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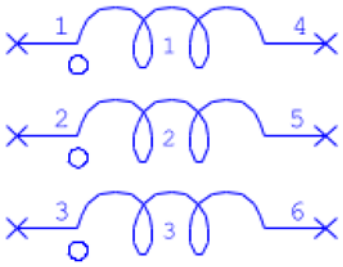
Mutually Coupled Coils 3 Inductors (Closed Form): MUC3

Symbol



Parameters

Name	Description	Unit Type	Default
ID	Element ID	Text	M1
L1	Self-inductance of coil 1	Inductance	1 nH
R1	Resistance of coil 1	Resistance	0 ohm
L2	Self-inductance of coil 2	Inductance	1 nH
R2	Resistance of coil 2	Resistance	0 ohm
L3	Self-inductance of coil 3	Inductance	1 nH
R3	Resistance of coil 3	Resistance	0 ohm
K1_2	Coupling coefficient between coils 1 and 2		0
K1_3	Coupling coefficient between coils 1 and 3		0
K2_3	Coupling coefficient between coils 2 and 3		0

Implementation Details

V_{ci} is the voltage across coil I, I=1, ...,N:

$$V_{ci} = (R_i + j\omega L_i) \cdot I_i + \sum_{j=1}^{N} j\omega M_{ij} I_j$$

$$M_{ij} = K_{ij} \cdot \sqrt{L_i \cdot L_j}$$

$$L_i > 0$$

$$R_i > 0$$

$$-1 < K_{ij} < 1$$

Layout

This element does not have an assigned layout cell. You can assign artwork cells to any element. See "Assigning Artwork Cells to Layout of Schematic Elements" for details.

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