min	3,490	3,790	6,400	10,300	14,700
R_42316UG	RM8	5	Min	1,760	1,920	3,500	5,220	7,420
N_42316UG	RM8	5	Min	2,025	2,200	3,700	6,000	8,540
N_42809UG	RM10/low profile	2						
	no center hole		Min	4,710	5,120	8,520	11,600	17,400
R_42819UG	RM10	2	Min	2,700	2,950	5,210	6,690	10,000
N_42819UG	RM10	2	Min	3,035	3,300	5,500	7,490	11,200
N_43723UG	RM12	4	Min	3,450	3,750	6,000	8,850	15,820

To order, add material code to part number.

* F material nominal $\pm 25\%$

FIGURE 2

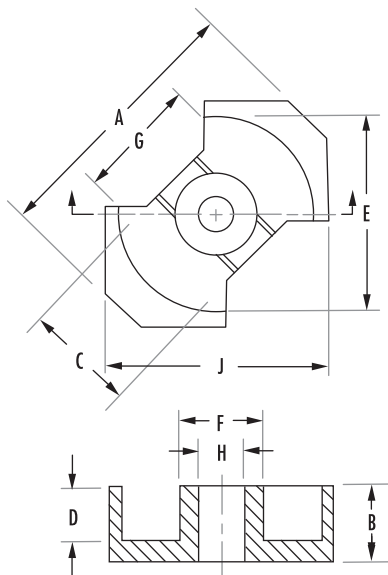
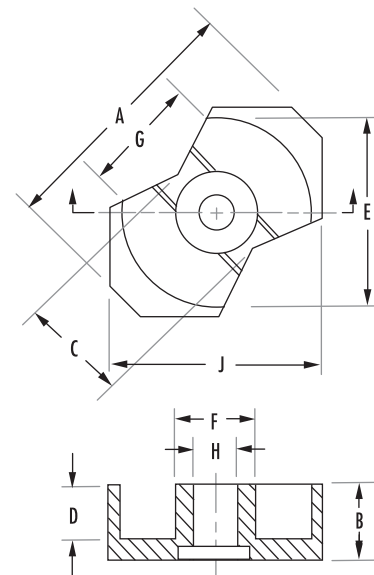


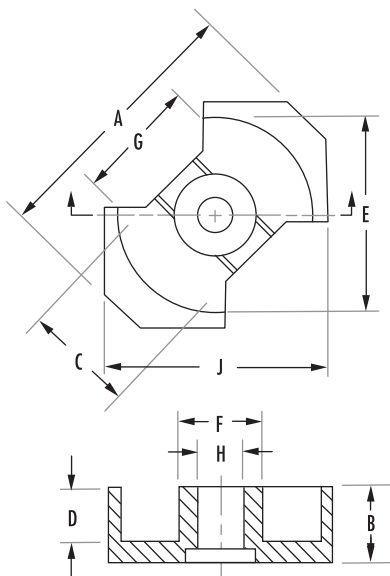
FIGURE 4



RM Core Data (ungapped)

MAGNETIC DATA						PRINTED CIRCUIT BOBBIN	MOUNTING CLAMP
l_e (mm)	A_e (mm ²)	A MIN (mm ²)	V_e (mm ³)	CORE WEIGHT (grams per set)	W _{aAc}	AVAILABLE HARDWARE	
28.60	36.6	31.0	1,050	5.1	0.0507	✓	✓
20.8	60.5	55.5	1,260	6.111	-		
35.50	52.0	36.9	1,850	10.4	0.1520	✓	✓
38.4	63.0	55.4	2,440	13.0	0.1520	✓	✓
26.1	90.1	82.9	2,360	11.446	-		
41.70	8.3	61.8	3,460	20.0	0.4410	✓	✓
44.6	96.6	89.1	4,310	23.0	0.4410	✓	✓
56.60	146	125	8,340	42	1.0240	✓	

