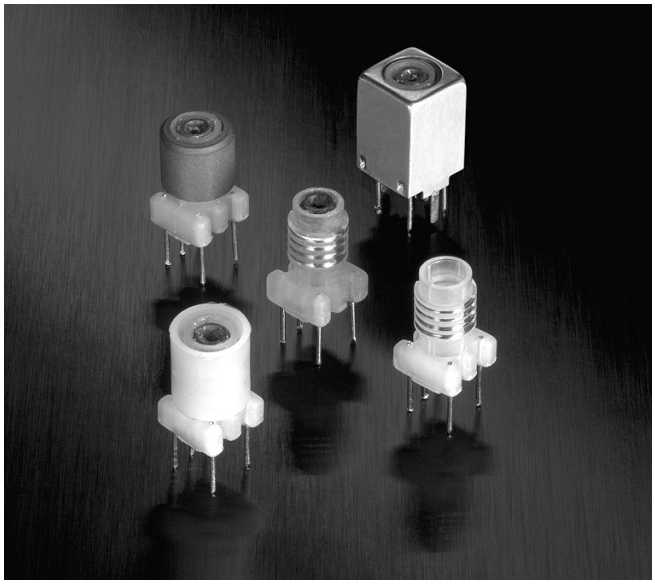
“Slot Seven” 7 mm Tunable Inductors



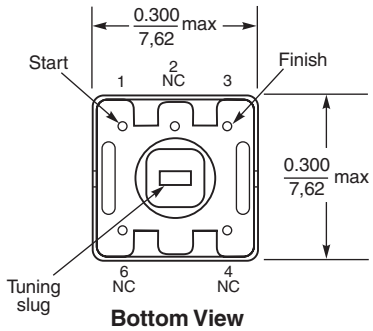
This product will not be available in an RoHS-compliant version. Core and solder contain lead.

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 µH. Custom values may also be available.

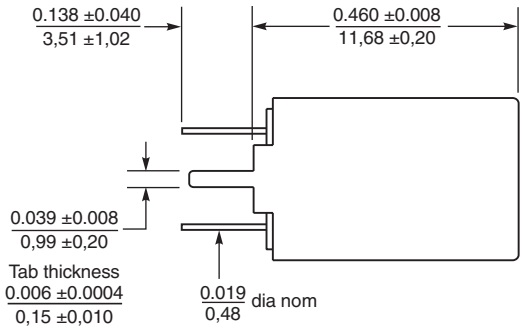
Coilcraft “Slot Seven” RF coils come in an international 7 mm package. Their precision-molded slotted bobbins ensure tight tolerances and high stability.

All parts come with a metal can that provides electrostatic shielding. The ferrite sleeve on the 7M3 series provides higher inductances and additional magnetic shielding. “Slot Seven” coils are tuned by means of slotted ferrite tuning cores for easy, positive adjustment. Use the Coilcraft Slot Tuner for a precise fit to the tuning slug.

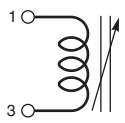
Coilcraft **Designer’s Kit M106** contains 39 coils (3 each). To order, please contact Coilcraft or purchase on-line at **http://order.coilcraft.com.**

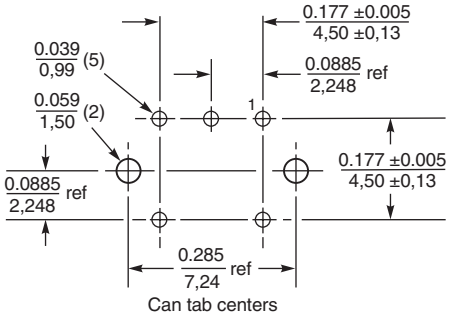


Bottom View



Schematic





Recommended Board Layout

Dimensions are in inches / mm

Terminations Pins: Tin-lead over tin over copper over iron
Shield can tabs: Tin-silver over nickel over brass

Weight

7M2 series	1.00 – 1.06 g
7M3 series	1.30 – 1.34 g

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.

“SLOT TUNER” TUNING TOOL

Specially designed for this product series. SEE INDEX

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Document 112-1 Revised 08/20/12

