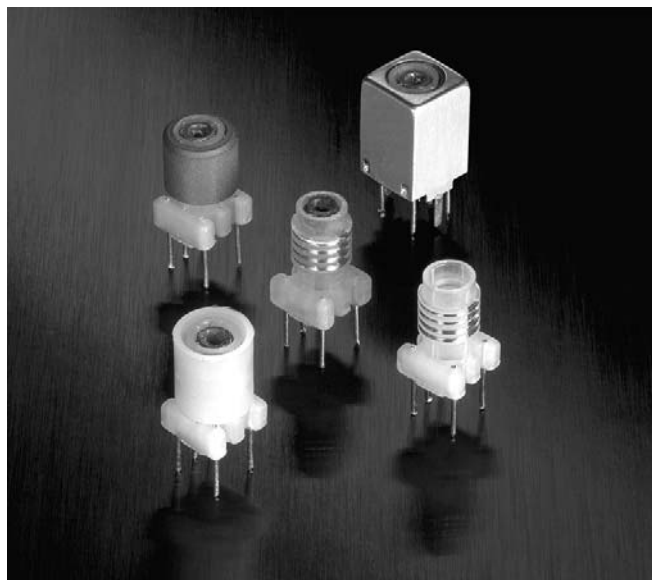


# "Slot Seven" 7 mm Tunable Inductors

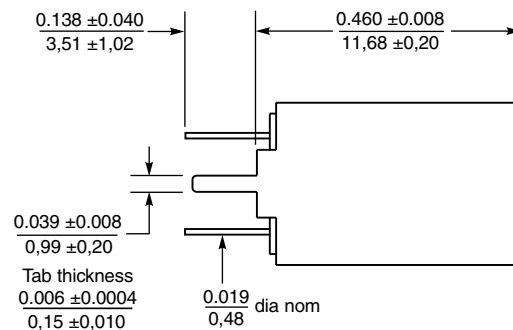
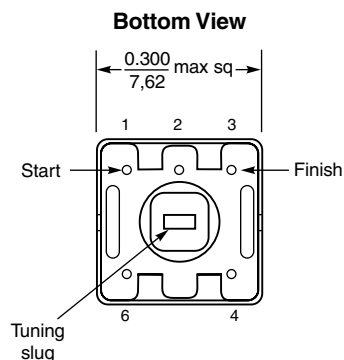
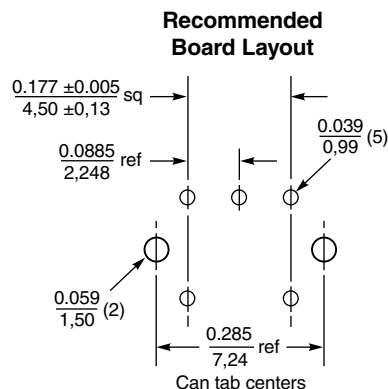


These versatile Coilcraft variable inductors operate over a wide range of frequencies. Standard inductance values are available from less than 100 nH to over 250  $\mu$ H. Custom values can also be provided upon request.

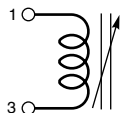
Coilcraft "Slot Seven" RF coils come in an international 7 mm package. Their precision-molded slotted bobbins ensure tight tolerances and high stability.

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. 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>.



**Schematic**



## "SLOT TUNER" TUNING TOOL



Specially designed for this product series. SEE INDEX

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Document 112-1 Revised 02/16/05

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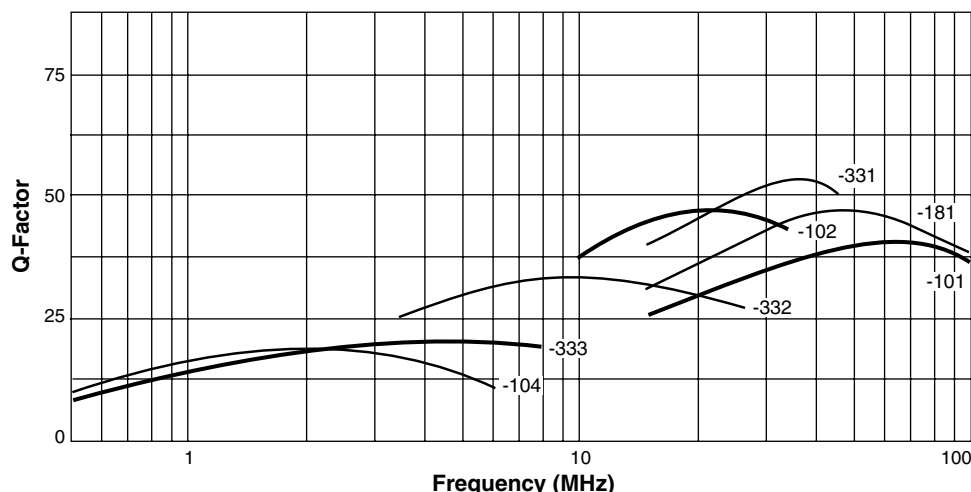
# “Slot Seven” 7 mm Tunable Inductors

