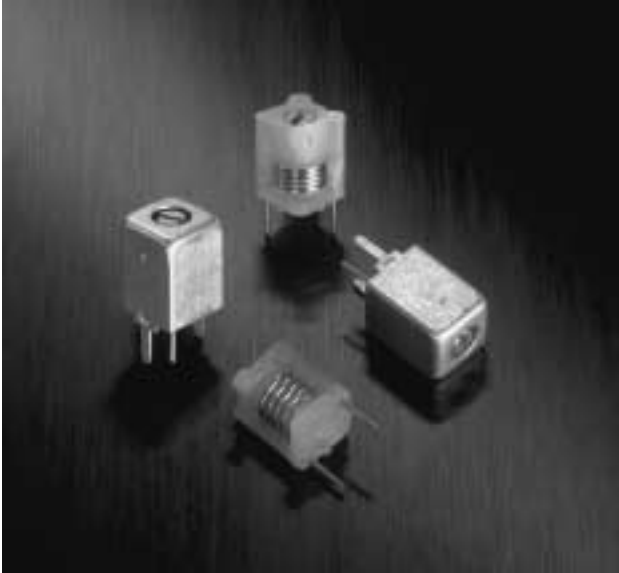


5mm Tunable RF Inductor—164, 165 Series



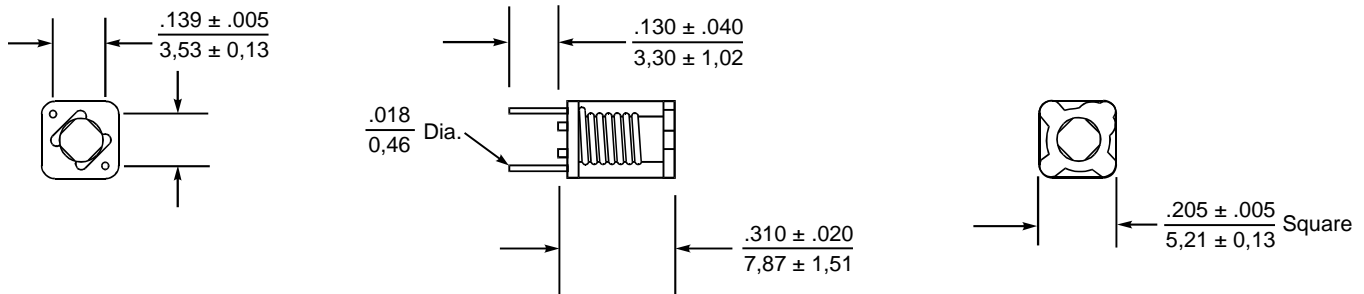
Coilcraft tunable inductors provide the compactness of a 5 mm coil and the low drift reliability of an insert molded coil.

Standard inductance values range from 9 nH to over 280 nH.

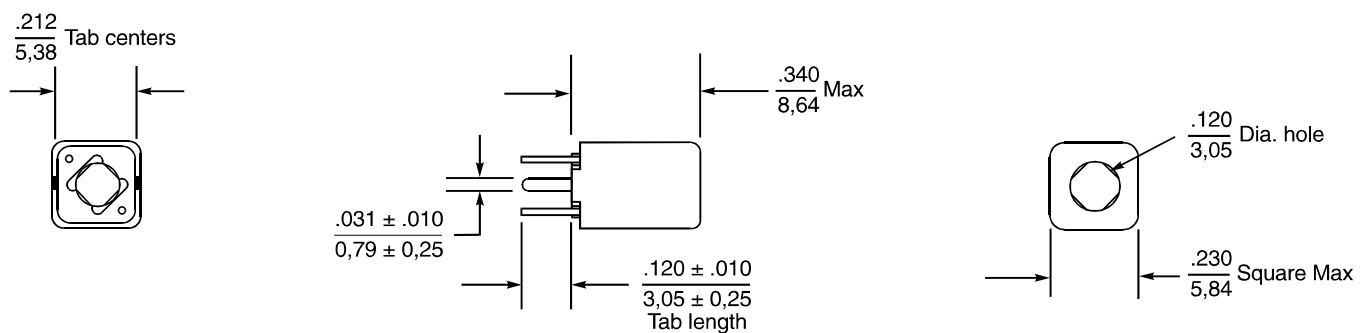
The windings of these economical coils are precision molded into a single piece of polypropylene/nylon/PET for mechanical and electrical stability. Optional plated brass shield cans with solderable tabs provide integral shielding and additional mounting stability.

Coilcraft's **Designer's Kit M105** contains samples of all standard values. To order, please contact Coilcraft.

UNSHIELDED STYLES



SHIELDED STYLES



Coilcraft

Specifications subject to change without notice. Document 110-1 Revised 9/13/00

1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469
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5mm Tunable RF Inductor – Unshielded

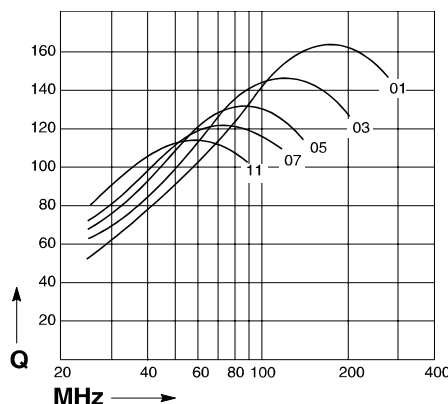
Part Number	Color	Turns	No Core		@ L Max ²		@ L Min ³		Freq. (MHz)	No Core SRF (MHz) Min
			L (nH) ¹	Q (Min) ⁴	L (nH) ¹	Q (Min) ⁴	L (nH) ¹	Q (Min) ⁴		
164-01A06	Brown	1½	19	145	19	145	16	112	150	2000
164-02A06	Red	2½	34	138	34	138	26	96	150	1260
164-03A06	Orange	3½	55	130	55	130	38	79	150	960
164-04A06	Yellow	4½	77	119	77	119	52	72	150	850
164-05A06	Green	5½	101	108	99	86	65	64	150	770
164-06A06	Blue	6½	128	107	126	75	83	60	100	730
164-07A06	Violet	7½	156	106	150	68	97	57	100	640
164-08A06	Gray	8½	183	100	178	62	112	53	100	570
164-09A06	White	9½	216	100	190	62	131	53	100	540
164-10A06	Black	10½	248	92	223	55	148	51	100	490
164-11A06	Brown	11½	281	92	246	55	170	51	100	360
165-00A06	Black	½	9	147	9	147	9	131	150	6000
165-01A06	Brown	1½	18	145	18	145	15	112	150	2850
165-02A06	Red	2½	32	143	32	143	25	92	150	1860
165-03A06	Orange	3½	48	138	45	135	33	84	150	1410
165-04A06	Yellow	4½	64	133	60	114	43	76	150	1130
165-05A06	Green	5½	83	125	78	110	54	73	150	820
165-06A06	Blue	6½	103	120	90	94	68	70	150	800
165-07A06	Violet	7½	122	115	105	92	79	69	150	770

Q vs FREQUENCY

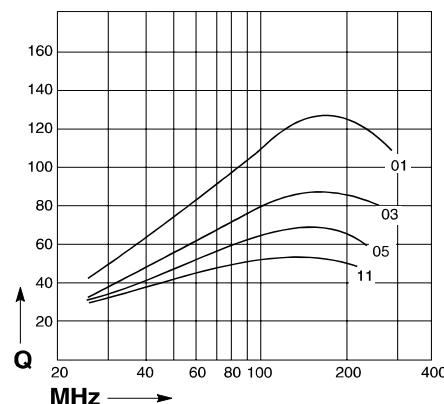
NOTES:

1. Inductance: Measured on Agilent/HP4286A Impedance Analyzer with 16092A Spring Clip Fixture
2. L Max: Measured with core halfway out top of form
3. L Min: Measured with core centered in winding
4. Q: Measured on Agilent/HP4286A with 16092A fixture, direct connect to Agilent/HP4342A Q-Meter and Meguro MQ-171 Q-Meter with 0.5" bus bars
5. Core: Aluminum .187" long
6. Operating temperature range -40° C to +85° C.
7. Electrical specifications 25° C.

