

# 10 mm Tunable Coils - 142, 143, 144



These Coilcraft variable inductors are precision molded in plastic to ensure constant winding pitch and a consistent relationship to the printed circuit board.

Extremely economical, even in small quantities, the coils come in standard inductance values from 0.05  $\mu$ H to 1.5  $\mu$ H. 144 Series parts are also available with a tap to meet specific requirements.

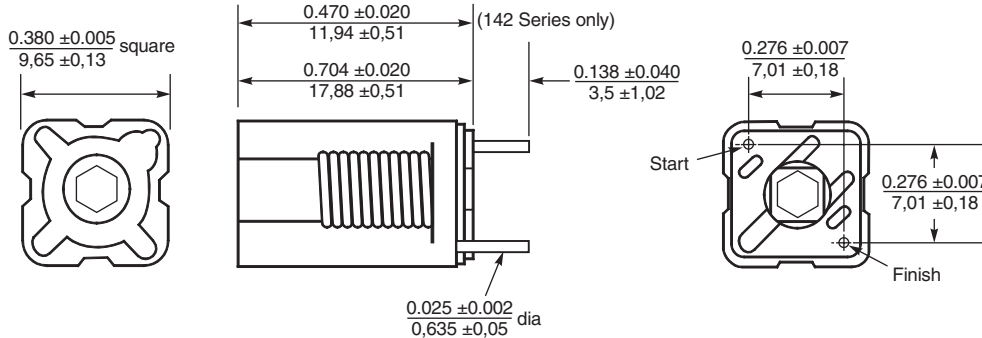
Tuning is done by means of a threaded powdered iron core with a hex socket for easy, positive adjustment. Plated brass shield cans with solderable tabs are optional.

These parts can be ordered without cores for use as fixed inductors.

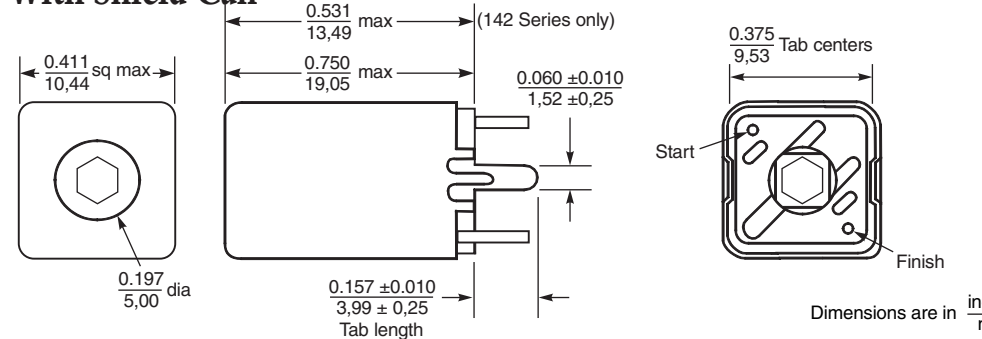
Coilcraft **Designer's Kit M302** contains samples of all standard 10 mm and 7 mm tunable inductors. To order, contact Coilcraft or visit <http://order.coilcraft.com> to purchase on-line.



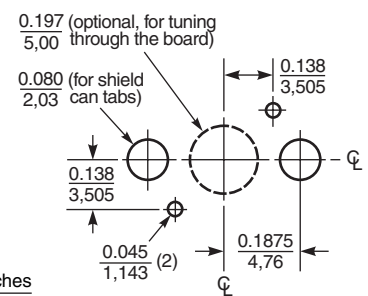
## Unshielded Styles



## With Shield Can



## Recommended Board Layout



**Terminations:** Series 142 and 143 leads: Tin-silver over copper  
Series 144 leads: Matte tin over copper  
Shield can tabs: Tin-silver over nickel over brass

**Resistance to soldering heat:** Wave solder only. Recommended maximum board surface temperature of 168°C (334°F) for no more than three seconds. Pre-heating is recommended to minimize time over the solder nozzle.

