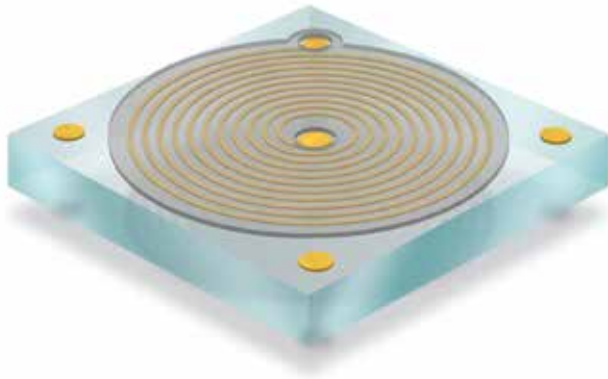


## Inductor Coils



Inductor Coil

ATP introduces a new line of printed spiral inductor coils in a wide range of values from 2.2 nH to 112.7 nH. These coils have been modeled and optimized using advanced computer automated design tools to produce data and graphs to help you utilize these devices in your own thin-film or hybrid designs. These printed inductors can be used in a wide variety of applications from DC and RF filtering to gain shaping and equalization circuits. Use them in a new design approach or to enhance or modify a current design for a specific performance you desire!

These spiral inductors are designed with thick Au conductors on fused silica quartz to minimize series resistance and promote high Q values. The coils are offered with or without backside metallization to offer you the ability to mount in various applications, utilizing isolated or grounded configurations. Supporting graphs and data are available for these two configurations. They also have additional pads located around the coil to help you customize and fine tune in your final values desired. They are protected with a polyimide coating to help resist in scratching, bridging or shorting during assembly and tuning.

Material: 0.010" (0.254 mm) Thick quartz/fused Silica (SiO<sub>2</sub>)

Metalization A Side:

- TiW = 400 to 800 Å (0.04–0.08 Microns)
- Au = 250 μ" (6.35 Microns) minimum

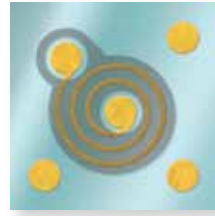
No Metalization on B Side

Critical Dimensions:

- Line = 0.0006" ±0.0001 (0.01524 mm ±0.00254)
- Gap = 0.001" ±0.0001 (0.0254 mm ±0.00254)

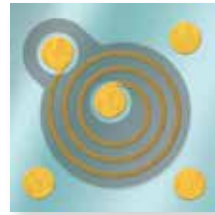
Polyimide = 3–6 Microns

If you do not see a value that fits your exact application, contact ATP Sales and we will custom fabricate the exact printed coil you desire.



### ATP-I-010-Q-022

Inductor Turns: 2.5  
Inductance (L): 2.2nH  
Q: 4.5  
Part Size: 0.022" x 0.022"  
0.559mm x 0.559mm



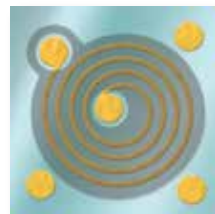
### ATP-I-010-Q-350

Inductor Turns: 3.0  
Inductance (L): 3.5nH  
Q: 4.5  
Part Size: 0.022" x 0.022"  
0.559mm x 0.559mm



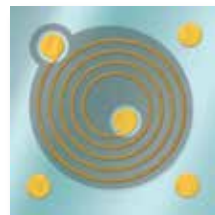
### ATP-I-010-Q-390

Inductor Turns: 3.5  
Inductance (L): 3.9nH  
Q: 5.2  
Part Size: 0.022" x 0.022"  
0.559mm x 0.559mm



### ATP-I-010-Q-730

Inductor Turns: 4.0  
Inductance (L): 7.3nH  
Q: 5.9  
Part Size: 0.025" x 0.025"  
0.635mm x 0.635mm



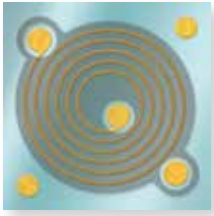
### ATP-I-010-Q-120

Inductor Turns: 4.5  
Inductance (L): 12.0nH  
Q: 7.0  
Part Size: 0.030" x 0.030"  
0.762mm x 0.762mm