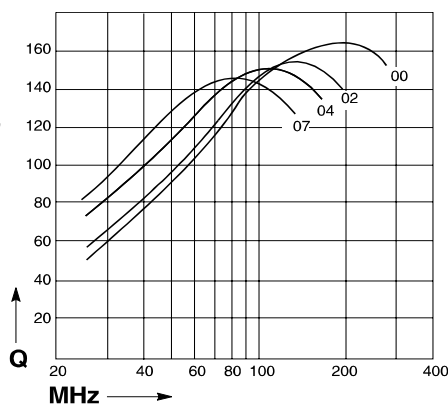
164 SERIES NO CORE



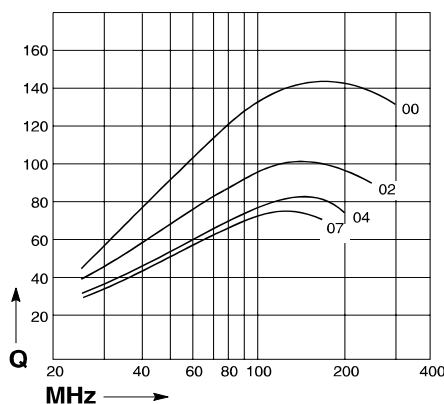
164 SERIES AL CORE



165 SERIES NO CORE



165 SERIES AL CORE



COILCRAFT ACCURATE REPEATABLE PRECISION MEASUREMENTS TEST FIXTURES
SEE INDEX



Specifications subject to change without notice. Document 110-2 Revised 4/9/01

5mm Tunable RF Inductor – Shielded

TRITUNER 3 TOOLS IN 1
SEE INDEX
TUNING WRENCH

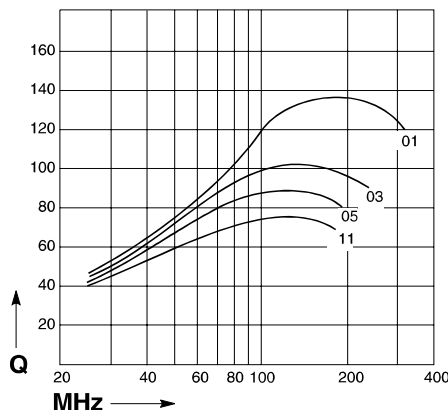
Part Number	Color	Turns	No Core		@ L Max ²		@ L Min ³		Freq. (MHz)	No Core SRF (MHz) Min
			L (nH) ¹	Q (Min) ⁴	L (nH) ¹	Q (Min) ⁴	L (nH) ¹	Q (Min) ⁴		
164-01A06S	Brown	1½	16	124	16	124	14	106	150	2100
164-02A06S	Red	2½	27	108	27	108	22	89	150	1300
164-03A06S	Orange	3½	41	92	41	92	32	72	150	1100
164-04A06S	Yellow	4½	56	86	56	84	43	66	150	940
164-05A06S	Green	5½	71	80	71	79	53	60	150	980
164-06A06S	Blue	6½	88	79	80	77	65	59	150	800
164-07A06S	Violet	7½	105	75	101	70	76	54	100	750
164-08A06S	Gray	8½	122	74	117	64	87	54	100	580
164-09A06S	White	9½	141	71	134	62	100	53	100	550
164-10A06S	Black	10½	160	69	150	60	113	51	100	490
164-11A06S	Brown	11½	179	69	164	60	127	51	100	400
165-00A06S	Black	½	9	138	9	138	9	121	150	6000
165-01A06S	Brown	1½	16	124	16	124	14	104	150	2570
165-02A06S	Red	2½	25	110	25	110	21	87	150	1670
165-03A06S	Orange	3½	35	104	33	102	28	78	150	1230
165-04A06S	Yellow	4½	46	97	41	90	35	69	150	1150
165-05A06S	Green	5½	57	92	50	82	43	67	150	820
165-06A06S	Blue	6½	68	86	59	75	52	65	150	800
165-07A06S	Violet	7½	80	85	70	74	60	64	150	770

Q vs FREQUENCY

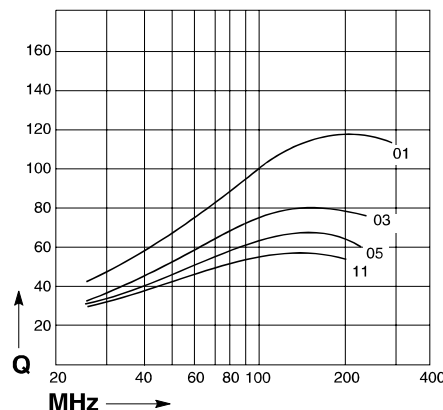
NOTES:

1. Inductance: Measured on Agilent/HP4286A Impedance Analyzer with 16092A Spring Clip Fixture
2. L Max: Measured with core halfway out top of form
3. L Min: Measured with core centered in winding
4. Q: Measured on Agilent/HP4286A with 16092A fixture, direct connect to Agilent/HP4342A Q-Meter and Meguro MQ-171 Q-Meter with 0.5" bus bars
5. Core: Aluminum .187" long
6. Operating temperature range -40° C to +85° C.
7. Electrical specifications 25° C.

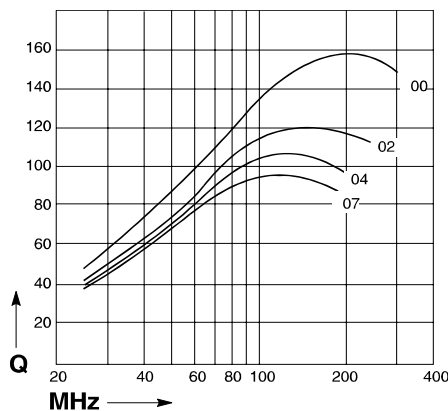
164 SERIES NO CORE



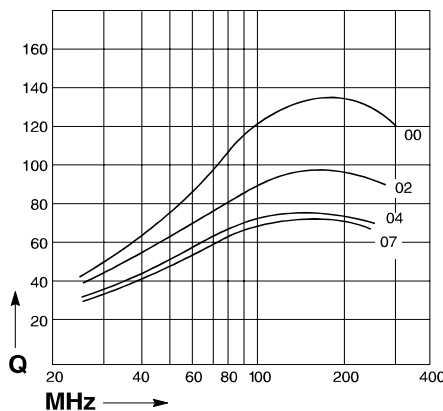
164 SERIES AL CORE



165 SERIES NO CORE



165 SERIES AL CORE



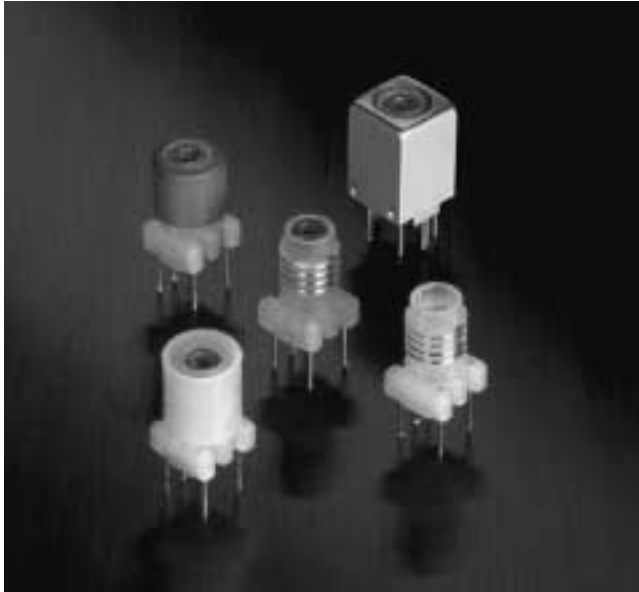
COILCRAFT ACCURATE REPEATABLE MEASUREMENTS
PRECISION TEST FIXTURES
SEE INDEX

Coilcraft

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E-mail info@coilcraft.com Web http://www.coilcraft.com

“Slot Seven” 7mm Tunable Inductors

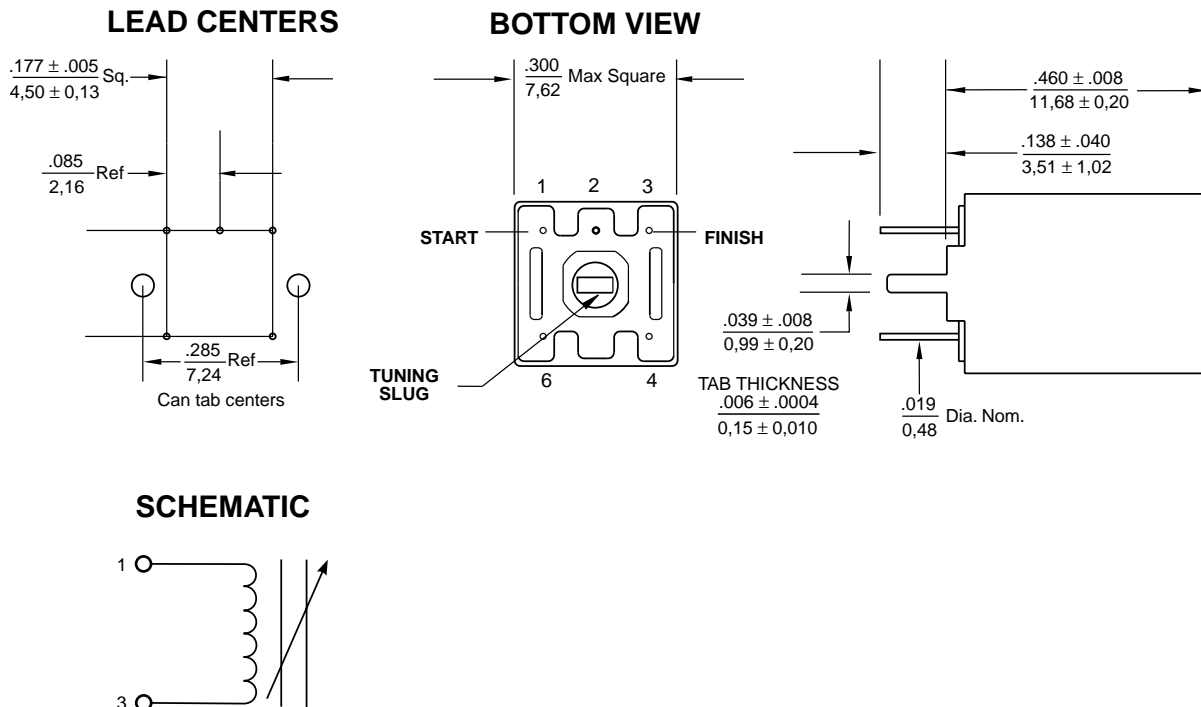


These versatile Coilcraft variable inductors operate over a wide range of frequencies. Standard inductance values are available from less than 100 nH to over 250 μ H. Custom values can also be provided upon request.

