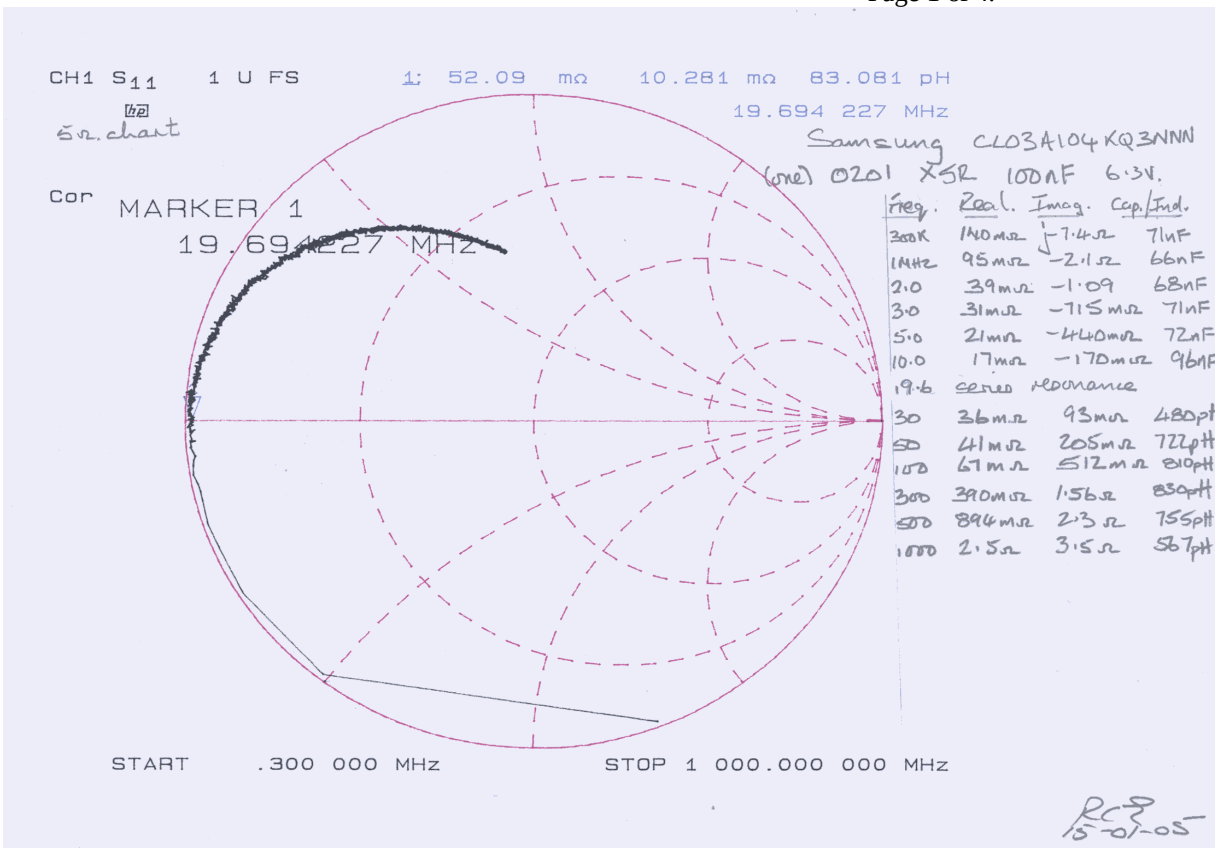
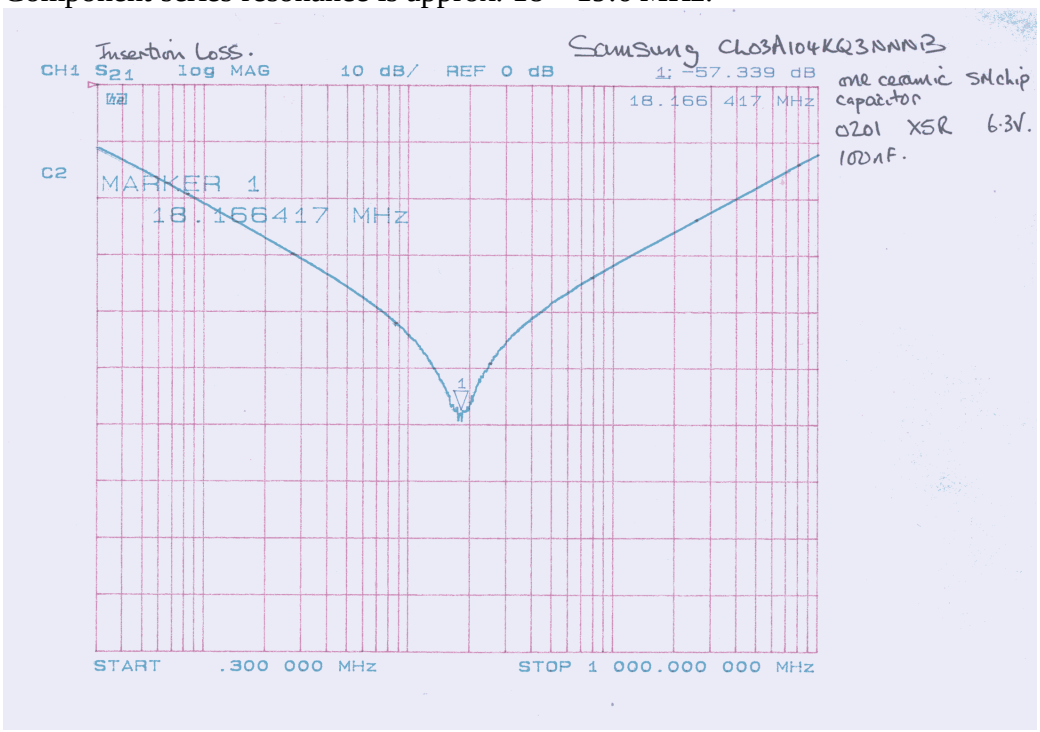
One 100 nF X5R 6.3V 0201 ceramic chip SM capacitor Samsung CL03A104KQ3NNN.



