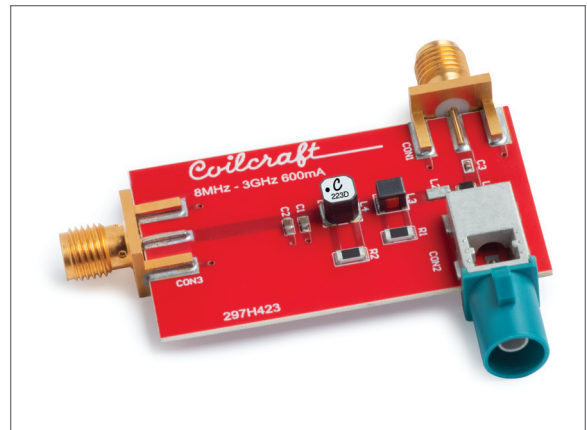


PoC Filter Solution – SMD-POC-035

Overview

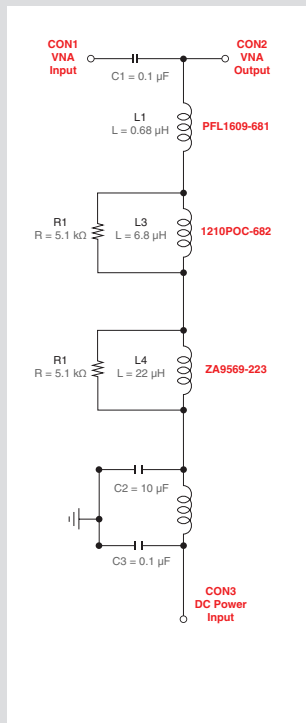
The SMD-POC-035 is for PoC applications spanning an 8 MHz to 3 GHz frequency range, injecting a current of 0.6 Amps at 125°C. The impedance measurement was generated in simulation using measured Z-Parameter files for each component. S-Parameters were generated by taking two SMD-POC-035 boards connected 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.



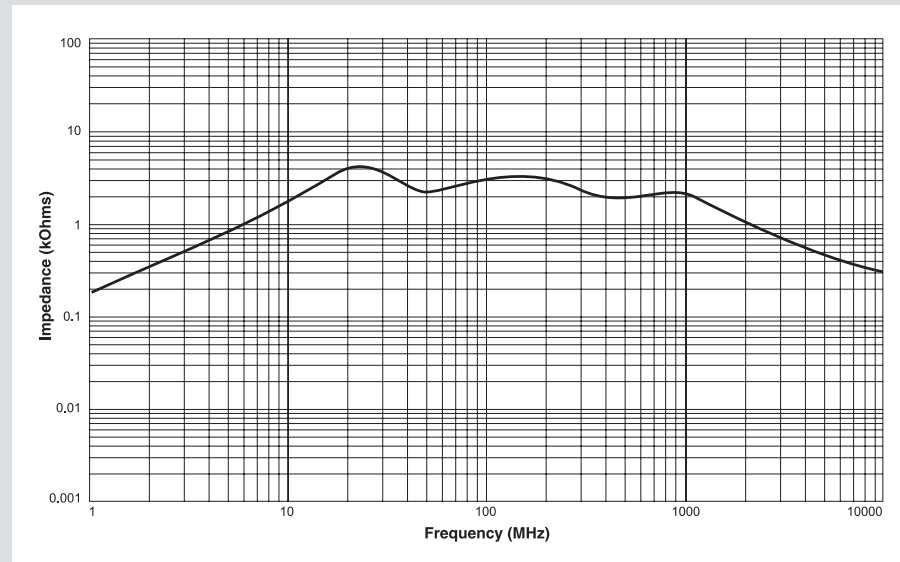
Coilcraft 600 mA at 125°C Solution

Inductors	DCR max. (Ohms)	Max. Area (mm ²)	Isat (A) 30%		Irms (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-682 (6.8 µH)	0.240	8.811	1.40	0.80	1.36 (40°C rise)	0.80 (15°C rise)	5.1kΩ resistor in parallel
ZA9569-223 (22 µH)	0.240	15.81	0.96	0.70	1.20 (40°C rise)	0.90 (40°C rise)	5.1kΩ resistor in parallel
Totals:	0.61	26.547					