Coilcraft “Slot Seven” RF coils come in an international 7 mm package. Their precision-molded slotted bobbins assure tight tolerances and high stability.

A variety of magnetic and electrostatic shielding options are offered. “Slot Seven” coils are tuned by means of slotted ferrite tuning cores for easy, positive adjustment.

Coilcraft **Designer’s Kit M106** contains 39 coils (3 each). To order, please contact Coilcraft.



Coilcraft

Specifications subject to change without notice. Document 112-1 Revised 7/9/97

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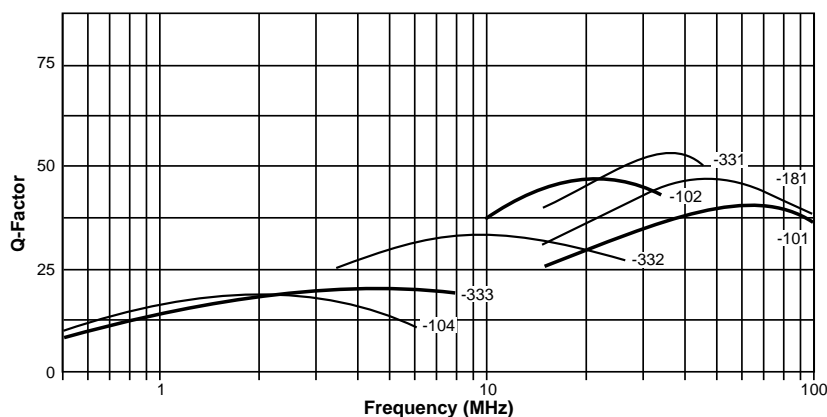
“Slot Seven” 7mm Tunable Inductors

SERIES 7M2 – SHIELDED WITH PLASTIC SLEEVE

Part Number	L Min (μH)	L Nom (μH)	L Max (μH)	Test Frequency	Q Min @ L Nom	DCR Max (ohms)
7M2-101	0.094	0.100	0.106	25 MHz	27	0.124
7M2-121	0.113	0.120	0.127	25 MHz	27	0.124
7M2-151	0.141	0.150	0.159	25 MHz	30	0.151
7M2-181	0.169	0.180	0.191	25 MHz	30	0.151
7M2-221	0.207	0.220	0.233	25 MHz	35	0.176
7M2-271	0.254	0.270	0.286	25 MHz	35	0.198
7M2-331	0.310	0.330	0.350	25 MHz	40	0.248
7M2-391	0.367	0.390	0.413	25 MHz	40	0.271
7M2-471	0.442	0.470	0.498	25 MHz	40	0.291
7M2-561	0.526	0.560	0.594	25 MHz	40	0.317
7M2-681	0.612	0.680	0.748	25 MHz	40	0.333
7M2-821	0.738	0.820	0.902	25 MHz	45	0.368
7M2-102	0.9	1.0	1.1	25 MHz	45	0.396
7M2-122	1.1	1.2	1.3	7.9 MHz	27	0.412
7M2-152	1.4	1.5	1.7	7.9 MHz	27	0.466
7M2-182	1.6	1.8	2.0	7.9 MHz	27	0.544
7M2-222	2.0	2.2	2.4	7.6 MHz	27	0.595
7M2-272	2.4	2.7	3.0	7.9 MHz	27	0.898
7M2-332	3.0	3.3	3.6	7.9 MHz	27	1.04
7M2-392	3.5	3.9	4.3	7.9 MHz	27	1.12
7M2-472	4.2	4.7	5.2	7.9 MHz	27	1.38
7M2-562	5.0	5.6	6.2	7.9 MHz	27	1.42
7M2-682	6.1	6.8	7.5	7.9 MHz	27	1.49
7M2-822	7.4	8.2	9.0	7.9 MHz	27	1.65
7M2-103	9.0	10	11	7.9 MHz	27	2.42
7M2-123	10	12	14	2.5 MHz	20	2.75
7M2-153	13	15	17	2.5 MHz	20	3.71
7M2-183	15	18	21	2.5 MHz	20	4.01
7M2-223	19	22	25	2.5 MHz	20	7.37
7M2-273	23	27	31	2.5 MHz	20	8.48
7M2-333	28	33	38	2.5 MHz	20	13.34
7M2-393	33	39	45	2.5 MHz	20	14.72
7M2-473	40	47	54	2.5 MHz	20	16.42
7M2-563	48	56	64	2.5 MHz	20	17.76
7M2-683	58	68	78	2.5 MHz	20	19.76
7M2-823	70	82	94	2.5 MHz	20	22.01
7M2-104	85	100	115	2.5 MHz	20	24.25

Parts in bold are included in Coilcraft Designer's Kit M106.

TYPICAL Q AT L NOM—SERIES 7M2



NOTES:

1. All readings taken on Agilent/HP4342-A Q Meter.
2. L min is achieved at maximum extension of the core toward PC board. Complete tuning range is reached within the boundaries of the coil form.
3. All specifications are recommended at standard “Q” meter frequency as a simple way to ensure the quality of our parts. L and Q readings will vary with frequency change.
4. Shielded parts have a sleeve insert to protect the winding.
5. Operating temperature range -40°C to $+85^{\circ}\text{C}$.
6. Electrical specifications at 25°C .

COILCRAFT ACCURATE
PRECISION REPEATABLE
 MEASUREMENTS
 SEE INDEX **TEST FIXTURES**

Coilcraft

Specifications subject to change without notice. Document 112-2 Revised 4/9/01

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 E-mail info@coilcraft.com Web <http://www.coilcraft.com>

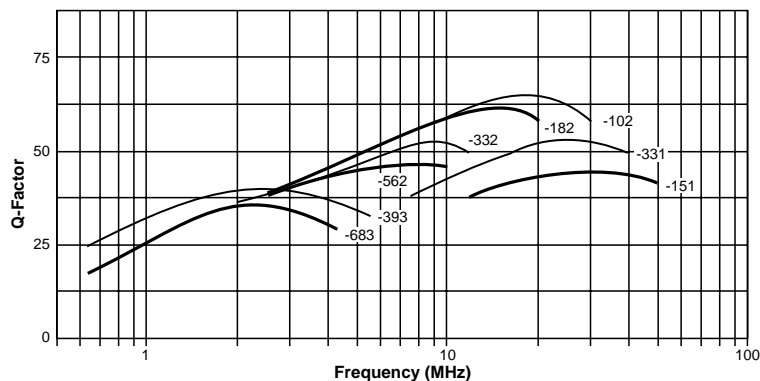
“Slot Seven” 7mm Tunable Inductors

SERIES 7M3 – SHIELDED WITH FERRITE SLEEVE

Part Number	L Min (μH)	L Nom (μH)	L Max (μH)	Test Frequency	Q Min @ L Nom	DCR Max (ohms)
7M3-151	0.128	0.150	0.173	25 MHz	40	0.124
7M3-181	0.153	0.180	0.207	25 MHz	45	0.124
7M3-221	0.187	0.220	0.253	25 MHz	45	0.151
7M3-271	0.230	0.270	0.311	25 MHz	50	0.151
7M3-331	0.281	0.330	0.380	25 MHz	50	0.151
7M3-391	0.332	0.390	0.449	25 MHz	55	0.176
7M3-471	0.400	0.470	0.541	25 MHz	55	0.198
7M3-561	0.476	0.560	0.644	25 MHz	60	0.198
7M3-681	0.544	0.680	0.816	25 MHz	60	0.248
7M3-821	0.656	0.820	0.984	25 MHz	60	0.271
7M3-102	0.8	1.0	1.2	25 MHz	60	0.317
7M3-122	1.0	1.2	1.4	7.9 MHz	45	0.333
7M3-152	1.2	1.5	1.8	7.9 MHz	45	0.368
7M3-182	1.4	1.8	2.2	7.9 MHz	45	0.396
7M3-222	1.8	2.2	2.6	7.9 MHz	45	0.412
7M3-272	2.2	2.7	3.2	7.9 MHz	45	0.466
7M3-332	2.6	3.3	4.0	7.9 MHz	40	0.544
7M3-392	3.1	3.9	4.7	7.9 MHz	40	0.595
7M3-472	3.8	4.7	5.6	7.9 MHz	40	0.898
7M3-562	4.5	5.6	6.7	7.9 MHz	40	1.04
7M3-682	5.4	6.8	8.2	7.9 MHz	35	1.04
7M3-822	6.6	8.2	9.8	7.9 MHz	35	1.12
7M3-103	8	10	12	7.9 MHz	35	1.38
7M3-123	9	12	15	2.5 MHz	35	1.49
7M3-153	11	15	19	2.5 MHz	35	1.65
7M3-183	14	18	23	2.5 MHz	35	2.42
7M3-223	17	22	28	2.5 MHz	35	2.75
7M3-273	20	27	34	2.5 MHz	40	3.71
7M3-333	25	33	41	2.5 MHz	40	3.71
7M3-393	29	39	49	2.5 MHz	40	4.01
7M3-473	35	47	59	2.5 MHz	40	7.37
7M3-563	42	56	70	2.5 MHz	40	8.48
7M3-683	51	68	85	2.5 MHz	40	13.34
7M3-823	62	82	103	2.5 MHz	40	14.72
7M3-104	75	100	125	2.5 MHz	40	16.42
7M3-124	90	120	150	2.5 MHz	40	17.76
7M3-154	113	150	188	2.5 MHz	40	19.76
7M3-184	135	180	225	2.5 MHz	40	22.01
7M3-224	165	220	275	2.5 MHz	40	24.25

Parts in bold are included in Coilcraft Designer's Kit M106.

