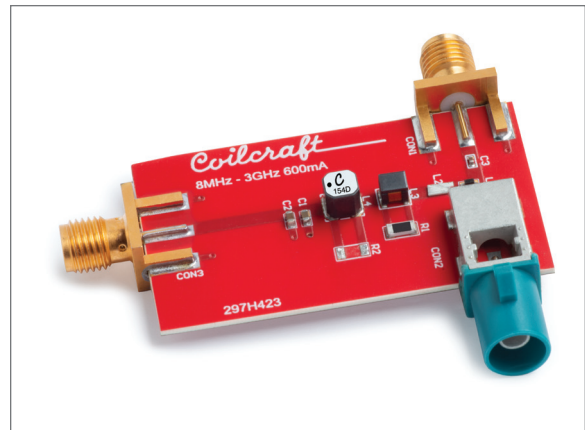


PoC Filter Solution – SMD-POC-025

Overview

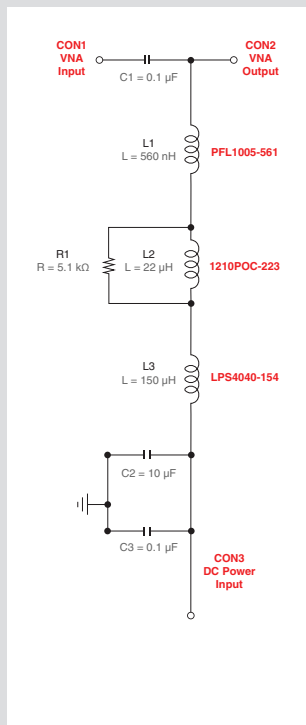
The SMD-POC-025 is for PoC applications spanning a 1 MHz to 3 GHz frequency range, injecting a current of 0.28 Amps at 105°C. The impedance measurement was generated in simulation using measured Z-Parameter files for each component. S-Parameters were generated by taking two SMD-POC-025 boards connected by Leoni Dacar-302 coaxial cable. Using a DC Power supply, the DC_{in} was connected to CON3 of the first board, while the DC_{out} was connected to the CON3 of the second board to close the circuit. All measurements were at room temperature and are considered typical responses for the solution.



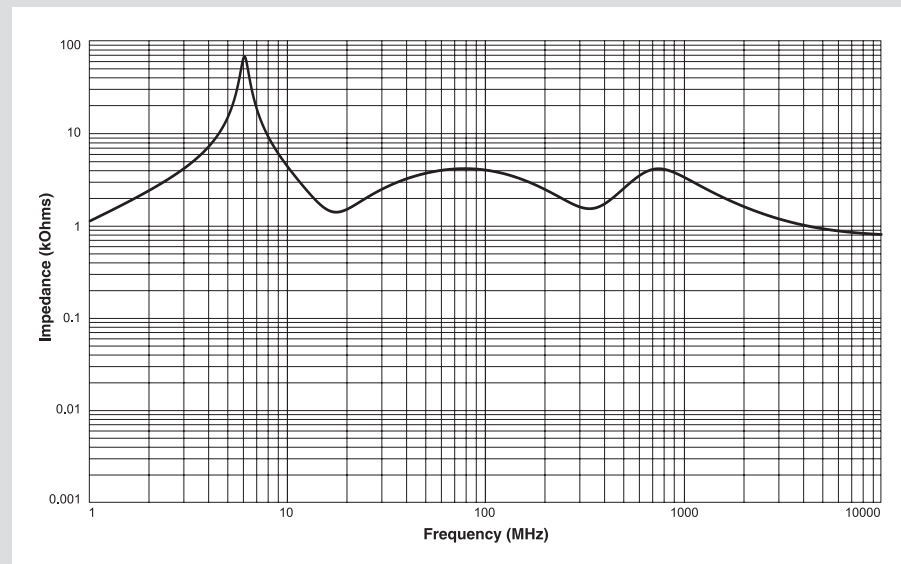
Coilcraft 280 mA at 105°C Solution

Inductors	DCR max. (Ohms)	Max. Area (mm ²)	Isat (A) 30%		I _{rms} (A)		Notes
			25°C	125°C	25°C	125°C	
PFL1005-561 (0.56 μH)	0.540	0.724	0.49	0.33	0.53 (40°C rise)	0.30 (15°C rise)	
1210POC-223 (22 μH)	0.880	8.811	0.72	0.45	0.70 (40°C rise)	0.40 (15°C rise)	5.1kΩ resistor in parallel
LPS4040-154 (150 μH)	0.680	15.81	0.32	0.22	0.65 (40°C rise)	0.50 (40°C rise)	
Totals:	2.1	25.345					