FIGURE 5



Printed Circuit Bobbins

MECHANICAL DIMENSIONS											
PART	CORE SIZE	FIG.		A MAX	B MAX	C MIN	D NOM	E MAX	F NOM	G NOM	H NOM
PCB11104A	41110	1	mm	7.899	4.902	3.937	5.740	6.807	4.496	5.740	5.258
			in	0.311	0.193	0.155	0.226	0.268	0.177	0.226	0.207
PCB115104A	41510	2	mm	10.109	5.944	4.978	5.080	6.096	5.004	-	-
			in	0.398	0.234	0.196	0.200	0.240	0.197	-	-
PCB115104B	41510	2	mm	10.109	5.944	4.978	5.080	6.096	5.004	-	-
			in	0.398	0.234	0.196	0.200	0.240	0.197	-	-
PCB151061	41510	2	mm	10.109	6.045	4.978	4.928	6.147	4.572	-	-
			in	0.398	0.238	0.196	0.194	0.242	0.180	-	-
PCB151081	41510	4	mm	10.109	6.045	4.978	4.928	6.147	4.572	-	-
			in	0.398	0.238	0.196	0.194	0.242	0.180	-	-
PCB181241	41812/41912	5	mm	12.294	7.391	6.502	6.706	7.899	4.496	0.762	-
			in	0.484	0.291	0.256	0.264	0.311	0.177	0.030	-

FIGURE 1

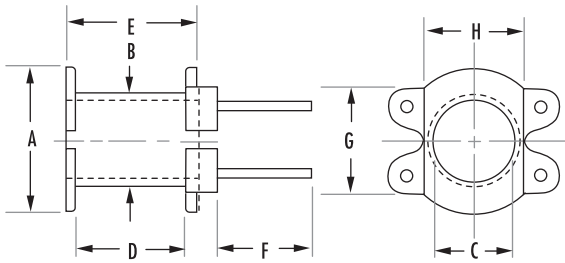


FIGURE 2

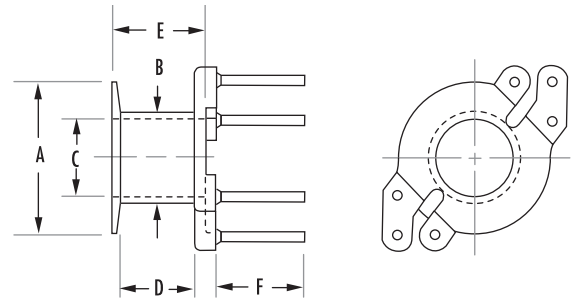
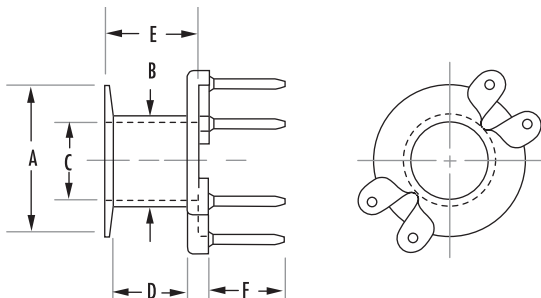


FIGURE 3



Printed Circuit Bobbins

NOMINAL WINDING AREA PER SECTION		AVERAGE LENGTH OF TURN FT	BOBBIN MATERIAL	PIN MATERIAL	PIN DIAMETER
in ²	cm ²				
0.012	0.077	0.065	Glass-filled nylon	Tin coated Phosphor bronze	0.021"
0.015	0.096	0.082	Thermoset Phenolic	Tin coated Phosphor bronze	.022"
0.015	0.096	0.082	Thermoset Phenolic	Tin coated Phosphor bronze	0.022"
0.015	0.096	0.082	Thermoset Phenolic	Tin coated Phosphor Bronze	0.021"
0.015	0.096	0.082	Thermoset Phenolic	Tin coated Phosphor Bronze	0.019"
0.025	0.160	0.098	Thermoset Phenolic	Tin coated Phosphor Bronze	.020" square/round

FIGURE 4

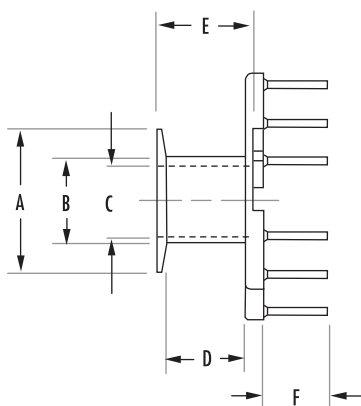
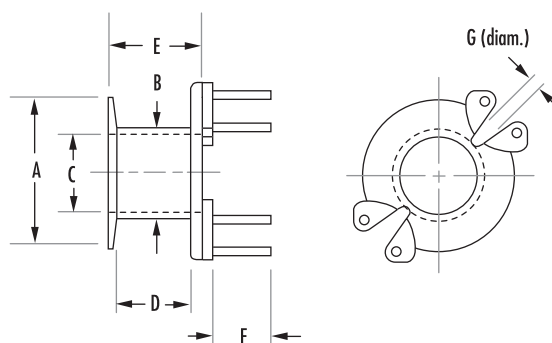
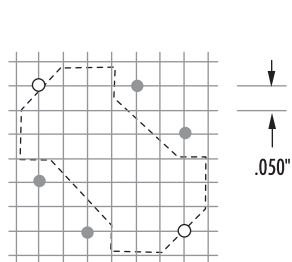


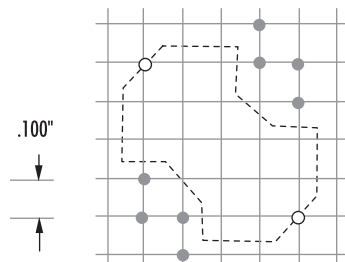
FIGURE 5



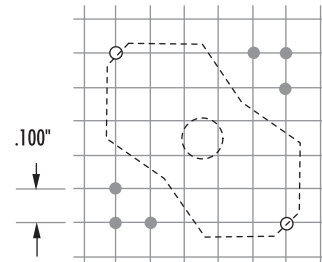
PIN LAYOUTS



41110



41510



41812
41912

- Holes for bobbin pins
- Holes for clip pins

Printed Circuit Bobbins

MECHANICAL DIMENSIONS												
PART	CORE SIZE	FIG.		A MAX	B MAX	C MIN	D NOM	E MAX	F NOM	G NOM	H NOM	
PCB181261	41812/41912	6	mm	12.294	7.391	6.502	6.706	7.899	4.496	0.762	-	
			in	0.484	0.291	0.256	0.264	0.311	0.177	0.028	-	
PCB231651	42316	7	mm	16.891	9.957	8.687	9.042	10.592	5.486	-	-	
			in	0.665	0.392	0.342	0.356	0.417	0.216	-	-	
PCB231652	42316	7	mm	16.891	9.957	8.687	4.242	10.592	5.486	-	-	
			in	0.665	0.392	0.342	0.167	0.417	0.216	-	-	
PCB231681	42316	7	mm	16.891	9.957	8.687	9.042	10.592	5.486	-	-	
			in	0.665	0.392	0.342	0.356	0.417	0.216	-	-	
PCB231682	42316	7	mm	16.891	9.957	8.687	4.242	10.592	5.486	-	-	
			in	0.665	0.392	0.342	0.167	0.417	0.216	-	-	
PCB2819L1	42819	8	mm	21.006	12.243	11.100	10.592	12.192	5.207	1.295	-	
			in	0.827	0.492	0.437	0.417	0.480	0.205	0.051	-	
PCB3723L1	43723	9	mm	24.790	14.503	13.005	14.681	16.459	6.096	1.219	-	
			in	0.976	0.571	0.512	0.578	0.648	0.240 min	0.048	-	