TYPICAL Q AT L NOM—SERIES 7M3



NOTES:

1. All readings taken on Agilent/HP4342-A Q Meter.
2. L min is achieved at maximum extension of the core toward PC board. Complete tuning range is reached within the boundaries of the coil form.
3. All specifications are recommended at standard “Q” meter frequency as a simple way to ensure the quality of our parts. L and Q readings will vary with frequency change.
4. Shielded parts have a sleeve insert to protect the winding.
5. Operating temperature range -40°C to $+85^{\circ}\text{C}$.
6. Electrical specifications at 25°C .

COILCRAFT ACCURATE
PRECISION REPEATABLE
MEASUREMENTS
SEE INDEX **TEST FIXTURES**

Coilcraft

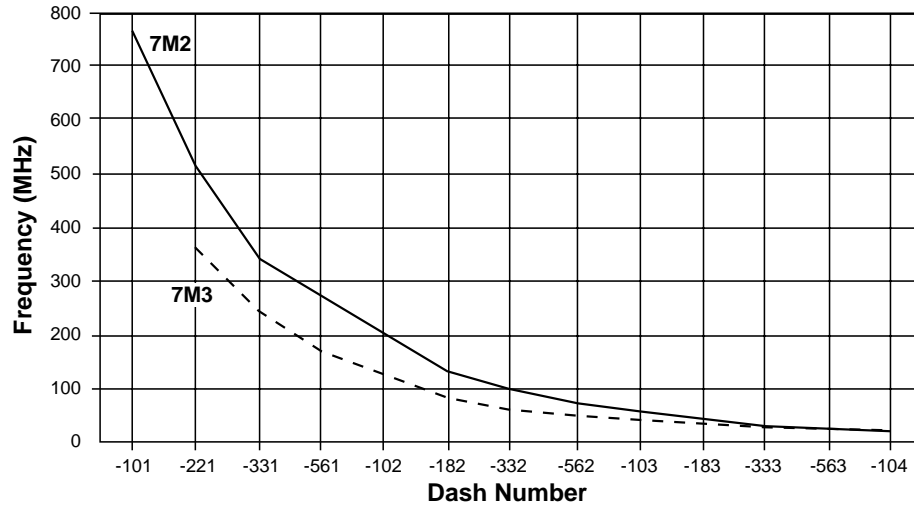
Specifications subject to change without notice. Document 112-3 Revised 4/9/01

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E-mail info@coilcraft.com Web http://www.coilcraft.com

“Slot Seven” 7mm Tunable Inductors

TYPICAL SELF RESONANT FREQUENCY

At nominal inductance



Coilcraft

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 E-mail info@coilcraft.com Web <http://www.coilcraft.com>

10mm Tunable Coils – 142, 143, 144 Series



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

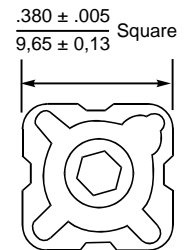
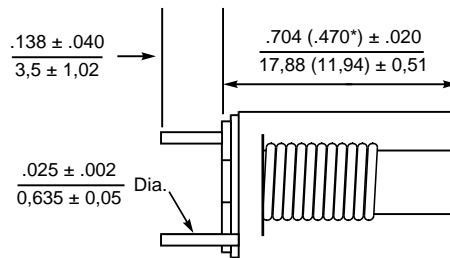
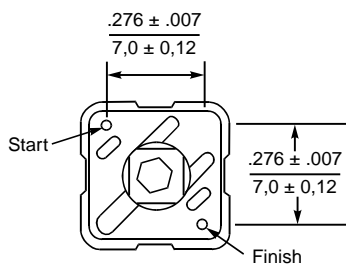
Extremely economical, even in small quantities, the coils come in standard inductance values from 0.05 μH to 1.5 μH . 144 Series parts are available with a tap to meet specific requirements.

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.

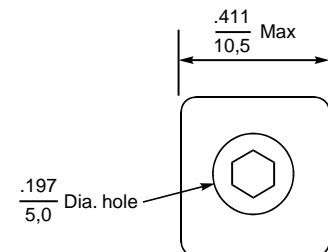
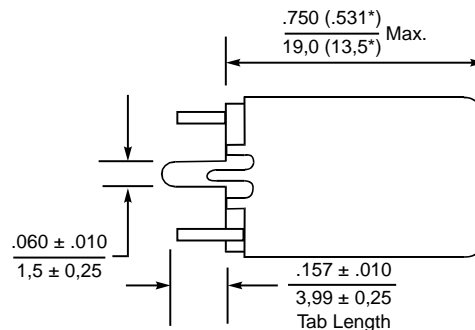
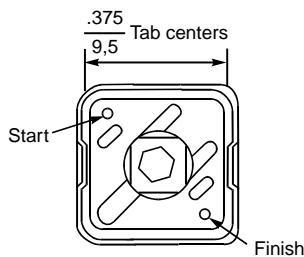
Coilcraft **Designer's Kit M102** contains samples of all standard 10mm and 7mm tunable inductors. To order, contact Coilcraft.



UNSHIELDED STYLES



WITH SHIELD CAN



*142 Series Only

Coilcraft

Specifications subject to change without notice. Document 108-1 Revised 4/9/01

1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469
E-mail info@coilcraft.com Web http://www.coilcraft.com

UNSHIELDED

Part Number	Color	Turns	No Core (µH) Ref	L Min (µH)	L Nom (µH)	L Max (µH)	Min Q @ L Nom	No Core SRF (MHz) Min.
144-01J12	Brown	1½	.053	.056	.059	.062	140 @ 40 MHz	1800
144-02J12	Red	2½	.075	.079	.088	.098	145 "	1150
144-03J12	Orange	3½	.099	.104	.123	.142	147 "	900
144-04J12	Yellow	4½	.126	.132	.164	.195	150 "	765
144-05J12	Green	5½	.154	.162	.207	.252	154 "	670
144-06J12	Blue	6½	.182	.193	.250	.306	154 "	610
144-07J12	Violet	7½	.214	.240	.298	.356	158 "	525
144-08J12	Gray	8½	.245	.283	.344	.405	160 "	465
144-09J12	White	9½	.274	.328	.387	.446	162 "	420
144-10J12	Black	10½	.307	.391	.442	.493	162 "	390
142-01J08	Brown	1½	.063	.063	.065	.068	115 "	980
142-02J08	Red	2½	.092	.093	.100	.107	118 "	600
142-03J08	Orange	3½	.127	.133	.145	.157	120 "	470
142-04J08	Yellow	4½	.166	.174	.196	.218	125 "	420
142-05J08	Green	5½	.212	.226	.256	.287	122 "	370
142-06J08	Blue	6½	.258	.275	.315	.355	112 "	340
142-07J08	Violet	7½	.307	.330	.378	.427	112 "	310
142-08J08	Gray	8½	.357	.396	.450	.504	106 "	290
142-09J08	White	9½	.412	.473	.520	.567	110 "	270
142-10J08	Black	10½	.464	.550	.592	.635	104 "	260
143-09J12	White	9½	.385	.404	.550	.693	86 "	280
143-10J12	Black	10½	.438	.460	.624	.788	90 "	270
143-11J12	Brown	11½	.490	.515	.708	.900	78 "	250
143-12J12	Red	12½	.545	.578	.764	.950	84 "	240
143-13J12	Orange	13½	.600	.673	.845	1.02	84 "	245
143-14J12	Yellow	14½	.645	.726	.908	1.09	82 "	340
143-15J12	Green	15½	.692	.803	.978	1.15	90 "	235
143-16J12	Blue	16½	.765	.891	1.08	1.27	74 "	225
143-17J12	Violet	17½	.830	1.01	1.18	1.34	74 "	215
143-18J12	Gray	18½	.895	1.10	1.25	1.40	92 "	195
143-19J12	White	19½	.910	1.20	1.32	1.44	98 "	190
143-20J12	Black	20½	.960	1.30	1.40	1.50	92 "	185