## 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) |
|----------------|------------|------------|------------|----------------|---------------|----------------|
| <b>7M2-101</b> | 0.094      | 0.100      | 0.106      | 25 MHz         | 27            | 0.124          |
| 7M2-121        | 0.113      | 0.120      | 0.127      | 25 MHz         | 27            | 0.124          |
| <b>7M2-151</b> | 0.141      | 0.150      | 0.159      | 25 MHz         | 30            | 0.151          |
| 7M2-181        | 0.169      | 0.180      | 0.191      | 25 MHz         | 30            | 0.151          |
| <b>7M2-221</b> | 0.207      | 0.220      | 0.233      | 25 MHz         | 35            | 0.176          |
| 7M2-271        | 0.254      | 0.270      | 0.286      | 25 MHz         | 35            | 0.198          |
| <b>7M2-331</b> | 0.310      | 0.330      | 0.350      | 25 MHz         | 40            | 0.248          |
| 7M2-391        | 0.367      | 0.390      | 0.413      | 25 MHz         | 40            | 0.271          |
| <b>7M2-471</b> | 0.442      | 0.470      | 0.498      | 25 MHz         | 40            | 0.291          |
| 7M2-561        | 0.526      | 0.560      | 0.594      | 25 MHz         | 40            | 0.317          |
| <b>7M2-681</b> | 0.612      | 0.680      | 0.748      | 25 MHz         | 40            | 0.333          |
| 7M2-821        | 0.738      | 0.820      | 0.902      | 25 MHz         | 45            | 0.368          |
| <b>7M2-102</b> | 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          |
| <b>7M2-152</b> | 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          |
| <b>7M2-222</b> | 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          |
| <b>7M2-332</b> | 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           |
| <b>7M2-472</b> | 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           |
| <b>7M2-682</b> | 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           |
| <b>7M2-103</b> | 9.0        | 10         | 11         | 7.9 MHz        | 27            | 2.42           |
| 7M2-123        | 10         | 12         | 14         | 2.5 MHz        | 20            | 2.75           |
| <b>7M2-153</b> | 13         | 15         | 17         | 2.5 MHz        | 20            | 3.71           |
| 7M2-183        | 15         | 18         | 21         | 2.5 MHz        | 20            | 4.01           |
| <b>7M2-223</b> | 19         | 22         | 25         | 2.5 MHz        | 20            | 7.37           |
| 7M2-273        | 23         | 27         | 31         | 2.5 MHz        | 20            | 8.48           |
| <b>7M2-333</b> | 28         | 33         | 38         | 2.5 MHz        | 20            | 13.34          |
| 7M2-393        | 33         | 39         | 45         | 2.5 MHz        | 20            | 14.72          |
| <b>7M2-473</b> | 40         | 47         | 54         | 2.5 MHz        | 20            | 16.42          |
| 7M2-563        | 48         | 56         | 64         | 2.5 MHz        | 20            | 17.76          |
| <b>7M2-683</b> | 58         | 68         | 78         | 2.5 MHz        | 20            | 19.76          |
| 7M2-823        | 70         | 82         | 94         | 2.5 MHz        | 20            | 22.01          |
| <b>7M2-104</b> | 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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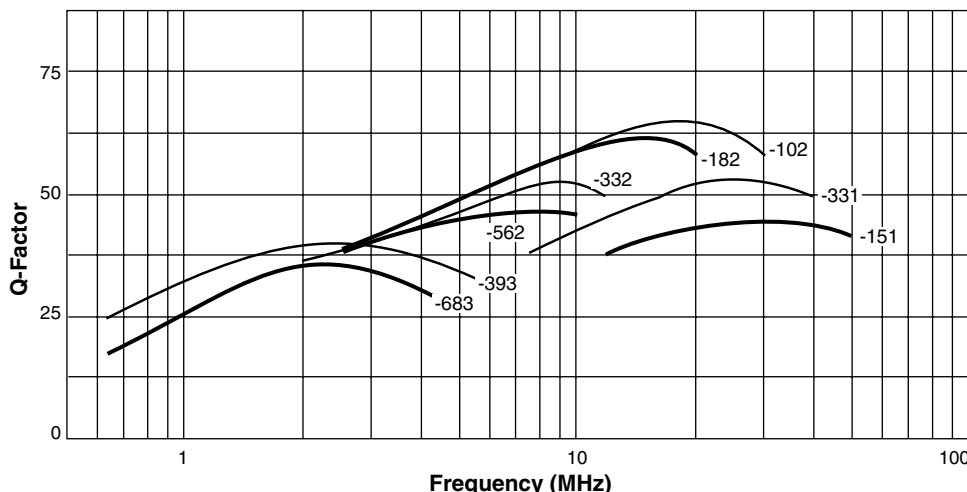
# “Slot Seven” 7 mm Tunable Inductors