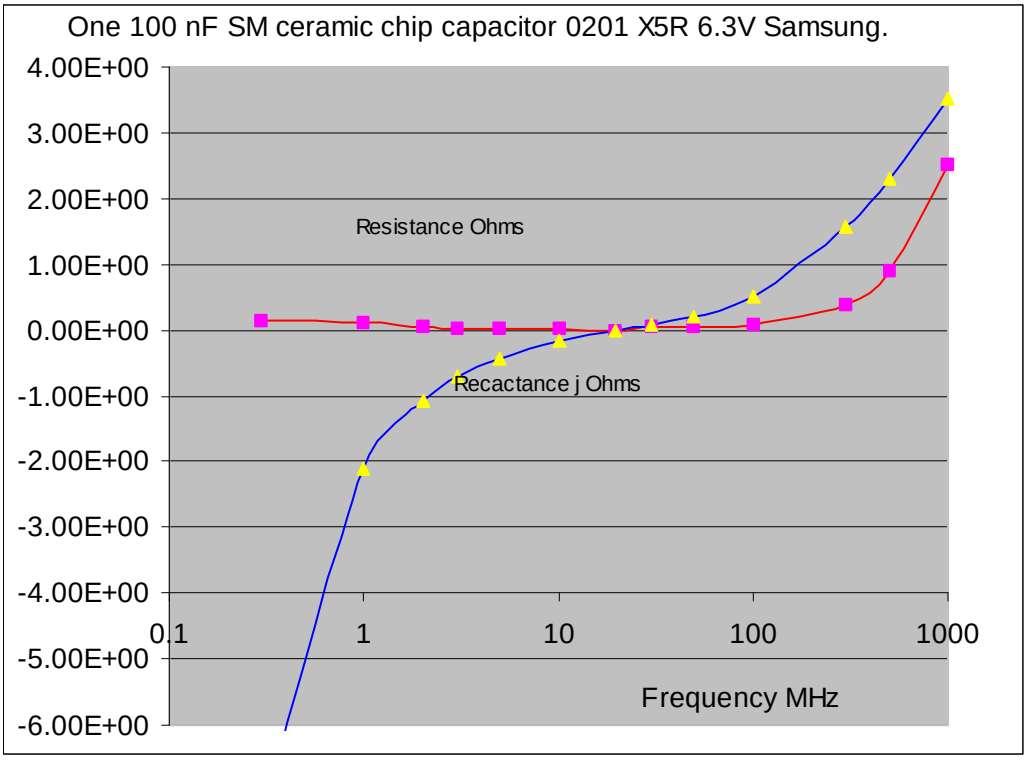
Smith Chart plot of complex reflection coefficient S_{11} normalized to 5 Ohms.
Component series resonance is approx. 18 – 19.6 MHz.