SHIELDED

Part Number	Color	Turns	No Core (µH) Ref	L Min (µH)	L Nom (µH)	L Max (µH)	Min Q @ L Nom	No Core SRF (MHz) Min.
144-01J12S	Brown	1½	.050	.052	.053	.054	97 @ 40 MHz	2200
144-02J12S	Red	2½	.067	.070	.074	.078	98 "	1200
144-03J12S	Orange	3½	.088	.092	.099	.106	98 "	920
144-04J12S	Yellow	4½	.106	.111	.122	.133	100 "	790
144-05J12S	Green	5½	.126	.132	.149	.165	101 "	685
144-06J12S	Blue	6½	.147	.154	.175	.196	106 "	625
144-07J12S	Violet	7½	.168	.176	.200	.223	104 "	530
144-08J12S	Gray	8½	.190	.202	.226	.250	108 "	480
144-09J12S	White	9½	.210	.239	.256	.274	108 "	435
144-10J12S	Black	10½	.232	.270	.282	.295	106 "	420
142-01J08S	Brown	1½	.058	.058	.0595	.061	82 "	1230
142-02J08S	Red	2½	.081	.084	.086	.089	83 "	650
142-03J08S	Orange	3½	.110	.115	.120	.121	85 "	550
142-04J08S	Yellow	4½	.140	.147	.156	.160	88 "	460
142-05J08S	Green	5½	.174	.182	.197	.205	94 "	410
142-06J08S	Blue	6½	.210	.220	.240	.248	94 "	370
142-07J08S	Violet	7½	.247	.259	.280	.290	90 "	330
142-08J08S	Gray	8½	.284	.299	.322	.337	86 "	320
142-09J08S	White	9½	.319	.338	.363	.377	88 "	310
142-10J08S	Black	10½	.357	.382	.410	.422	82 "	290
143-09J12S	White	9½	.300	.315	.369	.423	80 "	303
143-10J12S	Black	10½	.338	.355	.416	.477	82 "	290
143-11J12S	Brown	11½	.377	.396	.468	.540	78 "	270
143-12J12S	Red	12½	.412	.433	.509	.585	80 "	265
143-13J12S	Orange	13½	.452	.475	.556	.637	80 "	265
143-14J12S	Yellow	14½	.490	.515	.604	.693	78 "	260
143-15J12S	Green	15½	.522	.583	.660	.738	80 "	250
143-16J12S	Blue	16½	.575	.638	.720	.801	76 "	245
143-17J12S	Violet	17½	.612	.693	.770	.846	76 "	240
143-18J12S	Gray	18½	.650	.754	.814	.874	82 "	215
143-19J12S	White	19½	.675	.792	.846	.900	80 "	210
143-20J12S	Black	20½	.715	.847	.896	.945	74 "	200

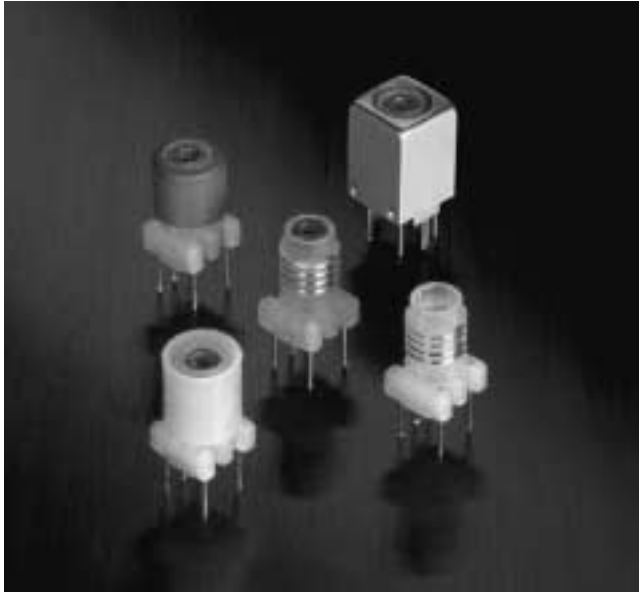
- Core material: Carbonyl J Core length: 142 Series - ¼" 143, 144 Series - ⅜"
- Inductance and Q readings taken on Boonton 260-A Q meter with 16 AWG tinned copper ½" long soldered along leads and bent at 90° ¼" down from stand offs.
- All inductance values greater than 0.1 µH read at recommended Q meter frequency; those below 0.1 µH calculated from readings taken at 50 MHz.
- L Min measured with core halfway out top of form.
- Taps available on 144 series parts at ⅓, ⅔, ⅕ and ⅞ turn increments.
- Operating temperature range -40° C to +85° C.
- Electrical specifications at 25° C.



Specifications subject to change without notice. Document 108-2 Revised 8/1/01

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“Slot Seven” 7mm Tunable Inductors

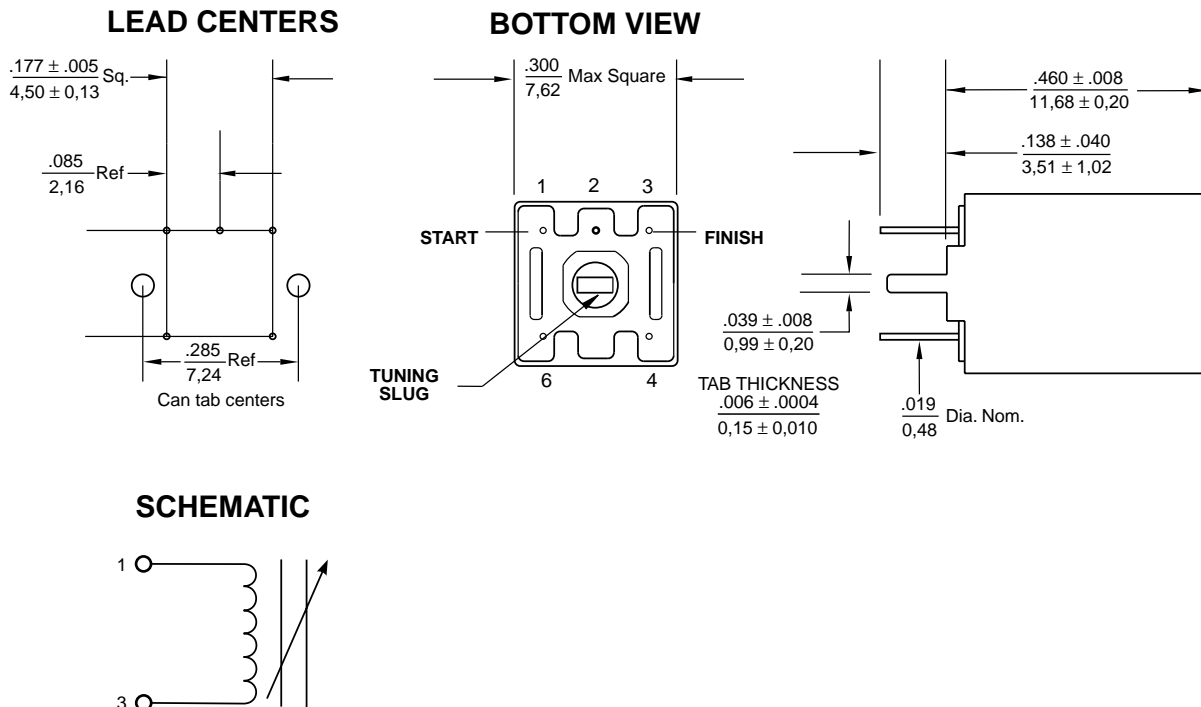


These versatile Coilcraft variable inductors operate over a wide range of frequencies. Standard inductance values are available from less than 100 nH to over 250 μ H. Custom values can also be provided upon request.

Coilcraft “Slot Seven” RF coils come in an international 7 mm package. Their precision-molded slotted bobbins assure tight tolerances and high stability.

A variety of magnetic and electrostatic shielding options are offered. “Slot Seven” coils are tuned by means of slotted ferrite tuning cores for easy, positive adjustment.

Coilcraft **Designer’s Kit M106** contains 39 coils (3 each). To order, please contact Coilcraft.



Coilcraft

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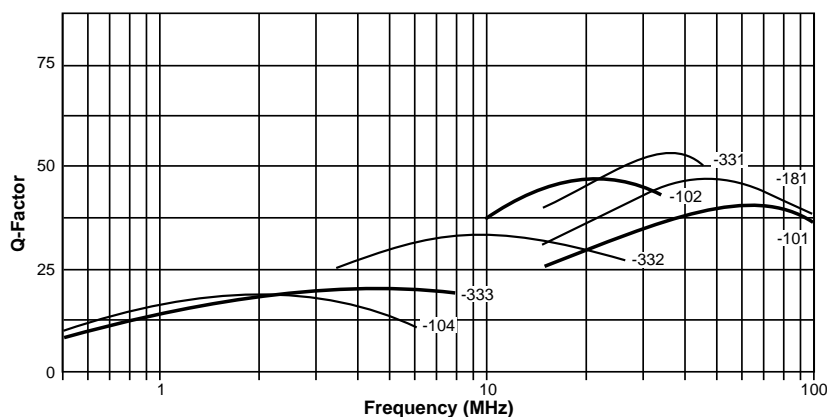
“Slot Seven” 7mm Tunable Inductors

