

Power over coax (PoC) filter solution for automotive application

Date:- 16th July, 2019

Overview:

Following application is designed to cover the frequency range from 1 MHz to 2 GHz for an impedance of 1kΩ, and 0.3A max current.

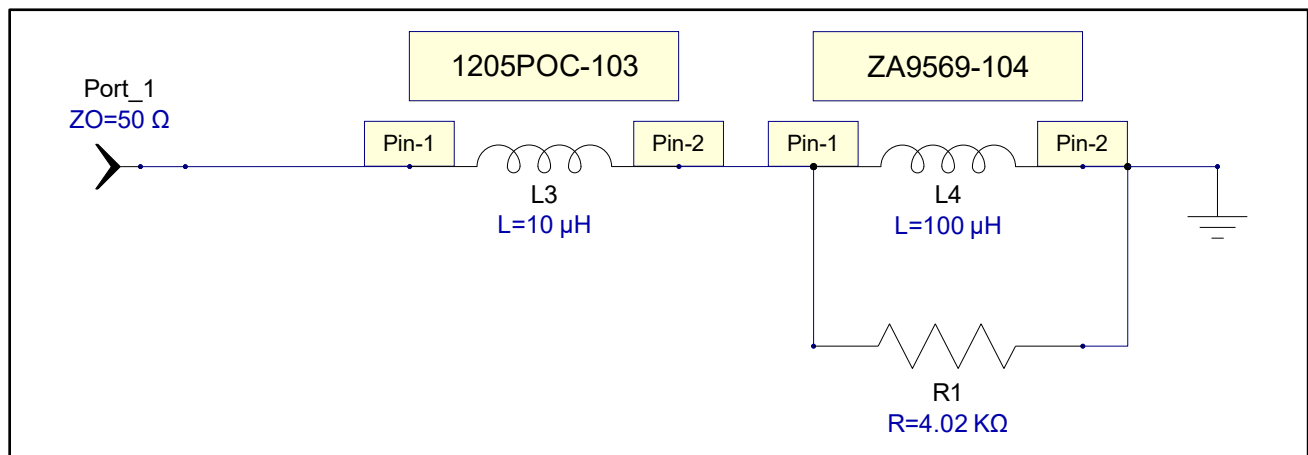
Coilcraft Solution:

Inductors	DCR (Ohms) (max)	Max area (mm ²)	Current (A)		Notes
			I _{rms}	I _{sat} (30%)	
1205POC-103 (10uH)	1.000	4.48	0.560 (40C rise)	0.670	4.02k resistor in parallel
ZA9569-104 (100uH)	0.500	16.24	0.600 (20C rise)	0.430	
Total	1.500	20.72			

