Making a Toroidal KANK

David Smith, G4COE, 54 Warrington Road, Leigh, Lancashire. WN7 3EB

Here are the details of making your own Toko KANK Coils using toroids. The main advantage is the higher Q and its disadvantage is that it always requires some adjustment either in coil turn spacing or adjusting the number of turns. A trimmer capacitor eases this problem.

So we'll use the 3 most famous ones, these are the KANK3333, KANK3334 and KANK3335 and use standard cores. The yellow core being much preferred to use in “ossy's” (oscillators). A tip for you ossy builders after winding is to boil them in hot water for a minute or so - this anneals the copper onto the core. You can go green and lop a chucky egg in at the same time.

Kank 3333, is the one to use for 1.7 - 4 MHz, Kank 3334 for 4 -14 MHz and Kank 3335 for 14 - 30 MHz ranges approximately.

T50-2 Red Core	Pri turns	Sec turns
Kank 3333 (45uH)	96	7
Kank 3334 (5.5uH)	34	6
Kank 3335 (1.2uH)	16	4

T68-2 Red Core	Pri turns	Sec turns
Kank 3333 (45uH)	89	6
Kank 3334 (5.5uH)	31	5
Kank 3335 (1.2uH)	IS	4

T50-6 Yellow Core	Pri turns	Sec turns
Kank 3333 (45uH)	106	8
Kank 3334 (5.5uH)	37	6
Kank 3335 (l.2uH)	17	4

T68-6 Yellow Core	Pri turns	Sec turns
Kank 3333 (45uH)	98	7
Kank 3334 (5.5uH)	34	6
Kank 3335 (1.2uH)	16	4

The primary winding should be evenly wound over the entire core while the secondary is close wound over the earthy end of the primary, alternatively taps can be used instead. A small trimmer capacitor can then be used across the main winding or the windings can be 'trimmed' by adjusting the winding spacing.

The secondary windings have been calculated from the primary to secondary turns ratio given in the KANK coil data.

For the secondary winding I would be tempted to use:-

5 turns for range 1
4 turns for range 2
and finally 3 turns for the highest range 3 coil on all the cores.