Schematic

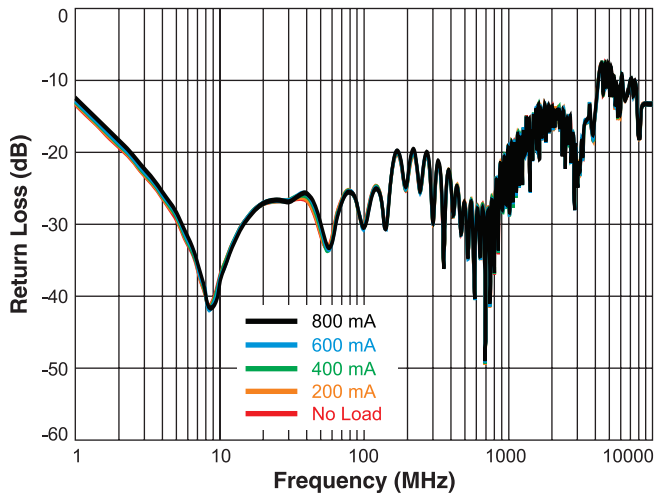


Impedance vs. Frequency

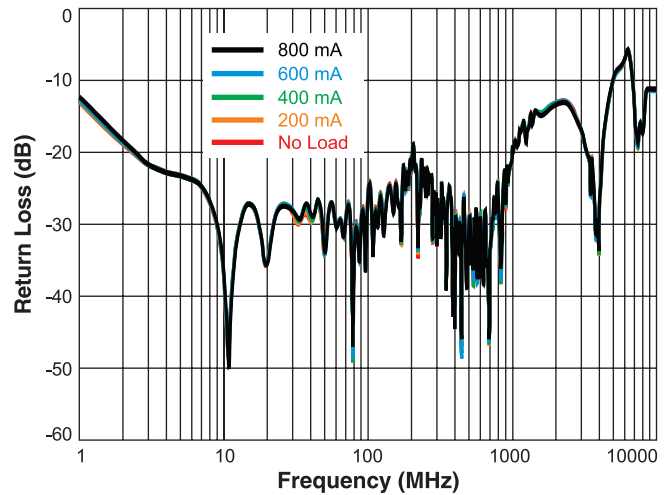


PoC Filter Solution – SMD-POC-035

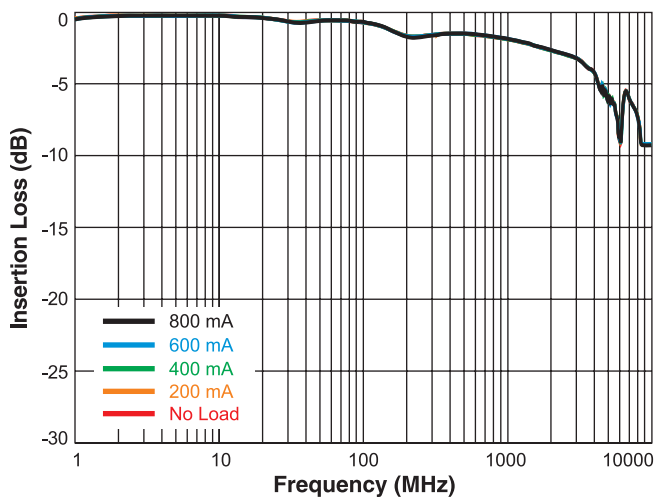
Return Loss (2 m cable)



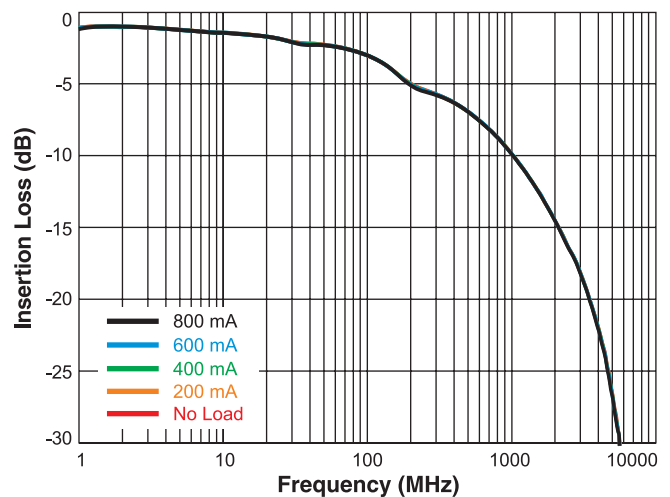
Return Loss (10 m cable)



Insertion Loss (2 m cable)



Insertion Loss (10 m cable)



PoC Filter Solution – SMD-POC-035

S-Parameters (600 mA, 2 m cable at temperature)

