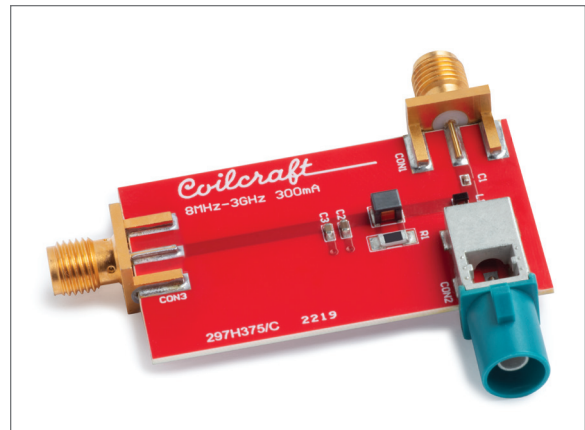


PoC Filter Solution – SMD-POC-029

Overview

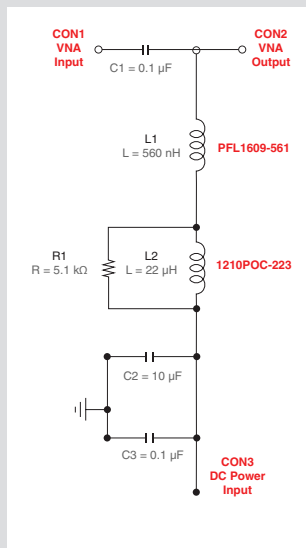
The SMD-POC-029 is for PoC applications spanning an 8 MHz to 3 GHz frequency range, injecting a current of 0.4 A at 125°C / 0.5 A at 105°C. The impedance measurement was generated in simulation using measured Z-Parameter files for each component. S-Parameters were generated by taking two SMD-POC-029 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.



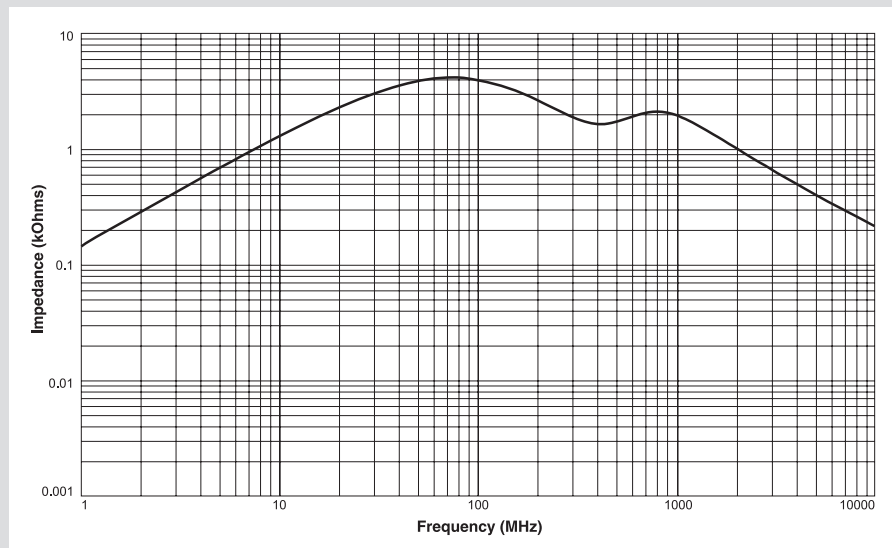
Coilcraft 400 mA at 125°C and 500 mA at 105°C Solutions

Inductors	DCR max. (Ohms)	Max. Area (mm ²)	Isat (A) 30%		I _{rms} (A)		Notes
			25°C	125°C	25°C	125°C	
PFL1609-561 (0.56 μH)	0.130	1.926	1.10	0.61	1.40 (40°C rise)	0.80 (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
Totals:	1.01	10.737					

