Spiral Inductors
For RF/Microwave Applications
Data Sheet

Features
- Extremely High self-resonant Frequency performance
- Hi-Rel Thin-Film Gold construction on Quartz
- Designed, Modeled and Optimized using latest CAD tools for RF/Microwave circuits
- Circular Spiral inductors provide better high frequency performance over rectangular designs
- Quartz substrate reduces losses by decreasing series resistance, provide high Q, and much higher self-resonant frequencies
- Polyimide Protective coating over coil
- Low parasitic capacitance

Applications
- RF Tuning Circuits
- Gain matching
- RF choke for DC biasing

For HiRel Commercial, Military and Space applications

Patent Pending

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Symbol</th>
<th>Units</th>
<th>MIN</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>$T_{MO}$</td>
<td>° C</td>
<td>-55</td>
<td>+125</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>$T_{MS}$</td>
<td>° C</td>
<td>-65</td>
<td>+150</td>
</tr>
</tbody>
</table>
Spiral Inductors are Stock items and can be shipped within 24 hrs

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Size</th>
<th>Turns</th>
<th>Inductance (nH)</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMT-I0172</td>
<td>0.025 X 0.025</td>
<td>3.5</td>
<td>4.2</td>
<td>8</td>
</tr>
<tr>
<td>AMT-I0173</td>
<td>0.030 X 0.030</td>
<td>4.5</td>
<td>11.4</td>
<td>10</td>
</tr>
<tr>
<td>AMT-I0174</td>
<td>0.030 X 0.030</td>
<td>5.5</td>
<td>15.5</td>
<td>12</td>
</tr>
</tbody>
</table>

Please contact factory for other Inductance values and custom configurations

Two port lumped-element equivalent circuit for spiral inductor
Measured Frequency Response up to 20 GHz

Measured Plot of 4.5 Turn Model AMT-I0173

Inductor mounted in a housing with SMA connector, Center pad attached to 0.015” pin with 0.001” gold wire and outer pad attached to the ground with 0.001” gold wire
Outline: Dimensions in inches

Thickness: 0.010" for all Inductors
Bottom Side: No Metallization

Outline: AMT-I0172

Outline: AMT-I0173 & AMT-I0174
Contact us for custom configurations and special requirements.

Our highly experienced team of engineers can quickly identify and implement innovative solutions using latest technology to improve performance and reduce cost.

- Add additional functionality can be added
- Custom Pad size, thickness and metallizations are available

Agile Microwave Technology Inc is the logical choice for all your commercial or military RF/Microwave components/module requirements.

The Inductance values are typical only and may very significantly depending on wire bond lengths and Inductor attach.

Contact Information:

101 Bloomingdale Road
Hicksville, NY 11801
Phone: (516) 931-1760
Fax: (212) 374-1153

info@agilemwt.com www.agilemwt.com

AMTI reserves the right to change at any time without notice the design, specifications, function/form or availability of its products described herein. The buyer/customer has the responsibility to validate the performance for their applications. No liability is assumed as result of use of this product and no patent licenses are implied. AMTI products are not authorized for use as critical components in life support devices or systems.