SERIES 7M2 – SHIELDED WITH PLASTIC SLEEVE

Part Number	L Min (μH)	L Nom (μH)	L Max (μH)	Test Frequency	Q Min @ L Nom	DCR Max (ohms)
7M2-101	0.094	0.100	0.106	25 MHz	27	0.124
7M2-121	0.113	0.120	0.127	25 MHz	27	0.124
7M2-151	0.141	0.150	0.159	25 MHz	30	0.151
7M2-181	0.169	0.180	0.191	25 MHz	30	0.151
7M2-221	0.207	0.220	0.233	25 MHz	35	0.176
7M2-271	0.254	0.270	0.286	25 MHz	35	0.198
7M2-331	0.310	0.330	0.350	25 MHz	40	0.248
7M2-391	0.367	0.390	0.413	25 MHz	40	0.271
7M2-471	0.442	0.470	0.498	25 MHz	40	0.291
7M2-561	0.526	0.560	0.594	25 MHz	40	0.317
7M2-681	0.612	0.680	0.748	25 MHz	40	0.333
7M2-821	0.738	0.820	0.902	25 MHz	45	0.368
7M2-102	0.9	1.0	1.1	25 MHz	45	0.396
7M2-122	1.1	1.2	1.3	7.9 MHz	27	0.412
7M2-152	1.4	1.5	1.7	7.9 MHz	27	0.466
7M2-182	1.6	1.8	2.0	7.9 MHz	27	0.544
7M2-222	2.0	2.2	2.4	7.6 MHz	27	0.595
7M2-272	2.4	2.7	3.0	7.9 MHz	27	0.898
7M2-332	3.0	3.3	3.6	7.9 MHz	27	1.04
7M2-392	3.5	3.9	4.3	7.9 MHz	27	1.12
7M2-472	4.2	4.7	5.2	7.9 MHz	27	1.38
7M2-562	5.0	5.6	6.2	7.9MHz	27	1.42
7M2-682	6.1	6.8	7.5	7.9 MHz	27	1.49
7M2-822	7.4	8.2	9.0	7.9 MHz	27	1.65
7M2-103	9.0	10	11	7.9 MHz	27	2.42
7M2-123	10	12	14	2.5 MHz	20	2.75
7M2-153	13	15	17	2.5 MHz	20	3.71
7M2-183	15	18	21	2.5 MHz	20	4.01
7M2-223	19	22	25	2.5 MHz	20	7.37
7M2-273	23	27	31	2.5 MHz	20	8.48
7M2-333	28	33	38	2.5 MHz	20	13.34
7M2-393	33	39	45	2.5 MHz	20	14.72
7M2-473	40	47	54	2.5 MHz	20	16.42
7M2-563	48	56	64	2.5 MHz	20	17.76
7M2-683	58	68	78	2.5 MHz	20	19.76
7M2-823	70	82	94	2.5 MHz	20	22.01
7M2-104	85	100	115	2.5 MHz	20	24.25

Parts in bold are included in Coilcraft Designer's Kit M106.

TYPICAL Q AT L NOM—SERIES 7M2



NOTES:

1. All readings taken on Agilent/HP4342-A Q Meter.
2. L min is achieved at maximum extension of the core toward PC board. Complete tuning range is reached within the boundaries of the coil form.
3. All specifications are recommended at standard “Q” meter frequency as a simple way to ensure the quality of our parts. L and Q readings will vary with frequency change.
4. Shielded parts have a sleeve insert to protect the winding.
5. Operating temperature range -40°C to $+85^{\circ}\text{C}$.
6. Electrical specifications at 25°C .

COILCRAFT ACCURATE
PRECISION REPEATABLE
 MEASUREMENTS
 SEE INDEX **TEST FIXTURES**

Coilcraft

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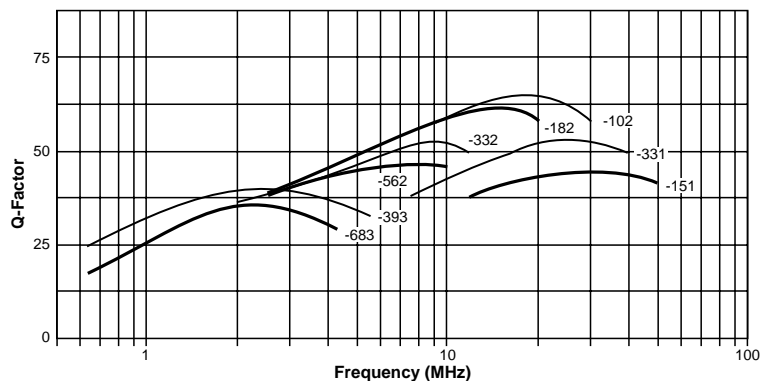
“Slot Seven” 7mm Tunable Inductors

SERIES 7M3 – SHIELDED WITH FERRITE SLEEVE

Part Number	L Min (μH)	L Nom (μH)	L Max (μH)	Test Frequency	Q Min @ L Nom	DCR Max (ohms)
7M3-151	0.128	0.150	0.173	25 MHz	40	0.124
7M3-181	0.153	0.180	0.207	25 MHz	45	0.124
7M3-221	0.187	0.220	0.253	25 MHz	45	0.151
7M3-271	0.230	0.270	0.311	25 MHz	50	0.151
7M3-331	0.281	0.330	0.380	25 MHz	50	0.151
7M3-391	0.332	0.390	0.449	25 MHz	55	0.176
7M3-471	0.400	0.470	0.541	25 MHz	55	0.198
7M3-561	0.476	0.560	0.644	25 MHz	60	0.198
7M3-681	0.544	0.680	0.816	25 MHz	60	0.248
7M3-821	0.656	0.820	0.984	25 MHz	60	0.271
7M3-102	0.8	1.0	1.2	25 MHz	60	0.317
7M3-122	1.0	1.2	1.4	7.9 MHz	45	0.333
7M3-152	1.2	1.5	1.8	7.9 MHz	45	0.368
7M3-182	1.4	1.8	2.2	7.9 MHz	45	0.396
7M3-222	1.8	2.2	2.6	7.9 MHz	45	0.412
7M3-272	2.2	2.7	3.2	7.9 MHz	45	0.466
7M3-332	2.6	3.3	4.0	7.9 MHz	40	0.544
7M3-392	3.1	3.9	4.7	7.9 MHz	40	0.595
7M3-472	3.8	4.7	5.6	7.9 MHz	40	0.898
7M3-562	4.5	5.6	6.7	7.9 MHz	40	1.04
7M3-682	5.4	6.8	8.2	7.9 MHz	35	1.04
7M3-822	6.6	8.2	9.8	7.9 MHz	35	1.12
7M3-103	8	10	12	7.9 MHz	35	1.38
7M3-123	9	12	15	2.5 MHz	35	1.49
7M3-153	11	15	19	2.5 MHz	35	1.65
7M3-183	14	18	23	2.5 MHz	35	2.42
7M3-223	17	22	28	2.5 MHz	35	2.75
7M3-273	20	27	34	2.5 MHz	40	3.71
7M3-333	25	33	41	2.5 MHz	40	3.71
7M3-393	29	39	49	2.5 MHz	40	4.01
7M3-473	35	47	59	2.5 MHz	40	7.37
7M3-563	42	56	70	2.5 MHz	40	8.48
7M3-683	51	68	85	2.5 MHz	40	13.34
7M3-823	62	82	103	2.5 MHz	40	14.72
7M3-104	75	100	125	2.5 MHz	40	16.42
7M3-124	90	120	150	2.5 MHz	40	17.76
7M3-154	113	150	188	2.5 MHz	40	19.76
7M3-184	135	180	225	2.5 MHz	40	22.01
7M3-224	165	220	275	2.5 MHz	40	24.25

Parts in bold are included in Coilcraft Designer's Kit M106.

TYPICAL Q AT L NOM—SERIES 7M3



NOTES:

1. All readings taken on Agilent/HP4342-A Q Meter.
2. L min is achieved at maximum extension of the core toward PC board. Complete tuning range is reached within the boundaries of the coil form.
3. All specifications are recommended at standard “Q” meter frequency as a simple way to ensure the quality of our parts. L and Q readings will vary with frequency change.
4. Shielded parts have a sleeve insert to protect the winding.
5. Operating temperature range -40°C to $+85^{\circ}\text{C}$.
6. Electrical specifications at 25°C .

COILCRAFT ACCURATE
PRECISION REPEATABLE
MEASUREMENTS
SEE INDEX **TEST FIXTURES**

Coilcraft

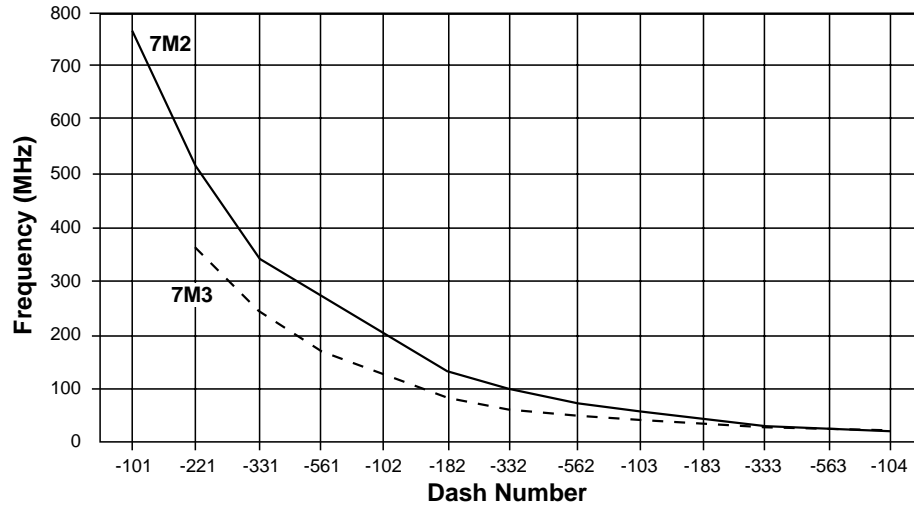
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“Slot Seven” 7mm Tunable Inductors

TYPICAL SELF RESONANT FREQUENCY

At nominal inductance



Coilcraft

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"Slot Ten" 10mm Tunable Inductors



These versatile Coilcraft variable inductors operate over a wide range of frequencies. Standard inductance values are available from less than 1 μH to over 1 mH. Custom values can also be provided upon request.

