

High Frequency Ceramic Solutions

625 - 2815MHz Wideband Balun, 1:2 Impedance Ratio, EIA 0805

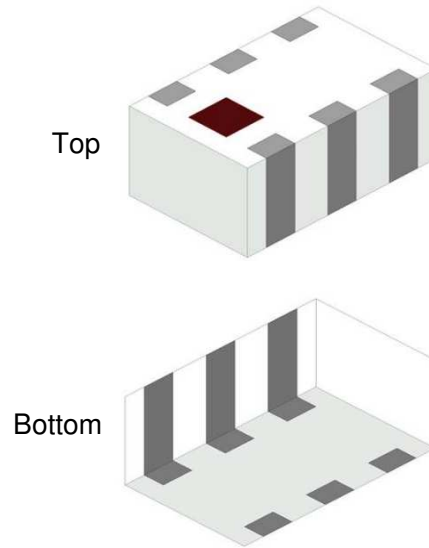
P/N 1720BL15A0100

Detail Specification: 9/23/2021

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General Specifications

Part Number	1720BL15A0100
Frequency (MHz)	625 - 2815
Unbalanced Impedance (Ω)	50
Balanced Impedance (Ω)	100
Insertion Loss (dB)	1.5 max.
Return Loss (dB)	9.5 min.
Phase Difference (deg.)	180 $\pm$ 10
Amplitude Difference (dB)	1.0 max.
CMRR (dB)	20 min.
Power Capacity (W)	3 max. (CW)
Reel Quantity (pcs./reel)	4,000
Operating Temperature	-40 to +105°C
Recommended Storage Conditions and Period for unused Product on T&R	+5 to +35°C Humidity 45 - 75% RH 18 months max.

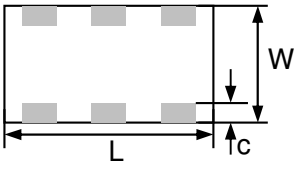
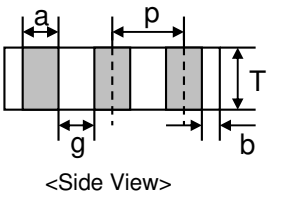


You can download measured s-parameters of this component at: <https://www.johansontechnology.com/baluns>

Part Number Explanation

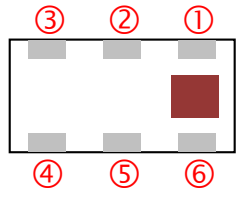
P/N Suffix	Packing Style	Bulk (loose pcs.)	Suffix = S	Eg. 1720BL15A0100S
		T & R	Suffix = E	Eg. 1720BL15A0100E
	Termination Style	Ni/Sn	Suffix = None	Eg. 1720BL15A0100(E or S)
	Evaluation Board	1720BL15A0100-EB1SMA (3 female SMA connectors)		

Mechanical Dimensions

	In	mm	
L	0.079 $\pm$ 0.004	2.00 $\pm$ 0.10	
W	0.049 $\pm$ 0.004	1.25 $\pm$ 0.10	
T	0.037 $\pm$ 0.004	0.95 $\pm$ 0.10	
a	0.012 $\pm$ 0.004	0.30 $\pm$ 0.10	
b	0.008 $\pm$ 0.004	0.20 $\pm$ 0.10	
c	0.012 +0.004/0.008	0.30 +0.1/-0.2	
g	0.014 $\pm$ 0.004	0.35 $\pm$ 0.10	
p	0.026 $\pm$ 0.002	0.65 $\pm$ 0.05	

Terminal Configuration

1	Unbalanced Port
2	GND or DC feed + RF GND
3	Balanced Port
4	Balanced Port
5	GND
6	NC



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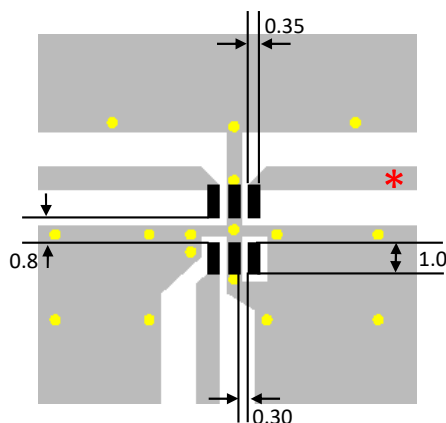
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Mounting Considerations

Mount these devices with colored mark facing up.



Units in mm

■ Solder Resist

■ Land

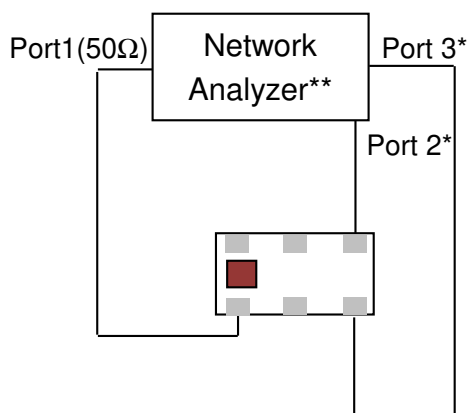
○ Through-hole (Φ0.3)

* Transmission line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness..