Schematic

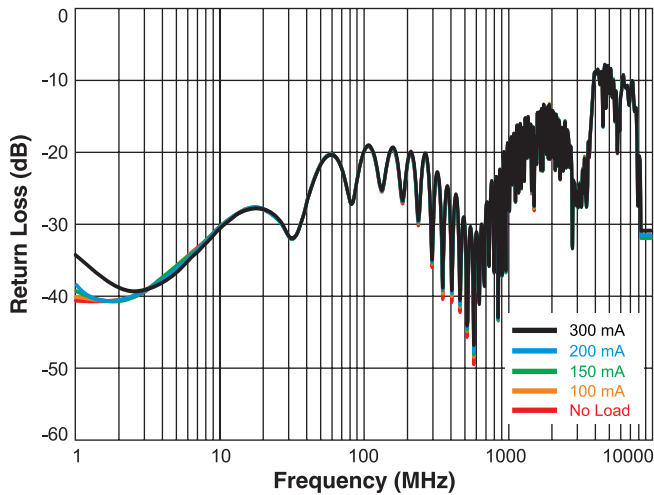


Impedance vs. Frequency

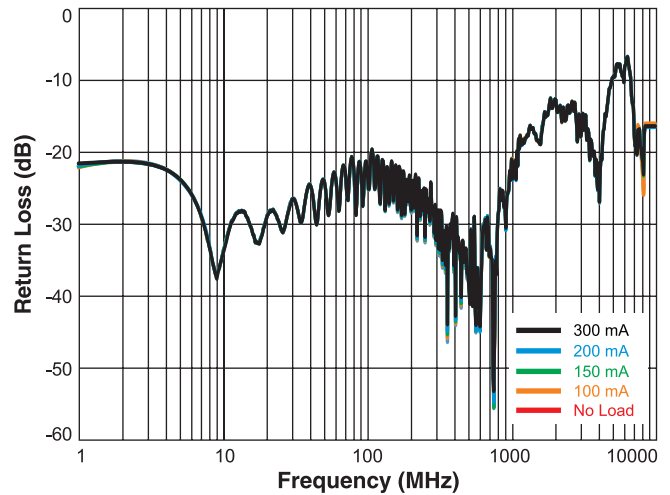


PoC Filter Solution – SMD-POC-025

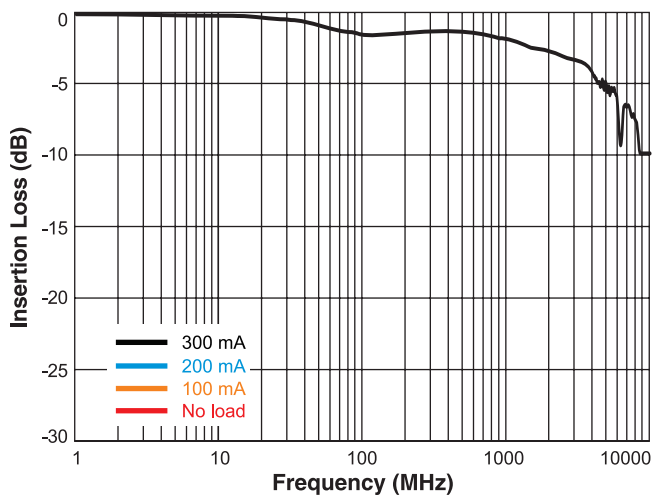
Return Loss (2 m cable)



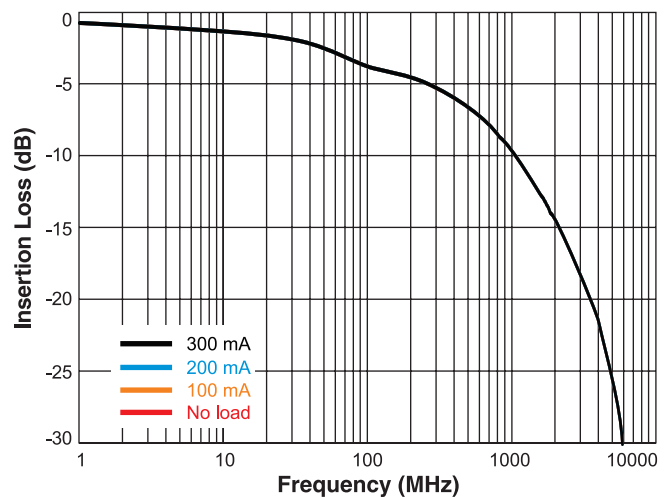
Return Loss (10 m cable)



Insertion Loss (2 m cable)



Insertion Loss (10 m cable)



PoC Filter Solution – SMD-POC-025

S-Parameters (280 mA, 2 m cable at temperature)

