HIGH FREQUENCY INDUCTOR MODELING
UTILIZNG MLISoft®
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The new Johanson Technology line of high frequency ceramic inductors utilize a spiral conductive element printed onto a ceramic core. The 0402 size inductor is available from 1.0 nH to 100 nH, the 0603 from 1.5 nH to 220 nH, and the 0805 from 1.5 nH to 680 nH.

In addition to finding the Q value at any frequency up to the device's self resonant frequency, the MLISoft® program displays the S-Parameters or SPICE model for any of the inductors that we offer.

The S-Parameters of our inductors are measured on a HP8720C Vector Network Analyzer. We measure the S-Parameters of our inductors in two different configurations using a series configured test fixture, and a shunt configured test fixture.   Both of these fixtures are made by Intercontinental Microwave and can be seen on their web page at www.icmicrowave.com.   In either case, TRL* calibration is used.   This measured data is directly reported as "series" and "shunt" in the MLISoft® .s2p file, and can be downloaded to the user's desired directory.

The Q of the parts are measured on a HP4291A Impedance Analyzer used in conjunction with a HP16192A test fixture. Note that this fixture measures in series mount only, and therefore, Q data for shunt mode is not reported in MLISoft®.

The values of Q reported in MLISoft® are derived from the SPICE model. The SPICE model's component values are determined by fitting the measured S-Parameter and measured Q data to the model.

MLISoft® allows one to plot the data graphically as well as read the data numerically.