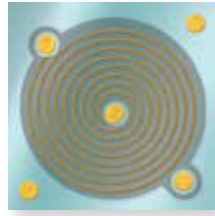


### ATP-I-010-Q-158

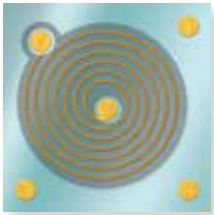
Inductor Turns: 5.0  
Inductance (L): 15.8nH  
Q: 8.1  
Part Size: 0.030" x 0.030"  
0.762mm x 0.762mm



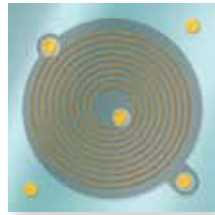
**ATP-I-010-Q-196**  
 Inductor Turns: 5.5  
 Inductance (L): 19.6nH  
 Q: 8.6  
 Part Size: 0.032" x 0.032"  
 0.813mm x 0.813mm



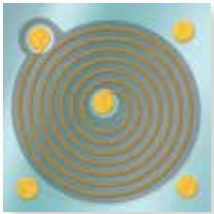
**ATP-I-010-Q-406**  
 Inductor Turns: 8.25  
 Inductance (L): 40.6nH  
 Q: 10.9  
 Part Size: 0.038" x 0.038"  
 0.965mm x 0.965mm



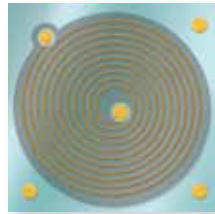
**ATP-I-010-Q-219**  
 Inductor Turns: 6.5  
 Inductance (L): 21.9nH  
 Q: 9.6  
 Part Size: 0.034" x 0.034"  
 0.864mm x 0.864mm



**ATP-I-010-Q-783**  
 Inductor Turns: 9.5  
 Inductance (L): 78.3nH  
 Q: 18.1  
 Part Size: 0.050" x 0.050"  
 1.270mm x 1.270mm



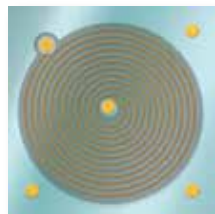
**ATP-I-010-Q-264**  
 Inductor Turns: 7.0  
 Inductance (L): 26.4nH  
 Q: 9.4  
 Part Size: 0.032" x 0.032"  
 0.813mm x 0.813mm



**ATP-I-010-Q-877**  
 Inductor Turns: 10.5  
 Inductance (L): 87.7nH  
 Q: 14.7  
 Part Size: 0.046" x 0.046"  
 1.168mm x 1.168mm



**ATP-I-010-Q-282**  
 Inductor Turns: 7.5  
 Inductance (L): 28.2nH  
 Q: 8.9  
 Part Size: 0.032" x 0.032"  
 0.813mm x 0.813mm



**ATP-I-010-Q-1127**  
 Inductor Turns: 12.0  
 Inductance (L): 112.7nH  
 Q: 16.9  
 Part Size: 0.052" x 0.052"  
 1.321mm x 1.321mm

ATP Part Number	Inductor Turns	Inductance (L)	Q	Part Size
ATP-I-010-Q-022	2.5	2.2nH	4.5	0.022" x 0.022" (0.559mm x 0.559mm)
ATP-I-010-Q-350	3.0	3.5nH	4.5	0.022" x 0.022" (0.559mm x 0.559mm)
ATP-I-010-Q-390	3.5	3.9nH	5.2	0.022" x 0.022" (0.559mm x 0.559mm)
ATP-I-010-Q-730	4.0	7.3nH	5.9	0.025" x 0.025" (0.635mm x 0.635mm)
ATP-I-010-Q-120	4.5	12.0nH	7.0	0.030" x 0.030" (0.762mm x 0.762mm)
ATP-I-010-Q-158	5.0	15.8nH	8.1	0.030" x 0.030" (0.762mm x 0.762mm)
ATP-I-010-Q-196	5.5	19.6nH	8.6	0.032" x 0.032" (0.813mm x 0.813mm)
ATP-I-010-Q-219	6.5	21.9nH	9.6	0.034" x 0.034" (0.864mm x 0.864mm)
ATP-I-010-Q-264	7.0	26.4nH	9.4	0.032" x 0.032" (0.813mm x 0.813mm)
ATP-I-010-Q-282	7.5	28.2nH	8.9	0.032" x 0.032" (0.813mm x 0.813mm)
ATP-I-010-Q-406	8.25	40.6nH	10.9	0.038" x 0.038" (0.965mm x 0.965mm)
ATP-I-010-Q-783	9.5	78.3nH	18.1	0.050" x 0.050" (1.270mm x 1.270mm)
ATP-I-010-Q-877	10.5	87.7nH	14.7	0.046" x 0.046" (1.168mm x 1.168mm)
ATP-I-010-Q-1127	12.0	112.7nH	16.9	0.052" x 0.052" (1.321mm x 1.321mm)