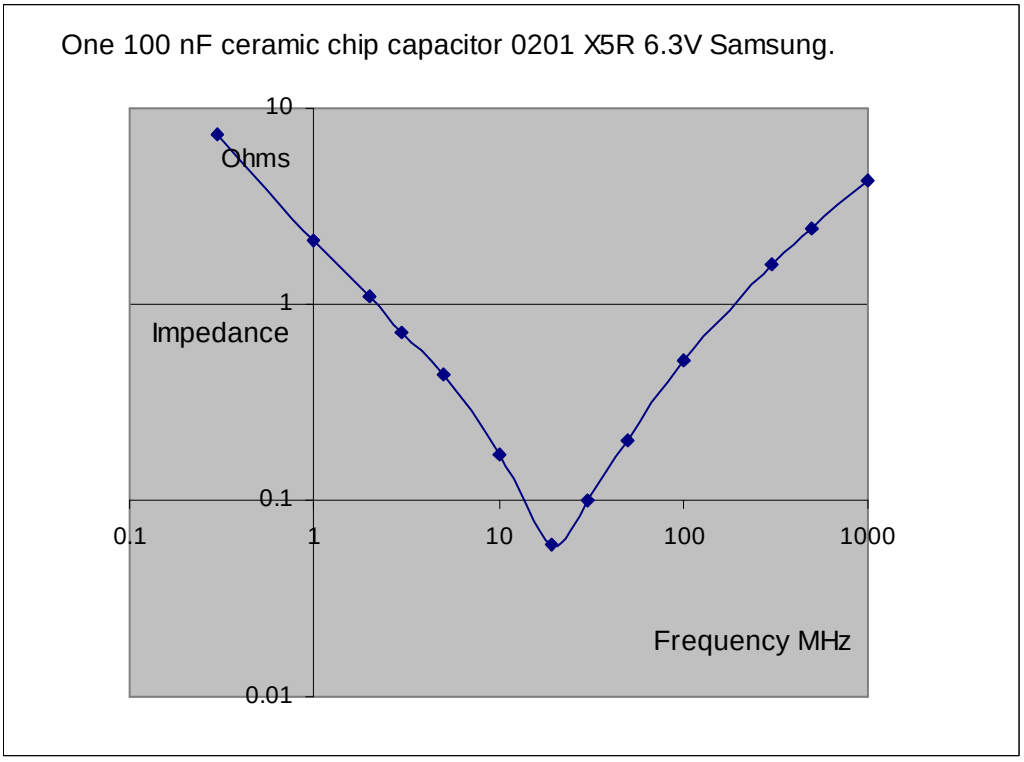


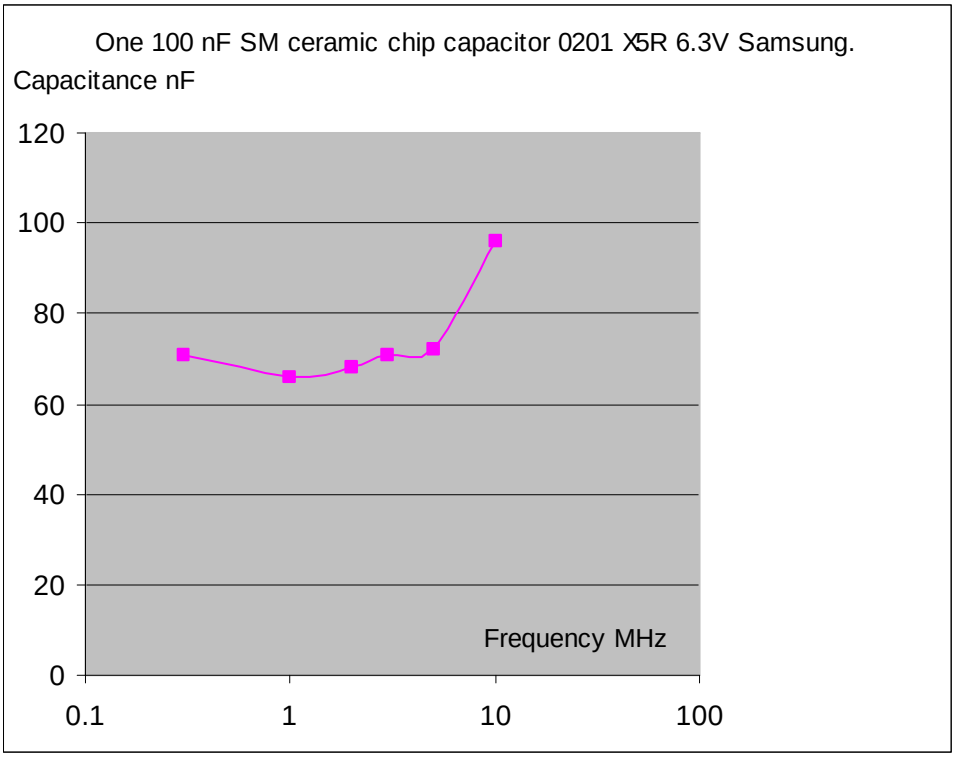
Insertion loss S21.

Notes:

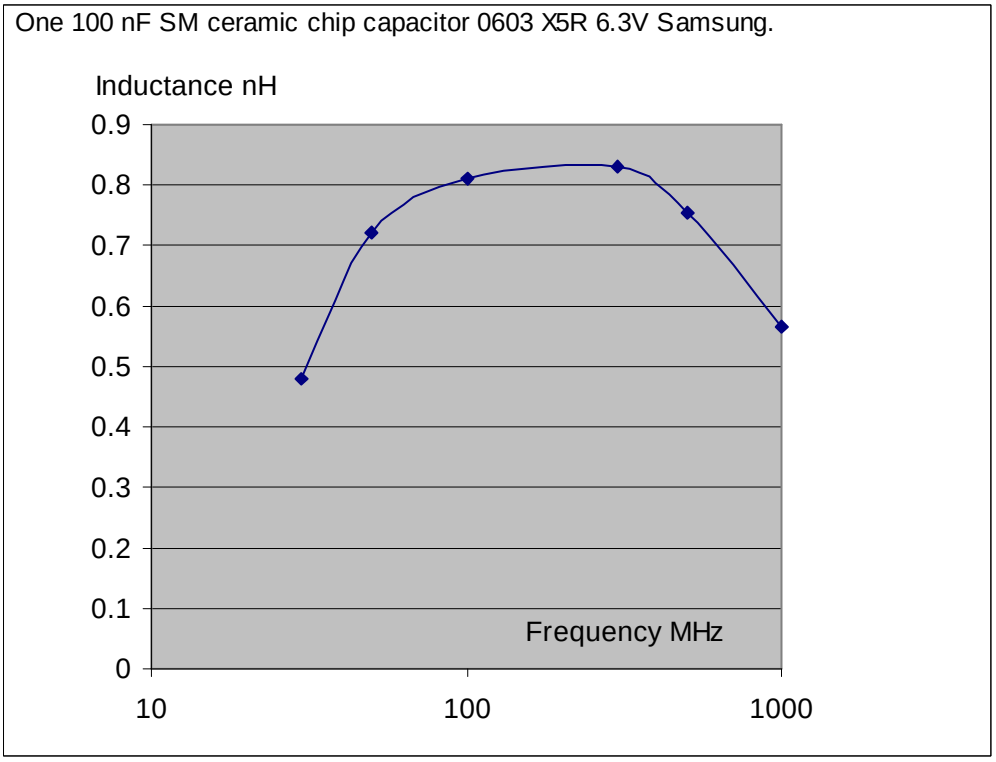
Compared to Murata equivalent, this capacitor has a slightly lower SRF probably because it has a slightly higher capacitance value. Below the SRF its ESR appears to be one half of the Murata type.