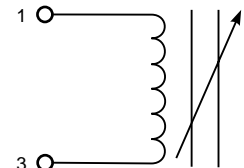
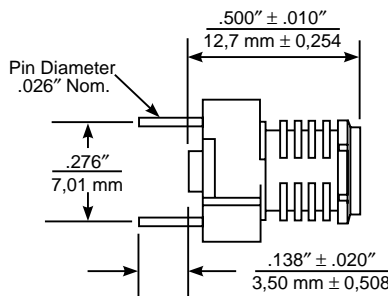
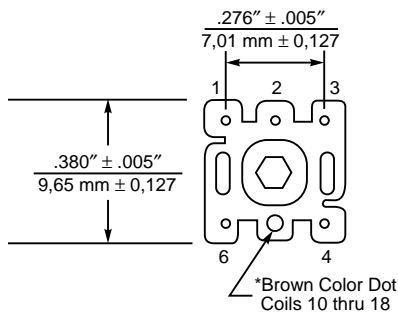
Coilcraft "Slot Ten" RF coils come in an international 10 mm package. Their precision-molded slotted bobbins ensure tight tolerances and high stability.

A variety of magnetic and electrostatic shielding options are offered. "Slot Ten" coils are tuned by means of ferrite or powdered iron tuning cores with a hex hole for easy, positive adjustment.

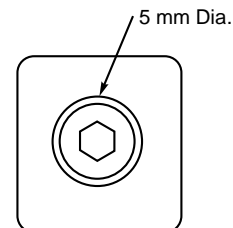
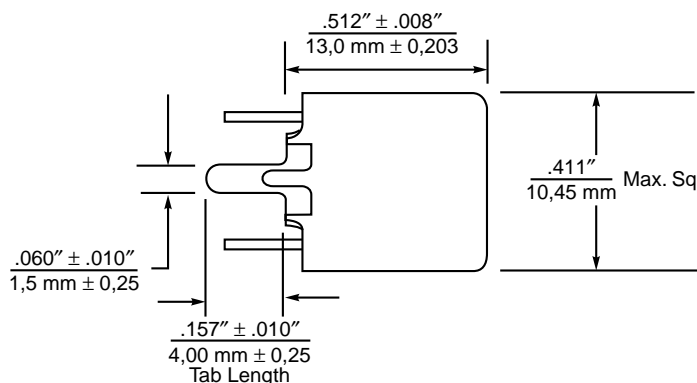
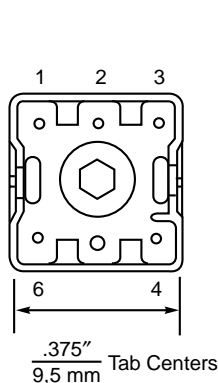
Coilcraft **Designer's Kit M100** contains 18 shielded and 18 unshielded coils (3 each) plus extra cores and sleeves to create all of the standard values shown. To order, please contact Coilcraft.

UNSHIELDED (STYLES 1 and 2)

SCHEMATIC



WITH SHIELD CAN (STYLES 3, 4 and 5)



Specifications subject to change without notice. Document 113-1 Revised 4/9/01

SELECTION GUIDE

COILCRAFT ACCURATE
PRECISION REPEATABLE
SEE INDEX **TEST FIXTURES** MEASUREMENTS

Coilcraft "Slot Ten" coils come in five different styles. Consult this table for the inductance range, relative Q and shielding options of each style. Then use the appropriate specification chart to pick a specific part number.

Style	L(μH)	Electrostatic Shield	Magnetic Shield	Recommended Frequency	Tuning Core	Relative Q	Relative Cost
Style 1	.8 — 624	No	No	Higher ↓ Lower	Iron	Hi	Low
Style 2	.8 — 927	No	No		Ferrite	Hi	Low
Style 3	.7 — 450	Yes	No		Iron	Low	Med
Style 4	.8 — 624	Yes	Yes (Iron)		Iron	Med	Hi
Style 5	.9 — 1143	Yes	Yes (Ferrite)		Ferrite	Med	Hi

NOTES:

- All readings taken on Agilent/H.P. 4342-A Q Meter.
- L min is achieved at maximum extension of the core toward PC board. Complete tuning range is reached within the boundaries of the coil form.
- All specifications are recommended at standard "Q" meter frequency as a simple way to ensure the quality of our parts. L and Q readings will vary with frequency change.
- Unshielded parts are coated with lacquer to protect the winding.
- Shielded parts have a sleeve insert to protect the winding.
- Operating temperature range -40° C to +85° C.
- Specifications at 25° C.

STYLE 1—Unshielded With Carbonyl E Core

Part Number	Color	L min (μH)	L Max (μH)	L nom (μH)	Min Q @ L nom	Test Frequency
SLOT TEN-1-01	Brown	.800	1.2	1.0	48	7.9 MHz
SLOT TEN-1-02	Red	1.2	1.8	1.5	50	7.9 MHz
SLOT TEN-1-03	Orange	1.76	2.64	2.2	56	7.9 MHz
SLOT TEN-1-04	Yellow	2.56	3.84	3.2	54	7.9 MHz
SLOT TEN-1-05	Green	3.6	5.4	4.5	54	7.9 MHz
SLOT TEN-1-06	Blue	5.2	7.8	6.5	51	7.9 MHz
SLOT TEN-1-07	Violet	7.6	11.4	9.5	48	7.9 MHz
SLOT TEN-1-08	Gray	11.2	16.8	14.0	38	2.5 MHz
SLOT TEN-1-09	White	16.0	24.0	20.0	38	2.5 MHz
SLOT TEN-1-10	Black*	22.4	33.6	28.0	38	2.5 MHz
SLOT TEN-1-11	Brown*	32.0	48.0	40.0	38	2.5 MHz
SLOT TEN-1-12	Red*	46.4	69.6	58.0	47	2.5 MHz
SLOT TEN-1-13	Orange*	67.2	100.2	84.0	48	2.5 MHz
SLOT TEN-1-14	Yellow*	96	144	120.0	40	790 KHz
SLOT TEN-1-15	Green*	137.6	206.4	172.0	34	790 KHz
SLOT TEN-1-16	Blue*	200	300	250.0	39	790 KHz
SLOT TEN-1-17	Violet*	280	432	360.0	30	790 KHz
SLOT TEN-1-18	Gray*	416	624	520.0	35	790 KHz

STYLE 2—Unshielded With Ferrite Core

Part Number	Color	L min (μH)	L Max (μH)	L nom (μH)	Min Q @ L nom	Test Frequency
SLOT TEN-2-01	Brown	.80	1.7	1.2	47	7.9 MHz
SLOT TEN-2-02	Red	1.25	2.75	2.0	48	7.9 MHz
SLOT TEN-2-03	Orange	1.75	4.0	2.9	48	7.9 MHz
SLOT TEN-2-04	Yellow	2.4	5.4	3.9	47	7.9 MHz
SLOT TEN-2-05	Green	3.5	7.8	5.6	47	7.9 MHz
SLOT TEN-2-06	Blue	4.7	10.6	7.6	46	7.9 MHz
SLOT TEN-2-07	Violet	7.4	15.6	11.5	38	2.5 MHz
SLOT TEN-2-08	Gray	11	25	18.2	40	2.5 MHz
SLOT TEN-2-09	White	16	35	25.3	40	2.5 MHz
SLOT TEN-2-10	Black*	22	50	36.5	40	2.5 MHz
SLOT TEN-2-11	Brown*	33	72	52.5	39	2.5 MHz
SLOT TEN-2-12	Red*	46	103	74.8	51	2.5 MHz
SLOT TEN-2-13	Orange*	66	136	100	40	790 KHz
SLOT TEN-2-14	Yellow*	95	198	146	44	790 KHz
SLOT TEN-2-15	Green*	136	297	216	40	790 KHz
SLOT TEN-2-16	Blue*	198	426	312	45	790 KHz
SLOT TEN-2-17	Violet*	286	630	530	33	790 KHz
SLOT TEN-2-18	Gray*	418	927	790	38	790 KHz

* Coils 10 thru 18 have a brown color dot on bottom of coil base.

