Spiral Inductors

Description

The **MicroMetrics** MMI 300 series of Spiral Inductors are formed by photolithography and plating techniques on quartz substrates. They eliminate the need for hand forming and "staking" of coil in hybrid circuits.

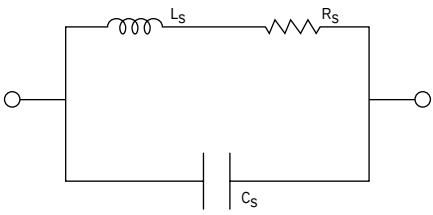
They provide uniformity, durability and repeatability in circuit fabrication.

The coils are polyimide coated to protect from ambient contaminants, and to eliminate the need for conformal coating. Quartz substrates are rugged and reduce dielectric losses. Chips may be bonded using either conductive or non conductive epoxies, and wire bonded with gold wire or ribbon by thermocompression bonding.

Applications

The Spiral Inductors are ideally suited for bias injection into oscillators, amplifiers and microwave switches (bias tees). They can also be used to bias tuning varactors, PIN diodes, transistors and monolithic circuits.

EQUIVALENT CIRCUIT



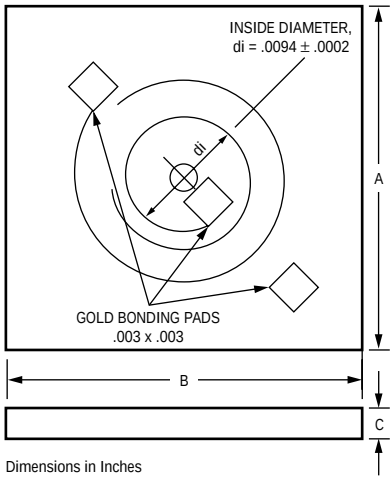
Features

- No Need for "Staking" Coil
- Passivated Protective Coating Over Coil
- Dimensional Uniformity
- Planar Solid Structure Coil

Packaging

- Chip

Chip Outline



Dimensions in Inches

DIMENSIONS: INCHES

DIM "A" MAX	DIM "B" MAX	DIM "C" MAX	Part Number
.040	.040	.012	MMI301
.045	.045	.012	MMI302
.050	.050	.012	MMI303
.065	.065	.012	MMI304

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Electrical Characteristics

# of Turns	Inductance L_S(nH) MIN/TYP/MAX	Series Resistance,R_S DC	Series Resistance,R_S 1GHz	Q At F_t MIN/MAX	Test Frequency,F_t (GHz)	Resonant Frequency,F_r (GHz)	Part Number
5½	12/15/18	2.8	4.5	25/30	1.5	6.4	MMI301
7½	24/30/36	4.0	6.0	26/30	1.2	5.3	MMI302
9½	42/50/58	6.0	8.5	23/27	1.0	4.2	MMI303
12½	67/75/83	8.5	15	20/24	1.0	3.0	MMI304

Notes:
L_S, R_S and F_r data measured using an HP 8510 network analyzer.
Inductor cross section is approximately 16 microns wide and 5 microns thick.
Maxium current rating: 250 mA.
Other values available upon request.