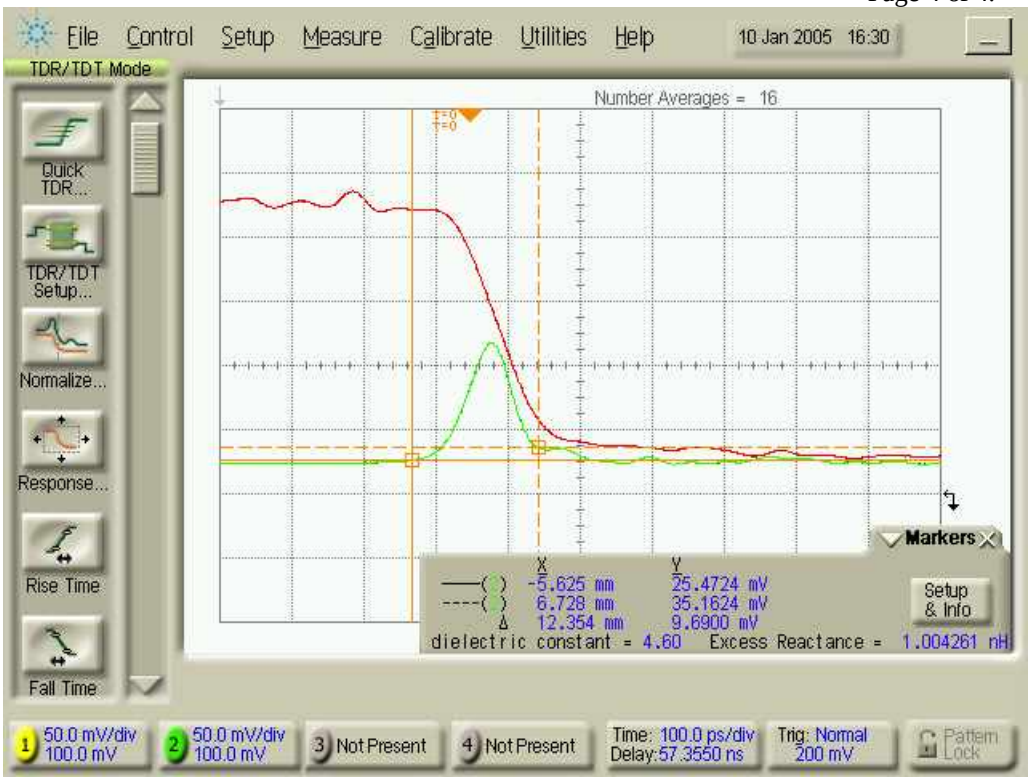

One 100 nF SM ceramic chip capacitor 0201 X5R 6.3V Samsung.
4.00E+00
3.00E+00
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
-4.00E+00
-5.00E+00
-6.00E+00
Resistance Ohms
Recactance j Ohms
0.1
1
10
100
1000
Frequency MHz


One 100 nF ceramic chip capacitor 0201 X5R 6.3V Samsung.
10
Ohms
1
Impedance
0.1
0.01
0.1
1
10
100
1000
Frequency MHz

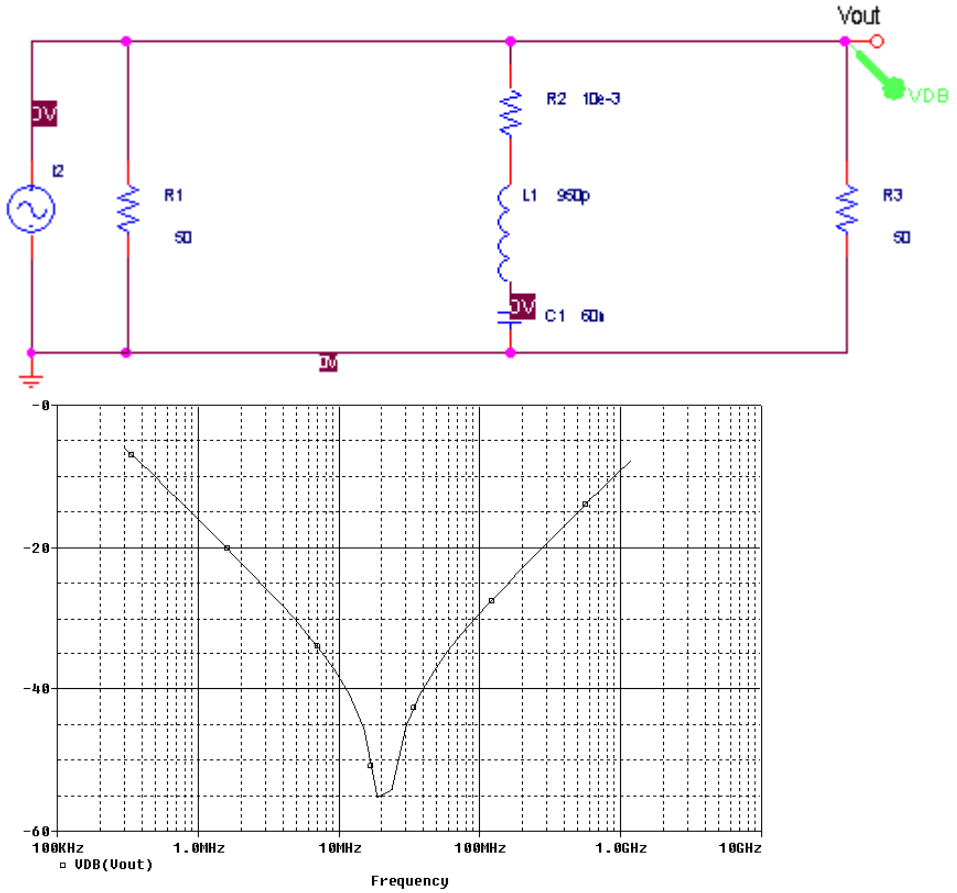


The Murata website shows data which confirms that the capacitance value at high frequency (above the 1KHz measurement frequency) falls off to an "apparent value" of approx. 60nF. This may be a function of reducing physical capacitor size.





TDT plot (in green) showing value of inductance associated with capacitor.



PSpice simulation of S21 to extract parameters primarily from the position and depth of SRF. The SRF corresponds to measurement.