Specifications subject to change without notice. Document 113-2 Revised 4/9/01

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STYLE 3—Shielded With Carbonyl E Core and Plastic Sleeve

Part Number	Color	L min (μH)	L Max (μH)	L nom (μH)	Min Q @ L nom	Test Frequency
SLOT TEN-3-01	Brown	.70	.94	.82	65	7.9 MHz
SLOT TEN-3-02	Red	1.05	1.41	1.23	37	7.9 MHz
SLOT TEN-3-03	Orange	1.5	2.0	1.75	40	7.9 MHz
SLOT TEN-3-04	Yellow	2.04	2.76	2.4	40	7.9 MHz
SLOT TEN-3-05	Green	2.9	3.9	3.4	39	7.9 MHz
SLOT TEN-3-06	Blue	4.25	5.75	5.0	38	7.9 MHz
SLOT TEN-3-07	Violet	6	8.2	7.1	35	7.9 MHz
SLOT TEN-3-08	Gray	9.4	12.6	11.0	25	2.5 MHz
SLOT TEN-3-09	White	12.8	17.2	15.0	25	2.5 MHz
SLOT TEN-3-10	Black*	18.7	25.3	22.0	26	2.5 MHz
SLOT TEN-3-11	Brown*	26.4	35.6	31.0	25	2.5 MHz
SLOT TEN-3-12	Red*	37.4	50.6	44	29	2.5 MHz
SLOT TEN-3-13	Orange*	52.7	71.3	62	30	2.5 MHz
SLOT TEN-3-14	Yellow*	79	105	92	28	2.5 MHz
SLOT TEN-3-15	Green*	108.8	147.2	128	18	790 KHz
SLOT TEN-3-16	Blue*	155	208	182	20	790 KHz
SLOT TEN-3-17	Violet*	230	310	270	16	790 KHz

STYLE 4—Shielded With Carbonyl E Core and Sleeve

Part Number	Color	L min (μH)	L Max (μH)	L nom (μH)	Min Q @ L nom	Test Frequency
SLOT TEN-4-01	Brown	.80	1.2	1.0	44	7.9 MHz
SLOT TEN-4-02	Red	1.2	1.8	1.5	45	7.9 MHz
SLOT TEN-4-03	Orange	1.76	2.64	2.2	48	7.9 MHz
SLOT TEN-4-04	Yellow	2.56	3.84	3.2	48	7.9 MHz
SLOT TEN-4-05	Green	3.6	5.4	4.5	46	7.9 MHz
SLOT TEN-4-06	Blue	5.2	7.8	6.5	43	7.9 MHz
SLOT TEN-4-07	Violet	7.6	11.4	9.5	40	7.9 MHz
SLOT TEN-4-08	Gray	11.2	16.8	14	32	2.5 MHz
SLOT TEN-4-09	White	16.0	24.0	20	33	2.5 MHz
SLOT TEN-4-10	Black*	22.4	33.6	28	32	2.5 MHz
SLOT TEN-4-11	Brown*	32.0	48.0	40	32	2.5 MHz
SLOT TEN-4-12	Red*	46.4	69.6	58	40	2.5 MHz
SLOT TEN-4-13	Orange*	67.2	100.8	85	40	2.5 MHz
SLOT TEN-4-14	Yellow*	96	144	120	33	790 KHz
SLOT TEN-4-15	Green*	137.6	206.4	172	28	790 KHz
SLOT TEN-4-16	Blue*	200.0	300.0	250	32	790 KHz
SLOT TEN-4-17	Violet*	288	432	360	26	790 KHz
SLOT TEN-4-18	Gray*	416	624	520	29	790 KHz

STYLE 5—Shielded With Ferrite Core and Sleeve

Part Number	Color	L min (μH)	L Max (μH)	L nom (μH)	Min Q @ L nom	Test Frequency
SLOT TEN-5-01	Brown	.86	2.0	1.4	43	7.9 MHz
SLOT TEN-5-02	Red	1.27	3.25	2.25	44	7.9 MHz
SLOT TEN-5-03	Orange	1.83	4.6	3.25	41	7.9 MHz
SLOT TEN-5-04	Yellow	2.48	6.4	4.5	40	7.9 MHz
SLOT TEN-5-05	Green	3.58	9.3	6.5	40	7.9 MHz
SLOT TEN-5-06	Blue	5.0	12.7	8.8	38	7.9 MHz
SLOT TEN-5-07	Violet	7.7	18.4	13.0	30	2.5 MHz
SLOT TEN-5-08	Gray	12.0	30.0	20.9	35	2.5 MHz
SLOT TEN-5-09	White	16	42	29.4	34	2.5 MHz
SLOT TEN-5-10	Black*	25	60	42.3	32	2.5 MHz
SLOT TEN-5-11	Brown*	36	90	62.8	30	2.5 MHz
SLOT TEN-5-12	Red*	48	126	87.2	42	2.5 MHz
SLOT TEN-5-13	Orange*	72	163	116	35	790 KHz
SLOT TEN-5-14	Yellow*	102	238	168	36	790 KHz
SLOT TEN-5-15	Green*	147	360	252	36	790 KHz
SLOT TEN-5-16	Blue*	215	522	312	45	790 KHz
SLOT TEN-5-17	Violet*	303	765	530	33	790 KHz
SLOT TEN-5-18	Gray*	440	1143	790	38	790 KHz

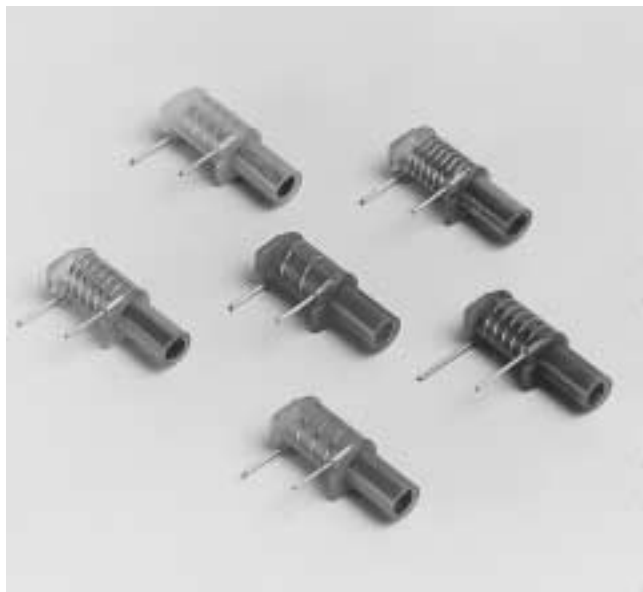
* Coils 10 thru 18 have a brown dot on bottom of coil base.



Specifications subject to change without notice. Document 113-3 Revised 11/19/97

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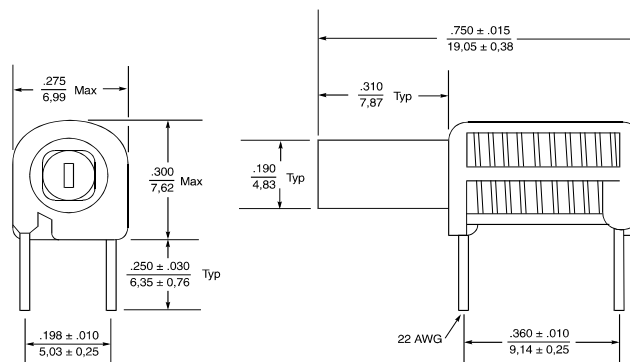
Tunable RF Inductors – 148 Series



With an overall height of only .300", these tunable coils are ideal for applications where low-profile circuit boards are essential.

The windings are precision molded in plastic to guarantee a constant winding pitch and a consistent relationship to the printed circuit board. Tuning is done by means of a threaded Carbonyl J core. Ferrite or aluminum cores are also available.

Coilcraft **Designer's Kit M104** contains three samples each of 13 standard values plus 20 values from the 132 Series of low-profile, high Q fixed inductors. To order, contact Coilcraft or visit <http://order.coilcraft.com>.



Part Number	Color	Turns	No Core (nH)	L Min (nH)	L Nom (nH)	L Max (nH)	Min Q @ L Nom	No Core SRF (MHz) Min
148-01J12	Brown	1½	35	38	39	40	88 @ 50 MHz	3200
148-02J12	Red	2½	44	46	52	58	96 @ 50 MHz	1560
148-03J12	Orange	3½	56	60	73	86	106 @ 50 MHz	1200
148-04J12	Yellow	4½	74	77	101	125	112 @ 50 MHz	980
148-05J12	Green	5½	92	96	130	164	112 @ 50 MHz	820
148-06J12	Blue	6½	114	120	170	220	112 @ 50 MHz	720
148-07J12	Violet	7½	142	154	222	290	110 @ 50 MHz	620
148-08J12	Gray	8½	168	176	262	346	106 @ 25 MHz	570
148-09J12	White	9½	198	208	310	410	104 @ 25 MHz	490
148-10J12	Black	10½	237	250	375	500	90 @ 25 MHz	450
148-11J12	Brown	11½	276	290	435	580	84 @ 25 MHz	410
148-12J12	Red	12½	315	338	500	666	66 @ 25 MHz	350
148-13J12	Orange	13½	344	362	540	710	64 @ 25 MHz	320

1. Core material: Carbonyl J Core length: 3/8"
2. Inductance and Q readings taken on Agilent/H.P. 4342-A Q meter with 16 AWG tinned copper 1/2" long soldered along leads and bent at 90° 1/4" down from standoffs.
3. Inductance values at 50 MHz calculated from C_p readings. Inductance values at 25 MHz read at standard Q meter frequency (blue line).
4. L Min measured with core halfway out of top of form.
5. Operating temperature range -40° C to +85° C.
6. Electrical specifications at 25° C.

COILCRAFT ACCURATE
PRECISION REPEATABLE
MEASUREMENTS
SEE INDEX TEST FIXTURES

Coilcraft

Specifications subject to change without notice. Document 111 Revised 4/9/01

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