

# High Frequency Ceramic Solutions

AEC-Q200 Qualified Component

Wideband Ceramic Balun, 1:1 Impedance Ratio, EIA 0805

P/N 1720BL15B0050E-AEC

Detail Specification: 2/22/2018

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General Specifications	
Part Number	1720BL15B0050E-AEC
Frequency (MHz)	625 ~ 2815
Unbalanced Impedance	50 $\Omega$
Balanced Impedance	50 $\Omega$
Insertion Loss	1.5 dB max.
Return Loss	9.5 dB min.
Phase Difference	180 $\pm$ 10 deg.
Amplitude Difference	1.0 dB max.
CMRR	20 dB min.
Power Capacity	2W max. (CW)
Reel Quantity	4,000 pcs
Operating Temperature	-40 to +105°C



Recommended Storage Conditions of unused product on T&R and period	+5 to +35°C
	Humidity 45~75% RH 18 months max.

You can download measured s-parameters of this component at: [www.johansontechnology.com/baluns](http://www.johansontechnology.com/baluns)

Part Number Explanation				
P/N Suffix	Packing Style	Bulk	Suffix = S	Eg. 1720BL15B0050S-AEC
		T & R	Suffix = E	Eg. 1720BL15B0050E-AEC
	Termination style	100% Tin	Suffix = None	Eg. 1720BL15B0050(E or S)-AEC
	Evaluation Board	1720BL15B0050-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 (IN)
2	GND or DC feed + RF GND
3	Balanced Port (OUT1)
4	Balanced Port (OUT2)
5	GND
6	NC

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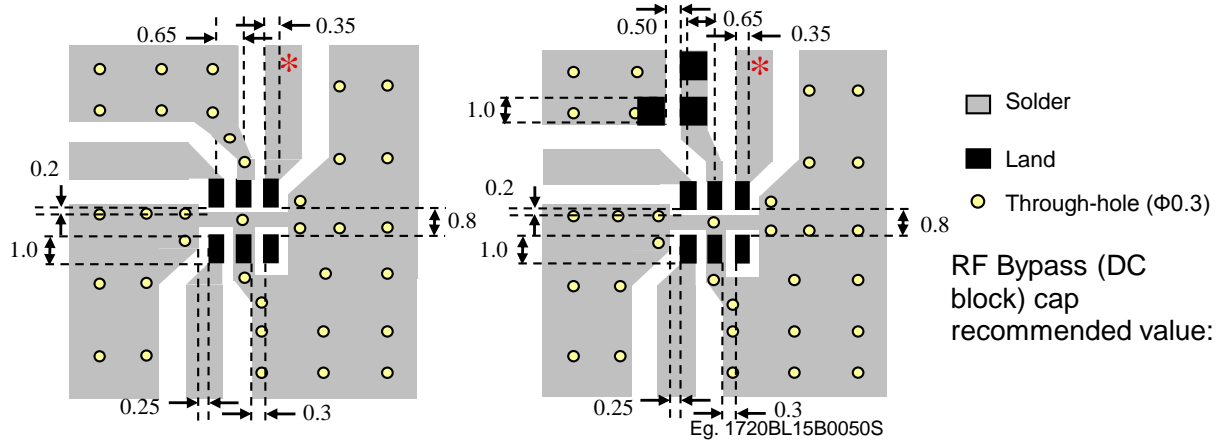
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## Mounting Considerations

Mount these devices with colored mark facing up.

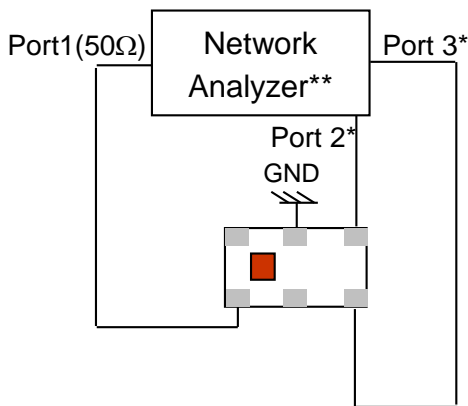
\* Line width should be designed to provide 50ohm impedance matching characteristics.