	Unshielded	With shield can
<b>Weight:</b>	142 series: 1.39 – 1.82 g 143 series: 1.75 – 2.40 g 144 series: 1.22 – 1.74 g	1.64 – 2.16 g 2.85 – 3.54 g 2.35 – 2.91 g
<b>Packaging:</b>	50 per tube	50 per tube



**US** +1-847-639-6400 sales@coilcraft.com  
**UK** +44-1236-730595 sales@coilcraft-europe.com  
**Taiwan** +886-2-2264 3646 sales@coilcraft.com.tw  
**China** +86-21-6218 8074 sales@coilcraft.com.cn  
**Singapore** + 65-6484 8412 sales@coilcraft.com.sg

Document 108-1 Revised 09/18/08  
© Coilcraft Inc. 2013  
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.



## Unshielded

Part number <sup>1</sup>	Color	Turns	No core L <sup>2</sup> nom (nH)	L min <sup>3</sup> (nH)	L nom (nH)	L max (nH)	Q min <sup>4</sup>	No core SRF min (MHz)	DCR max (mOhm)	Irms <sup>5</sup> (A)
144-01J12L	Brown	1½	53	56	59	62	140	1800	7.4	11.0
144-02J12L	Red	2½	75	79	88	98	145	1150	8.6	10.0
144-03J12L	Orange	3½	99	104	123	142	147	900	9.7	9.6
144-04J12L	Yellow	4½	126	132	164	195	150	765	10.9	9.0
144-05J12L	Green	5½	154	162	207	252	154	670	12.1	8.6
144-06J12L	Blue	6½	182	193	250	306	154	610	13.6	8.1
144-07J12L	Violet	7½	214	240	298	356	158	525	14.7	7.8
144-08J12L	Gray	8½	245	283	344	405	160	465	15.9	7.5
144-09J12L	White	9½	274	328	387	446	162	420	17.1	7.2
144-10J12L	Black	10½	307	391	442	493	162	390	18.5	7.0
142-01J08L	Brown	1½	63	63	65	68	115	980	7.4	13.4
142-02J08L	Red	2½	92	93	100	107	118	600	8.4	12.5
142-03J08L	Orange	3½	127	133	145	157	120	470	9.6	11.8
142-04J08L	Yellow	4½	166	174	196	218	125	420	10.8	11.1
142-05J08L	Green	5½	212	226	256	287	122	370	11.9	10.5
142-06J08L	Blue	6½	258	275	315	355	112	340	13.2	10.0
142-07J08L	Violet	7½	307	330	378	427	112	310	14.5	9.6
142-08J08L	Gray	8½	357	396	450	504	106	290	15.7	9.2
142-09J08L	White	9½	412	473	520	567	110	270	16.9	8.9
142-10J08L	Black	10½	464	550	592	635	104	260	18.0	8.6
143-09J12L	White	9½	385	404	550	693	86	280	16.7	7.3
143-10J12L	Black	10½	438	460	624	788	90	270	17.9	7.1
143-11J12L	Brown	11½	490	515	708	900	78	260	19.2	6.8
143-12J12L	Red	12½	545	578	764	950	84	250	20.5	6.6
143-13J12L	Orange	13½	600	673	845	1020	84	245	21.7	6.4
143-14J12L	Yellow	14½	645	726	908	1090	82	240	22.8	6.3
143-15J12L	Green	15½	692	803	978	1150	90	230	23.9	6.1
143-16J12L	Blue	16½	765	891	1080	1270	74	225	25.2	6.0
143-17J12L	Violet	17½	830	1010	1180	1340	74	215	26.4	5.8
143-18J12L	Gray	18½	895	1100	1250	1400	92	195	27.6	5.7
143-19J12L	White	19½	910	1200	1320	1440	98	190	28.9	5.6
143-20J12L	Black	20½	960	1300	1400	1500	92	185	30.0	5.5

