<http://hyperphysics.phy-astr.gsu.edu/hbase/electric/indsol.html#c1>

<http://hyperphysics.phy-astr.gsu.edu/hbase/magnetic/indcur.html>

<https://www.changpuak.ch/electronics/calc_21.php>

<https://hamwaves.com/inductance/en/index.html#input>

Mas 4mm coil

D = 0.75mm

L = 31mm+108mm+a két beforrasztott maradék

8 menet

QOIL™ — https://hamwaves.com/qoil/ — v20181217

Coil design 2020-01-29 19:13

INPUT

mean diameter of the coil D = 4.5 mm

number of turns N = 8

length of the coil ℓ = 10 mm

wire or tubing diameter d = 0.75 mm

design frequency f = 400 MHz

The (plating) material is hard-drawn copper.

INTERMEDIATE RESULTS

winding pitch p = 1.25 mm

physical conductor length ℓ\_w\_phys = 113.5 mm

effective pitch angle ψ = 5.31°

RESULTS

Effective equivalent circuit

effective series inductance @ design frequency L\_eff\_s = 0.100 μH

effective series reactance @ design frequency X\_eff\_s = 251.9 Ω

effective series AC resistance @ design frequency R\_eff\_s = 0.423 Ω

effective unloaded quality factor @ design frequency Q\_eff = 595

Lumped circuit equivalent

f-independent series inductance; geometrical formula L\_s = 0.091 μH

series AC resistance @ design frequency R\_s = 0.348 Ω

parallel stray capacitance @ design frequency C\_p = 0.2 pF

Self-resonant frequency f\_res = 1165.714 MHz