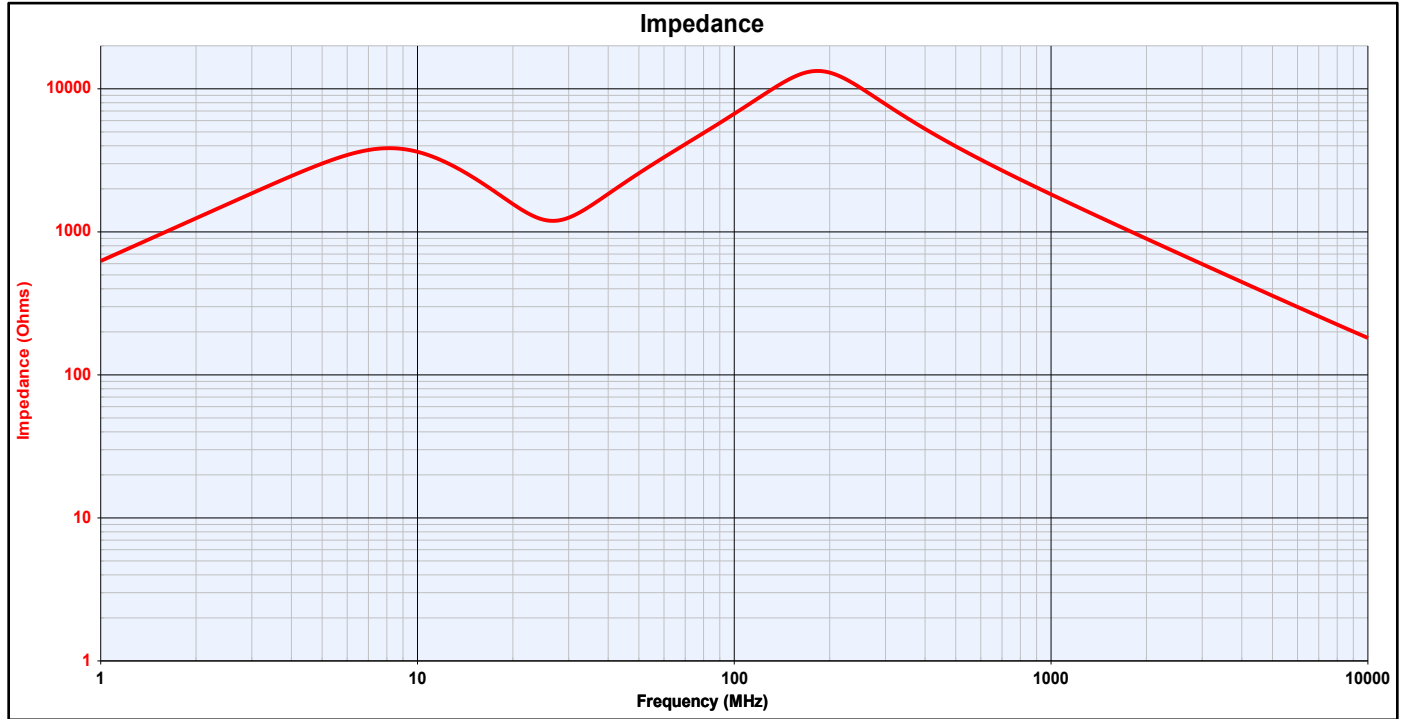
Schematic and Performance:-

Impedance vs Frequency:

Schematic:

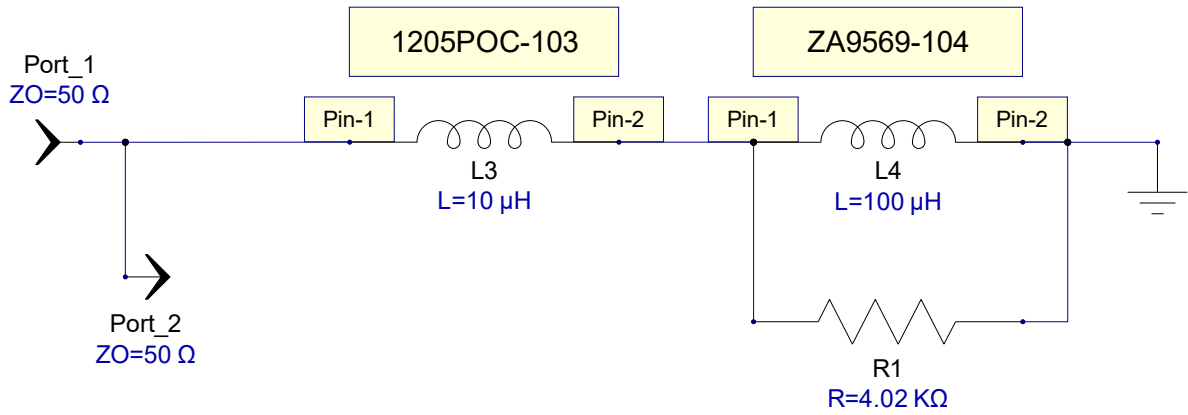


Performance:



S-Parameters:

Schematic:



Performance:

