Standard Resonators

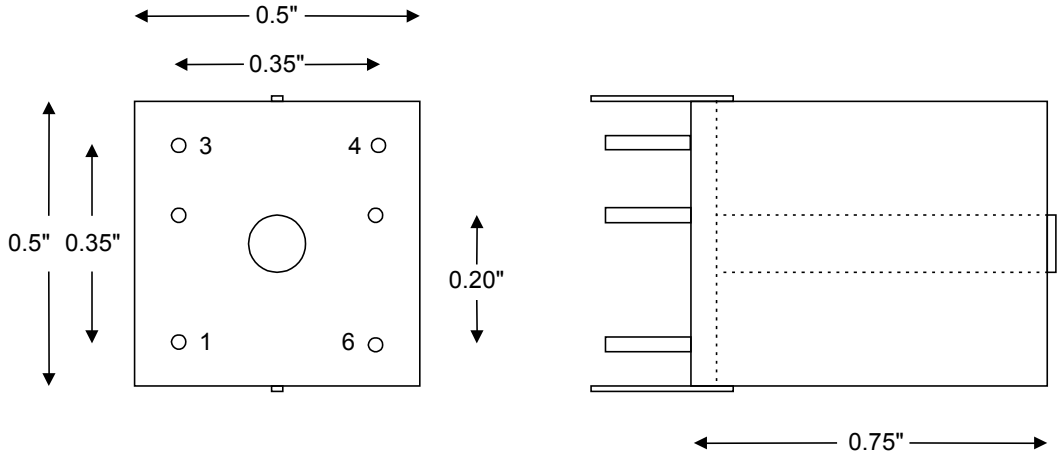
1. Recommended Frequency Ranges

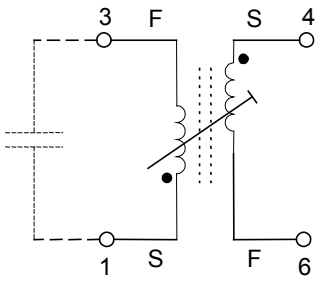
Assembly Type												
	A1212	**A1213**	**A1214**	**A1215**	**A1216**	**A1217**	**A1218**	**A1219**	**A1220**	**A1221**	**A1222**	**A1223**
Cap pF	**Frequency in MHz**											
5pF						25	44	77	110	148	201	258
10					13.7	20.5	36	62	88	120	162	205
15				6.7	12.0	18.1	32	55	78	105	144	182
22			3.8	5.9	10.4	15.6	27.6	47.5	67	90	122	154
33	0.86	1.9	3.3	5.1	8.8	13.3	23.4	40	57	76	101	128
47	0.75	1.4	2.8	4.3	7.2	11.2	20.2	35	49	65	90	112
68	0.65	1.2	2.4	3.7	6.2	9.4	16.8	29	41	54	72	93
82	0.60	1.1	2.2	3.4	5.6	8.8	15.5	26.5	37	49	67	84
100	0.55	1.0	2.0	3.1	5.2	7.9	14.1	24	34	46	61	77
150	0.46	0.83	1.7	2.6	4.3	6.5	11.6	20	28	38	50	64
220	0.38	0.71	1.4	2.2	3.6	5.4	9.7	16.5	23	31	42	
330	0.31	0.57	1.15	1.8	2.9	4.5	7.8	13.5	19	25.5		
470	0.26	0.48	0.92	1.5	2.4	3.8	6.6	11.4	16			
680	0.22	0.40	0.80	1.3	2.0	3.1	5.5	9.3				
820	0.20	0.37	0.73	1.1	1.8	2.8	4.9	8.5				
1000	0.18	0.33	0.67	1.0	1.7	2.6	4.3					
1500	0.15	0.28	0.55	0.81	1.4	2.1						
2200	0.12	0.22	0.45	0.7	1.1							
3300	0.10	0.18	0.37	0.55								
4700	0.085	0.15	0.31									
6800	0.072	0.12										
±Δf core	35%	35%	35%	25%	30%	25%	25%	25%	17%	13%	11%	8%
Nom L uH.	780 (285)	225 (91)	64 (25)	24 (11.9)	9.1 (4.8)	3.9 (2.0)	1.2 (0.66)	0.44 (0.25)	0.22 (0.14)	0.13 (0.08)	0.067 (0.047)	0.046 (0.032)
Typ Qu	70	72	100	76	60	54	60	75	70	70	65	65

