

# 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.

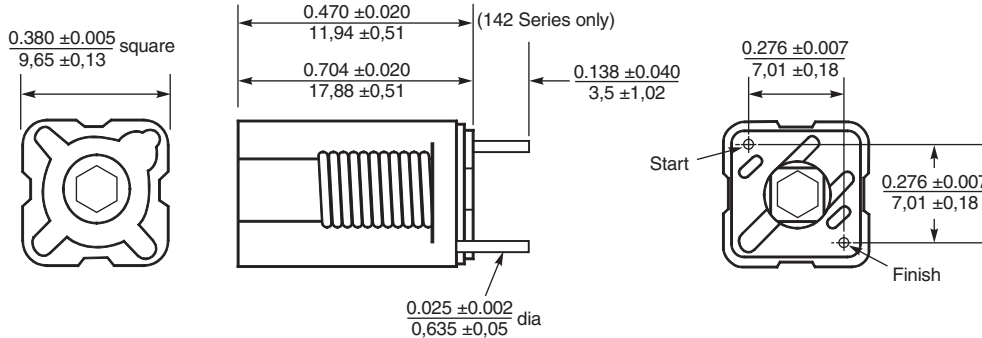
Tuning is done by means of a threaded powdered iron core with a hex socket for easy, positive adjustment. Plated brass shield cans with solderable tabs are optional.

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

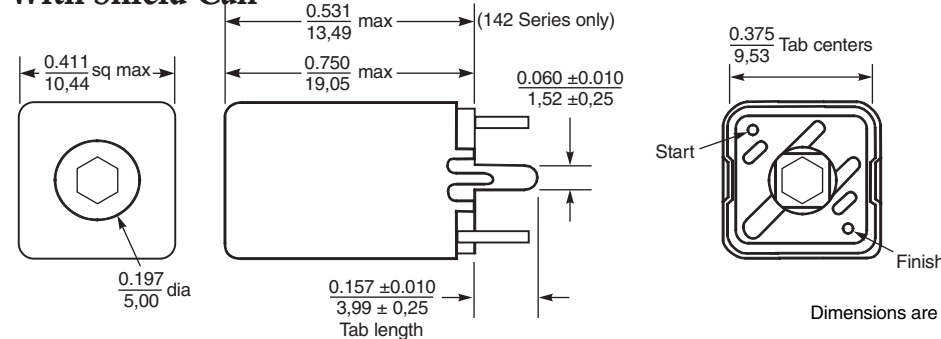
Coilcraft **Designer's Kit M302** contains samples of all standard 10 mm and 7 mm tunable inductors. To order, contact Coilcraft or visit <http://order.coilcraft.com> to purchase on-line.



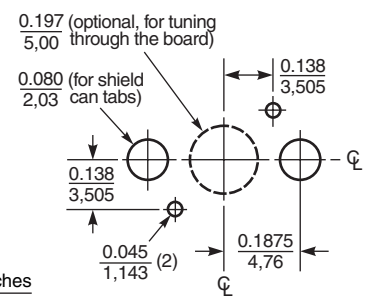
## Unshielded Styles



## 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



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## 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.



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