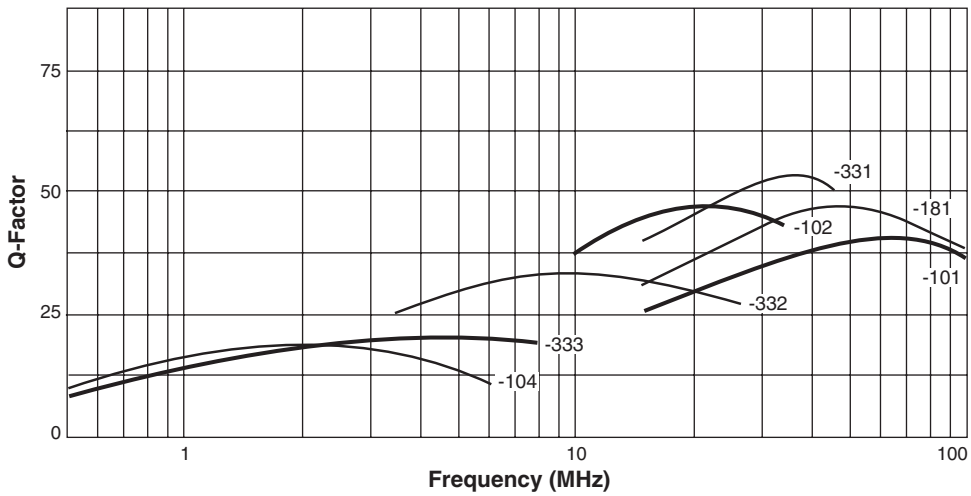
"Slot Seven" 7 mm Tunable Inductors

Series 7M2—Shielded with Plastic Sleeve

Part Number	L min (µH)	L nom (µH)	L max (µH)	L and Q 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	7.9 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/HP 4342-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 at standard "Q" meter frequencies. L and Q readings change with frequency.
4. Shielded parts have a sleeve insert to protect the winding.
5. Operating temperature range -40°C to +85°C.
6. Electrical specifications at 25°C.

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Document 112-2 Revised 08/20/12

"Slot Seven" 7 mm Tunable Inductors

Series 7M3 — Shielded with Ferrite Sleeve

Part number	L min (µH)	L nom (µH)	L max (µH)	L and Q 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
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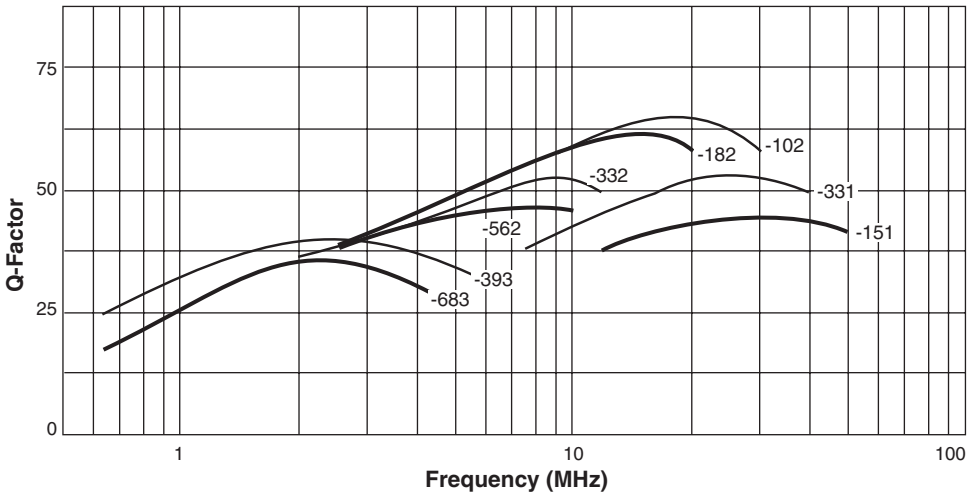
7M3-223	17	22	28	2.5 MHz	35	2.75
7M3-273	20	27	34	2.5 MHz	40	3.71
7M3-333	25	33	41	2.5 MHz	40	3.71
7M3-393	29	39	49	2.5 MHz	40	4.01
7M3-473	35	47	59	2.5 MHz	40	7.37
7M3-563	42	56	70	2.5 MHz	40	8.48
7M3-683	51	68	85	2.5 MHz	40	13.34
7M3-823	62	82	103	2.5 MHz	40	14.72
7M3-104	75	100	125	2.5 MHz	40	16.42
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



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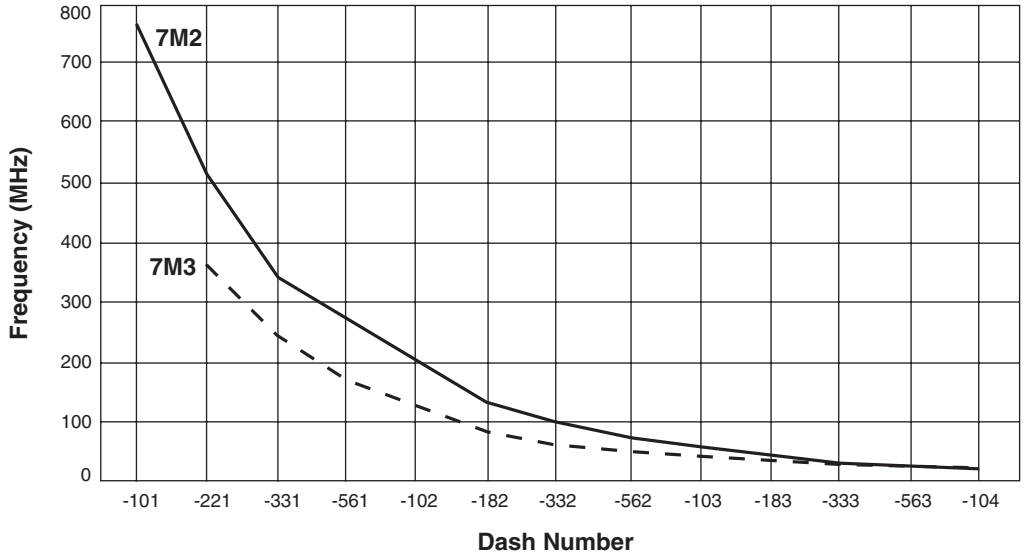
Document 112-3 Revised 08/20/12

"Slot Seven" 7 mm Tunable Inductors

Typical Self Resonant Frequency

At nominal inductance



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