## Inductor Coils Engineering Kit

ATP offers Inductor Coils Engineering Kits which contain the entire ATP Inductor Coils product line in one complete package to meet your prototyping needs.

Each kit contains the part numbers and quantities listed below. Die size ranges from 0.022" x 0.022" (0.559 mm x 0.559 mm) to 0.052" x 0.052" (1.321 mm x 1.321 mm).

Material: 0.010" (0.254 mm) Thick quartz/fused Silica (SiO<sub>2</sub>)

Metalization A Side:

- TiW = 400 to 800 Å (0.04–0.08 Microns)
- Au = 250 μ" (6.35 Microns) minimum

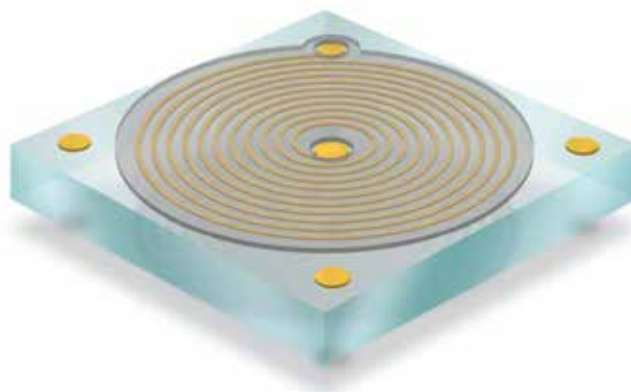
No Metalization on B Side

Critical Dimensions:

- Line = 0.0006" ±0.0001 (0.01524 mm ±0.00254)
- Gap = 0.001" ±0.0001 (0.0254 mm ±0.00254)

Polyimide = 3–6 Microns

Kit part number: ATP-I-010-Q-ENGGIT



Part Number	Inductor Turns	Inductance (L)	Q	Quantity
ATP-I-010-Q-022	2.5	2.2 nH	4.5	10
ATP-I-010-Q-350	3.0	3.5 nH	4.5	10
ATP-I-010-Q-390	3.5	3.9 nH	5.2	10
ATP-I-010-Q-730	4.0	7.3 nH	5.9	10
ATP-I-010-Q-120	4.5	12.0 nH	7.0	10
ATP-I-010-Q-158	5.0	15.8 nH	8.1	10
ATP-I-010-Q-196	5.5	19.6 nH	8.6	10
ATP-I-010-Q-219	6.5	21.9 nH	9.6	10
ATP-I-010-Q-264	7.0	26.4 nH	9.4	10
ATP-I-010-Q-282	7.5	28.2 nH	8.9	10
ATP-I-010-Q-406	8.25	40.6 nH	10.9	10
ATP-I-010-Q-783	9.5	78.3 nH	18.1	10
ATP-I-010-Q-877	10.5	87.7 nH	14.7	10
ATP-I-010-Q-1127	12.0	112.7 nH	16.9	10

Visit [www.thinfilm.com/coils.html](http://www.thinfilm.com/coils.html) for each part's dimensions.

ATP offers build-to-print service for a wide range of materials and metalization schemes. ATP fabricates circuits on substrates from As-Fired Alumina to Beryllium Oxide to Fused Silica, even Silicon. Metalizations range from the standard TaN/TiW/Au to films including Nickel, Palladium, or Titanium.

At ATP, we constantly evolve our processing and material capabilities to reflect our customer's changing needs. If you have a circuit requirement that is out of the "normal" thin-film type, please contact ATP at 510.661.4287 or visit our web site at [www.thinfilm.com](http://www.thinfilm.com). ATP would enjoy discussing your application with you and working to develop a solution.