Schematic

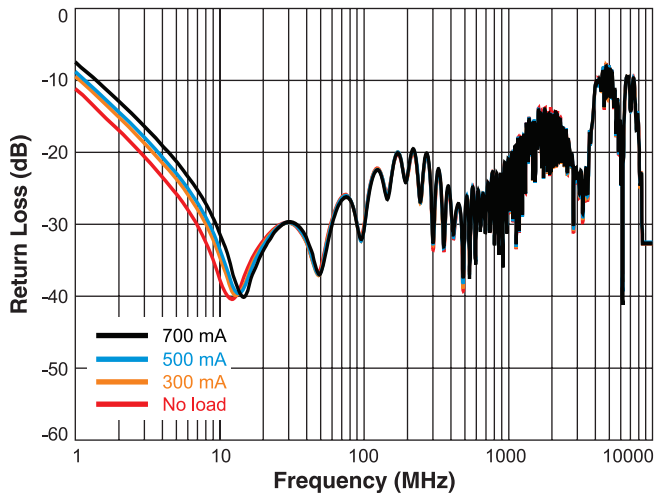


Impedance vs. Frequency

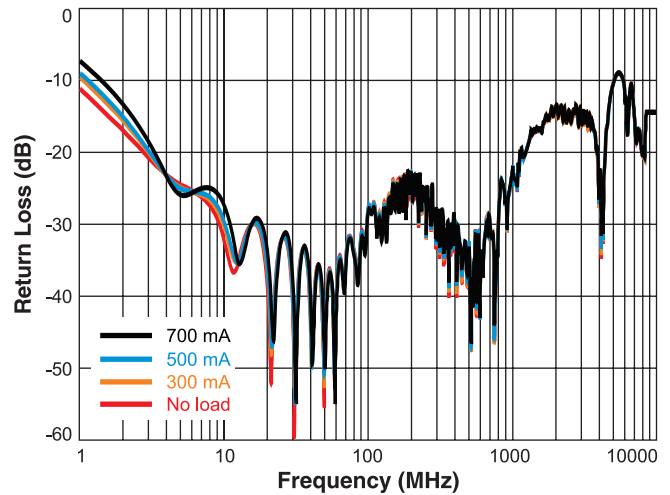


PoC Filter Solution – SMD-POC-029

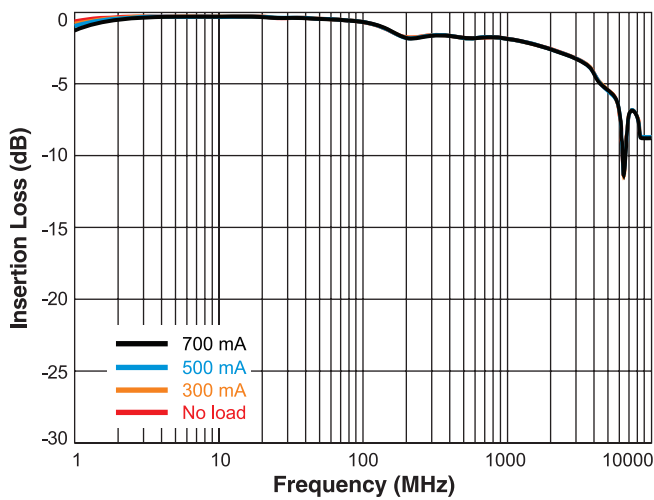
Return Loss (2 m cable)



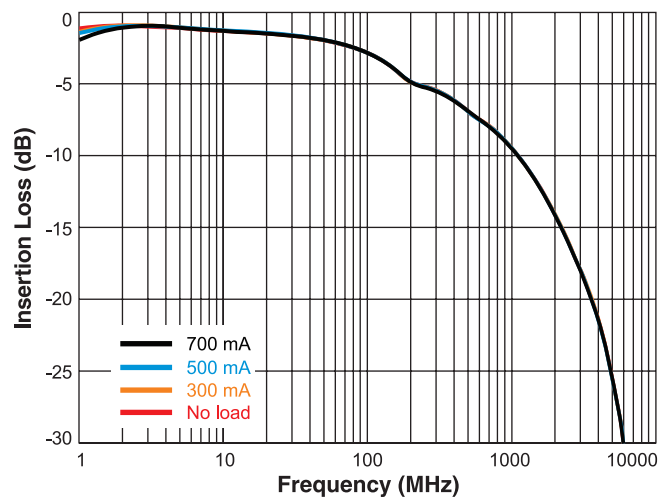
Return Loss (10 m cable)



Insertion Loss (2 m cable)



Insertion Loss (10 m cable)



PoC Filter Solution – SMD-POC-029

S-Parameters (500 mA, 2 m cable at temperature)