Need help with the layout, s-parameters, simulation, or design validation?

Send us a message at: <https://www.johansontechnology.com/ask-a-question>

Measuring Diagram



Port 1: Unbalanced Port
Ports 2 and 3: Balanced Port

$IL = S_{ds21}$

$RL = S_{ss11}$

$Amp_balance = dB(S(2,1)/S(3,1))$

$Phase_balance = Phase(S(2,1)/S(3,1))$

* Impedance for ports 2 and 3 = Balanced Impedance/2

** E5071B from Agilent

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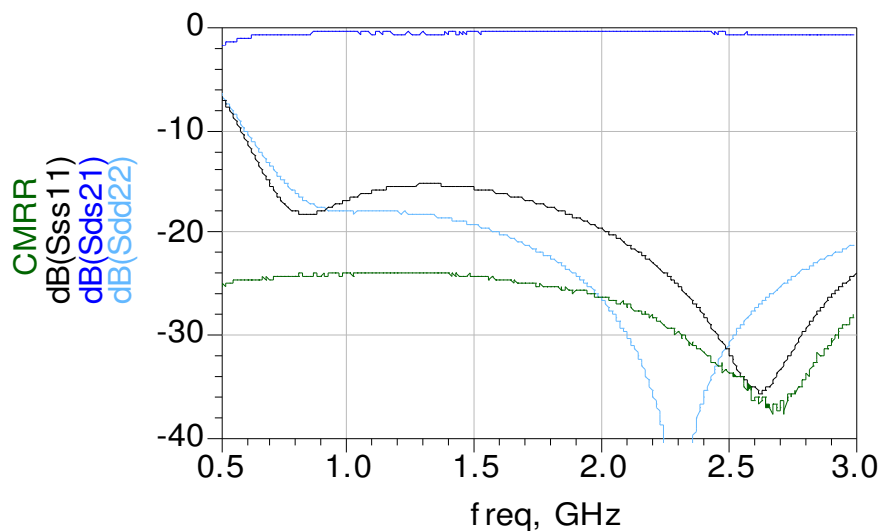
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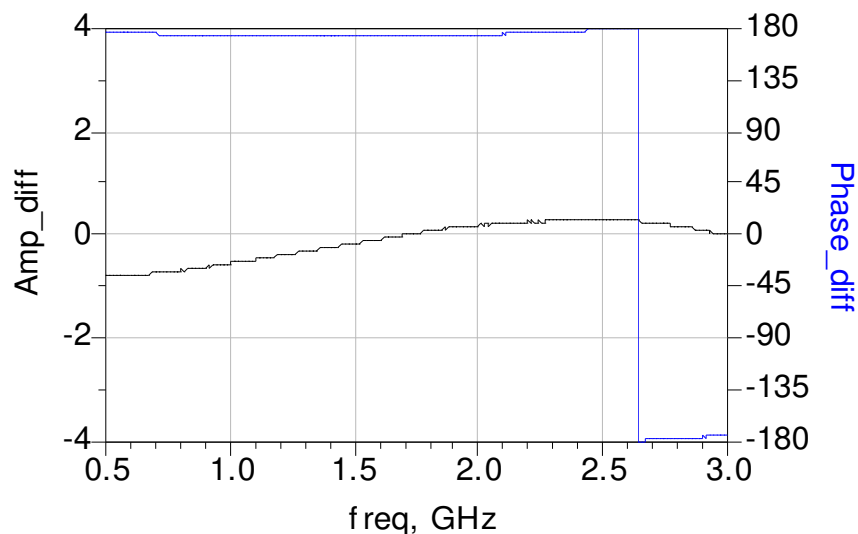
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Typical Electrical Characteristics (T=25°C)

Insertion and Return Loss



Amplitude and Phase Balance



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Application Notes, Layout Files, and more

<https://www.johansontechnology.com/baluns>

Packaging information

<https://www.johansontechnology.com/tape-reel-packaging>

Soldering Information

<https://www.johansontechnology.com/ipcsoldering-profile>

MSL Info

<https://www.johansontechnology.com/msl-rating>

Recommended Storage Condition and Max Shelf Life

<https://www.johansontechnology.com/recommended-storage-conditions>

RoHS Compliance

<https://www.johansontechnology.com/rohs-compliance>

Antenna layout and tuning techniques

<https://www.johansontechnology.com/tuning>

Antenna layout review, tuning, and characterization services

<https://www.johansontechnology.com/ipc-antenna-services>

P/N Explanation and Breakdown

<https://www.johansontechnology.com/ipc-pn-explained>

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