## Shielded

Part number <sup>1</sup>	Color	Turns	No core L <sup>2</sup> nom (nH)	L min <sup>3</sup> (nH)	L nom (nH)	L max (nH)	Q min <sup>4</sup>	No core SRF min (MHz)	DCR max (mOhm)	Irms <sup>5</sup> (A)
144-01J12SL	Brown	1½	50	52	53	54	97	2200	7.4	11.0
144-02J12SL	Red	2½	67	70	74	78	98	1200	8.6	10.0
144-03J12SL	Orange	3½	88	92	99	106	98	920	9.7	9.6
144-04J12SL	Yellow	4½	106	111	122	133	100	790	10.9	9.0
144-05J12SL	Green	5½	126	132	149	165	101	685	12.1	8.6
144-06J12SL	Blue	6½	147	154	175	196	106	625	13.6	8.1
144-07J12SL	Violet	7½	168	176	200	223	104	530	14.7	7.8
144-08J12SL	Gray	8½	190	202	226	250	108	480	15.9	7.5
144-09J12SL	White	9½	210	239	256	274	108	435	17.1	7.2
144-10J12SL	Black	10½	232	270	282	295	106	420	18.5	7.0
142-01J08SL	Brown	1½	58	58	59.5	61	82	1230	7.4	13.4
142-02J08SL	Red	2½	81	84	86	89	83	650	8.4	12.5
142-03J08SL	Orange	3½	110	115	120	121	85	550	9.6	11.8
142-04J08SL	Yellow	4½	140	147	156	160	88	460	10.8	11.1
142-05J08SL	Green	5½	174	182	197	205	94	410	11.9	10.5
142-06J08SL	Blue	6½	210	220	240	248	94	370	13.2	10.0
142-07J08SL	Violet	7½	247	259	280	290	90	330	14.5	9.6
142-08J08SL	Gray	8½	284	299	322	337	86	320	15.7	9.2
142-09J08SL	White	9½	319	338	363	377	88	310	16.9	8.9
142-10J08SL	Black	10½	357	382	410	422	82	290	18.0	8.6
143-09J12SL	White	9½	300	315	369	423	80	303	16.7	7.3
143-10J12SL	Black	10½	338	355	416	477	82	290	17.9	7.1
143-11J12SL	Brown	11½	377	396	468	540	78	270	19.2	6.8
143-12J12SL	Red	12½	412	433	509	585	80	265	20.5	6.6
143-13J12SL	Orange	13½	452	475	556	637	80	265	21.7	6.4
143-14J12SL	Yellow	14½	490	515	604	693	78	260	22.8	6.3
143-15J12SL	Green	15½	522	583	660	738	80	250	23.9	6.1
143-16J12SL	Blue	16½	575	638	720	801	76	245	25.2	6.0
143-17J12SL	Violet	17½	612	693	770	846	76	240	26.4	5.8
143-18J12SL	Gray	18½	650	754	814	874	82	215	27.6	5.7
143-19J12SL	White	19½	675	792	846	900	80	210	28.9	5.6
143-20J12SL	Black	20½	715	847	896	945	74	200	30.0	5.5

- To order fixed inductance parts without cores, eliminate the "J08" or "J12", e.g. 144-01L or 144-01SL.
- Inductance and Q readings taken on Boonton 260-A Q meter with 16 AWG tinned copper 1/2" long soldered along leads and bent at 90° 1/4" down from standoffs.  
All inductance values greater than 0.1 µH read at recommended Q meter frequency; those below 0.1 µH calculated from readings taken at 50 MHz.
- L min measured with core halfway out top of form.
- Q min measured at L nom at 40 MHz.
- Average current for a 40°C rise above 25°C ambient.
- Core material: Carbonyl J  
Core length: 142 Series - 1/4"  
143, 144 Series - 3/8"
- Taps available on 144 series parts at 1/8, 3/8, 5/8 and 7/8 turn increments.
- Operating temperature range -40°C to +85°C.
- Electrical specifications at 25°C.



www.coilcraft.com

US +1-847-639-6400 sales@coilcraft.com  
 UK +44-1236-730595 sales@coilcraft-europe.com  
 Taiwan +886-2-2264 3646 sales@coilcraft.com.tw  
 China +86-21-6218 8074 sales@coilcraft.com.cn  
 Singapore +65-6484 8412 sales@coilcraft.com.sg

Document 108-2 Revised 09/18/08

© Coilcraft Inc. 2013

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.