Back to search page

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AWR Microwave Office Element Catalog > General > Four-Port S-Parameter Block: S4P_BLK

Prev   Next
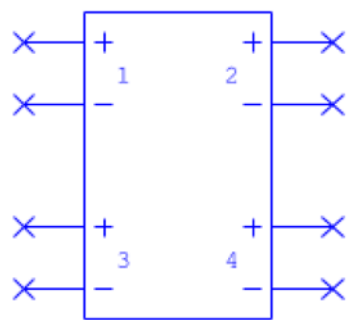
Four-Port S-Parameter Block: S4P_BLK

Symbol

Summary

S4P_BLK models a generalized four-port, S-parameter network. The full four-port S-parameters are specified.

Parameters

Name	Description	Unit Type	Default
ID	Element ID	Text	X1
S11	S(1,1)	Scalar (Complex)	0.0 + j*0.0
S21	S(2,1)	Scalar (Complex)	0.0 + j*0.0
S31	S(3,1)	Scalar (Complex)	0.0 + j*0.0
S41	S(4,1)	Scalar (Complex)	0.0 + j*0.0
S12	S(1,2)	Scalar (Complex)	0.0 + j*0.0
S22	S(2,2)	Scalar (Complex)	0.0 + j*0.0

Name	Description	Unit Type	Default
S32	S(3,2)	Scalar (Complex)	0.0 + j*0.0
S42	S(4,2)	Scalar (Complex)	0.0 + j*0.0
S13	S(1,3)	Scalar (Complex)	0.0 + j*0.0
S23	S(2,3)	Scalar (Complex)	0.0 + j*0.0
S33	S(3,3)	Scalar (Complex)	0.0 + j*0.0
S43	S(4,3)	Scalar (Complex)	0.0 + j*0.0
S14	S(1,4)	Scalar (Complex)	0.0 + j*0.0
S24	S(2,4)	Scalar (Complex)	0.0 + j*0.0
S34	S(3,4)	Scalar (Complex)	0.0 + j*0.0
S44	S(4,4)	Scalar (Complex)	0.0 + j*0.0
*Z1	Port 1 impedance	Scalar (Complex)	50.0 ohm
*Z2	Port 2 impedance	Scalar (Complex)	50.0 ohm
*Z3	Port 3 impedance	Scalar (Complex)	50.0 ohm
*Z4	Port 4 impedance	Scalar (Complex)	50.0 ohm
*ChkPassv	Switch "Do not Check passivity/Check passivity"		No

indicates a secondary parameter

Parameter Details

ChkPassv. If set to Yes, tests S4P_BLK for passivity and displays a warning if there is a passivity violation. The default setting is No (Do not check passivity).

Parameter Restrictions and Recommendations

Z1, Z2, Z3, and Z4 must not be equal to zero.

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.

Recommendations for Use

The S4P_BLK model can be used to model any general four-port network (passive or active) by specifying the S-parameters.

Prev   Up   Next

Home

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