

SPICE Model – 0805PB

This lumped-element (SPICE) model data simulates the frequency-dependent behavior of Coilcraft ferrite chip inductors within the frequency range shown in the accompanying table for each individual inductor.

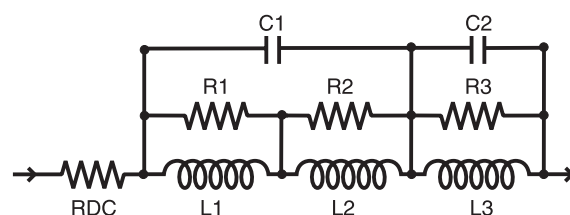
The data represents de-embedded measurements, as described below. Effects due to different customer circuit board traces, board materials, ground planes or interactions with other components are not included and can have a significant effect when comparing the simulation to measurements of the inductors using other production verification instruments and fixtures.

Lumped Element Modeling Method

Measurements were made using a 50 Ohm impedance analyzer. Fixture compensation was performed to remove fixture effects. No DC bias current was applied in any of the measurements. The lumped element values were determined by optimizing the simulation model to an average of the measurements. This method results in a model that represents as closely as possible the typical frequency-dependent behavior of the component within the model frequency range.

The equivalent lumped element model schematic is shown to the right. Each model should only be analyzed at the input and output ports. Individual elements of the model are

not determined by parameter measurement. The elements are determined by the overall performance of the lumped element model compared to the measurements taken of the component.



Lumped Element Model Schematic

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SPICE Models for Coilcraft 0805PB

Part number	Frequency limit of model (MHz)		RDC (Ω)	R1 (Ω)	R2 (Ω)	R3 (Ω)	C1 (pF)	C2 (pF)	L1 (nH)	L2 (nH)	L3 (nH)
	Lower	Upper									
0805PB-250	0.1	3000	0.0122	24.1	3.40	144	7.53	0.085	36.4	42.1	16.1
0805PB-101	0.1	3000	0.0190	107	19.7	483	1.11	0.093	135	180	44.7
0805PB-221	0.1	3000	0.0305	283	35.5	938	0.358	0.104	313	345	91.1
0805PB-331	0.1	3000	0.0378	371	72.5	993	0.273	0.118	417	628	109
0805PB-601	0.1	3000	0.0622	818	219	1510	0.158	0.116	636	1310	200
0805PB-102	0.1	3000	0.1391	1320	281	1650	0.115	0.134	1130	1950	286



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