FIGURE 6

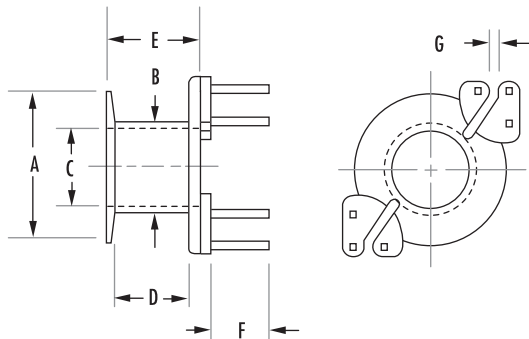


FIGURE 8

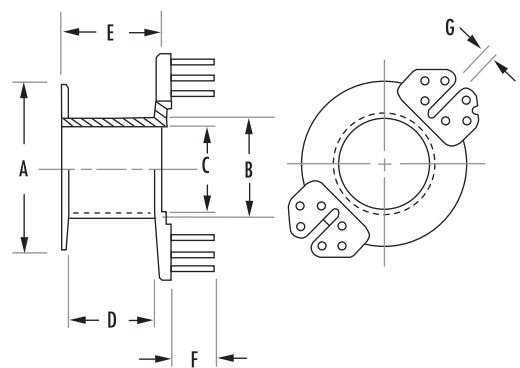
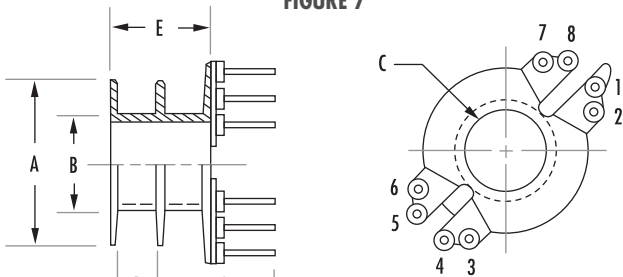


FIGURE 7

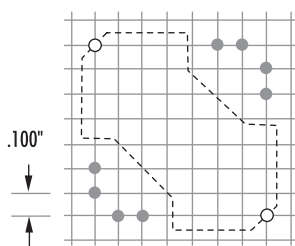
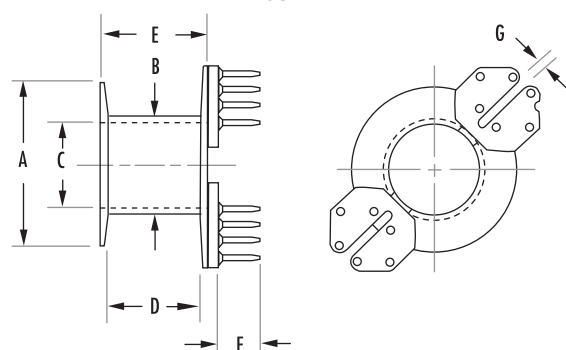


Pin locations 4, 5, 8
blank on 5 pin bobbin

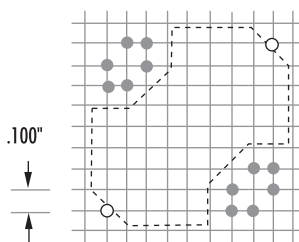
Printed Circuit Bobbins

NOMINAL WINDING AREA PER SECTION		AVERAGE LENGTH OF TURN FT	BOBBIN MATERIAL	PIN MATERIAL	PIN DIAMETER
in ²	cm ²				
0.025	0.160	0.098	Thermoset Phenolic	Tin coated Phosphor Bronze	.020" square/round
0.046	0.300	0.138	Thermoset Phenolic	Tin coated Phosphor Bronze	.026"
0.022	0.142	0.138	Thermoset Phenolic	Tin coated Phosphor Bronze	.026"
0.046	0.300	0.138	Thermoset Phenolic	Tin coated Phosphor Bronze	.026"
0.022	0.142	0.138	Thermoset Phenolic	Tin coated Phosphor Bronze	.026"
0.070	0.452	0.172	Thermoset Phenolic	Tin coated Phosphor Bronze	.024"
0.113	0.730	0.200	Thermoset Phenolic	Tin coated Phosphor Bronze	.033"

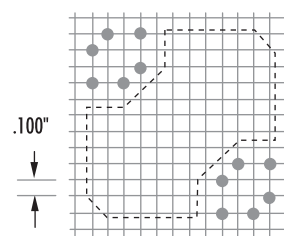
FIGURE 9



42316



42819



43723

- Holes for bobbin pins
- Holes for clip pins

RM Mounting Clamps

PART	CORE SIZE	FIG.		MECHANICAL DIMENSIONS				MATERIAL	MATERIAL THICKNESS
				A NOM	B NOM				
00C111012	41110/41510	1	mm	2.083	.686 x .305	8.382	4.343	Spring Steel	0.012"
			in	0.082	.027 x .012	0.330	0.171		
00C181211	41812/41912	1	mm	2.591	.711 x .381	9.855	4.343	Spring Steel	0.015"
			in	0.102	.028 x .015	0.388	0.171		
00C231615	42316	1	mm	4.496	.711 x .356	13.589	4.597	Spring Steel	0.014"
			in	0.177	.028 x .014	0.535	0.181		
00C281916	42819	1	mm	4.496	.711 x .406	15.545	5.055	Spring Steel	0.016"
			in	0.177	.028 x .016	0.612	0.199		

Two mounting clamps are required per core set.

FIGURE 1