Notes		
	1	As the core adjustment on the highest frequency assembly is small, intermediate values of capacitance from those shown e.g. 6p8, 8p2, 18p etc will be required to guarantee overlap of tune frequencies
	2	The typical Q figures are measured in the centre of each boxed range of frequencies
	3	±Δf represents the frequency adjustment range of the ferrite core
	4	The nominal inductance is measured with each ferrite core in its centre of travel.
	5	The inductance in brackets is the nominal vale without a ferrite core fitted

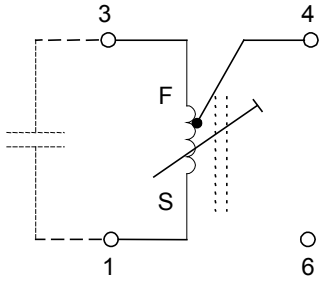
2. Construction Details

Frequency Range	85KHz-205MHz covered by twelve coil assemblies and specified tuning capacitor values
Frequency Adjustment	Ferrite core and fixed external capacitor
Temperature Range	-20°C to +70°C
Primary to Secondary Potential	250v peak maximum. A DC isolating capacitor must be used with the tapped coils
Mountings	Six pin base plus two mounting spills on the screening can for soldering to a printed circuit board
Mechanical Assembly	Piece parts bonded using epoxy resin and windings covered low with loss polyurethane varnish. Adjustable ferrite core retained with silicone grease and entire assembly mounted in an aluminium screening can. Three hour bake at +85°C and then tested to specification. Each assembly is identified by the letter 'A' plus a four digit number i.e. A XXXX.





A1212 to A1220



A1221 to A1223

Notes:
1. Pins 2 and 5 are not used
2. Both spills on the screening can should be connected to the ground
3. S = start, F = finish
4. The tuning capacitor is shown as
5. Pins 1 and 3 are the tuned winding on all

3. Winding Details

Number	Freq Range	Pot core	Primary	Secondary	Core
A1212	100-200KHz	F14	230t 40swg	25t 40swg	F14 10mm
A1212a	(FMD7 only)	F14	230t 40swg	None	F14 10mm
A1213	200-400HKz	F14	130t 40swg	14t 40swg	F14 10mm
A1214	400-900KHz	F14	60t 7/48 Litz	7t 7/48 Litz	F14 10mm
A1215	0.9-1.8MHz	-	65t 7/48 Litz	7t 7/48 Litz	F14 10mm
A1216	1.8-3.5MHz	-	40t 40swg	5t 40swg	F25 10mm
A1217	3.5-7MHz	-	27t 36swg	3t 36swg	F25 10mm
A1218	7-14MHz	-	14t 30swg	2t 30swg	F25 10mm
A1219	14-28MHz	-	8¼t 26swg	1¼t 30swg	F29 10mm
A1220	28-56MHz	-	6¼t 22swg	1¼t 26swg over cold end	F29 10mm
A1221	56-90MHz	-	4¼t 22swg spaced ¼ inch	¾t 26swg over cold end	F29 10mm
A1222	90-140MHz	-	2 ¾t 22swg spaced ¼ inch	Tap ½t from cold end	F29 10mm
A1223	140-205MHz	-	1¾t 22swg spaced ¼ inch	Tap ¼t from cold end	F29 10mm

All inductor primaries varnished prior to applying the secondary winding.

Use silicon grease (Rocol 8G or 8S) for core locking.

Ensure that the core adjustment tool is a good fit in the core otherwise breakages will occur.