## 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) |
|----------------|------------|------------|------------|----------------|---------------|----------------|
| <b>7M3-151</b> | 0.128      | 0.150      | 0.173      | 25 MHz         | 40            | 0.124          |
| 7M3-181        | 0.153      | 0.180      | 0.207      | 25 MHz         | 45            | 0.124          |
| <b>7M3-221</b> | 0.187      | 0.220      | 0.253      | 25 MHz         | 45            | 0.151          |
| 7M3-271        | 0.230      | 0.270      | 0.311      | 25 MHz         | 50            | 0.151          |
| <b>7M3-331</b> | 0.281      | 0.330      | 0.380      | 25 MHz         | 50            | 0.151          |
| 7M3-391        | 0.332      | 0.390      | 0.449      | 25 MHz         | 55            | 0.176          |
| <b>7M3-471</b> | 0.400      | 0.470      | 0.541      | 25 MHz         | 55            | 0.198          |
| 7M3-561        | 0.476      | 0.560      | 0.644      | 25 MHz         | 60            | 0.198          |
| <b>7M3-681</b> | 0.544      | 0.680      | 0.816      | 25 MHz         | 60            | 0.248          |
| 7M3-821        | 0.656      | 0.820      | 0.984      | 25 MHz         | 60            | 0.271          |
| <b>7M3-102</b> | 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          |
| <b>7M3-152</b> | 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          |
| <b>7M3-222</b> | 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          |
| <b>7M3-332</b> | 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          |
| <b>7M3-472</b> | 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           |
| <b>7M3-682</b> | 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           |
| <b>7M3-103</b> | 8          | 10         | 12         | 7.9 MHz        | 35            | 1.38           |
| 7M3-123        | 9          | 12         | 15         | 2.5 MHz        | 35            | 1.49           |
| <b>7M3-153</b> | 11         | 15         | 19         | 2.5 MHz        | 35            | 1.65           |
| 7M3-183        | 14         | 18         | 23         | 2.5 MHz        | 35            | 2.42           |
| <b>7M3-223</b> | 17         | 22         | 28         | 2.5 MHz        | 35            | 2.75           |
| 7M3-273        | 20         | 27         | 34         | 2.5 MHz        | 40            | 3.71           |
| <b>7M3-333</b> | 25         | 33         | 41         | 2.5 MHz        | 40            | 3.71           |
| 7M3-393        | 29         | 39         | 49         | 2.5 MHz        | 40            | 4.01           |
| <b>7M3-473</b> | 35         | 47         | 59         | 2.5 MHz        | 40            | 7.37           |
| 7M3-563        | 42         | 56         | 70         | 2.5 MHz        | 40            | 8.48           |
| <b>7M3-683</b> | 51         | 68         | 85         | 2.5 MHz        | 40            | 13.34          |
| 7M3-823        | 62         | 82         | 103        | 2.5 MHz        | 40            | 14.72          |
| <b>7M3-104</b> | 75         | 100        | 125        | 2.5 MHz        | 40            | 16.42          |
| 7M3-124        | 90         | 120        | 150        | 2.5 MHz        | 40            | 17.76          |
| <b>7M3-154</b> | 113        | 150        | 188        | 2.5 MHz        | 40            | 19.76          |
| 7M3-184        | 135        | 180        | 225        | 2.5 MHz        | 40            | 22.01          |
| <b>7M3-224</b> | 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/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.
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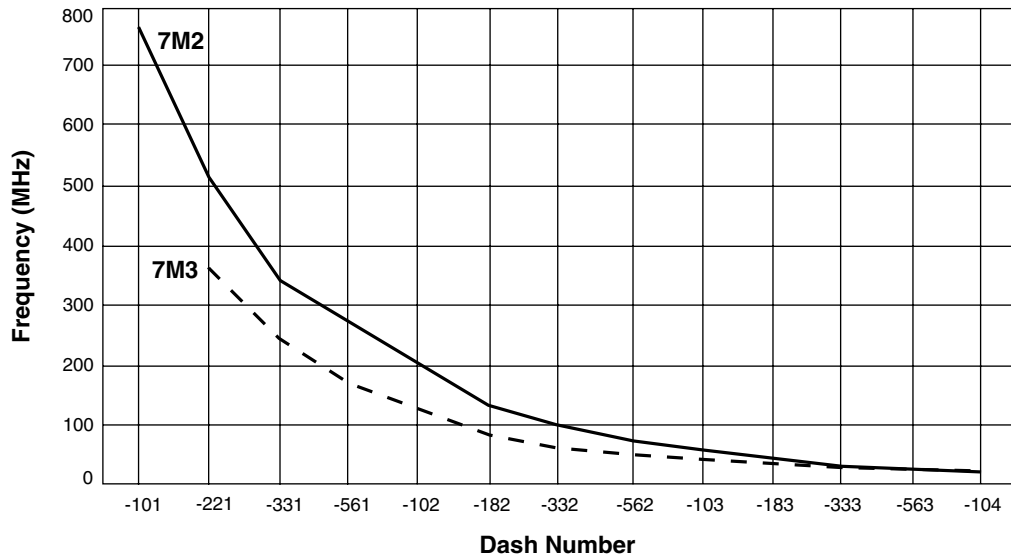
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# “Slot Seven” 7 mm Tunable Inductors

## Typical Self Resonant Frequency

At nominal inductance



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