RF Bypass (DC block) cap recommended value:

Need our help laying this out for you? Need the layout file?  
Send us a message at: [www.johansontechnology.com/ask-a-question](http://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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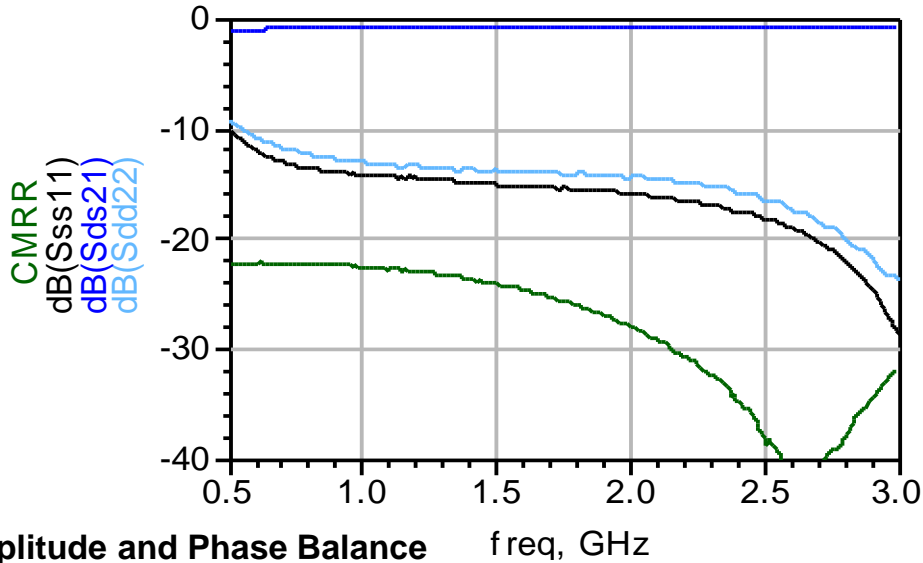
P/N 1720BL15B0050E-AEC

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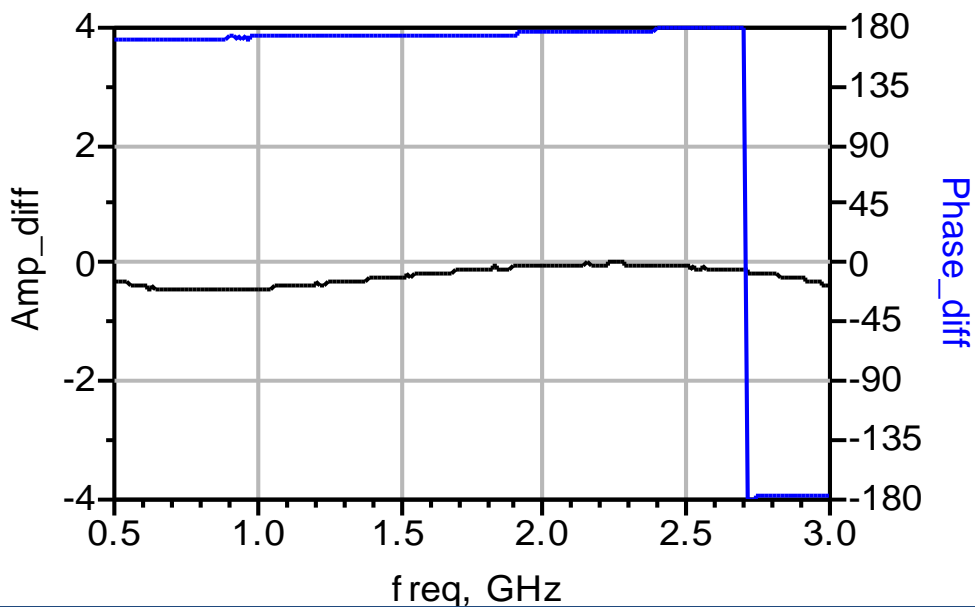
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## Typical Electrical Characteristics (T=25°C)

### Insertion and Return Loss



### Amplitude and Phase Balance



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## More Filter-Balun info at:

[www.johansontechnology.com/baluns](http://www.johansontechnology.com/baluns)

## Packaging information

[www.johansontechnology.com/tape-reel-packaging](http://www.johansontechnology.com/tape-reel-packaging)

## Soldering Information

[www.johansontechnology.com/typical-soldering-profile](http://www.johansontechnology.com/typical-soldering-profile)

## MSL Info

[www.johansontechnology.com/msl-rating](http://www.johansontechnology.com/msl-rating)

## Recommended Storage Condition and Max Shelf Life

[www.johansontechnology.com/recommended-storage-conditions](http://www.johansontechnology.com/recommended-storage-conditions)

## RoHS Compliance

[www.johansontechnology.com/rohs-compliance](http://www.johansontechnology.com/rohs-compliance)

## Layout review services

[www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

## Antenna layout review, tuning, and characterization services

[www.johansontechnology.com/ipc-antenna-services](http://www.johansontechnology.com/ipc-antenna-services)

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