

# High Frequency Ceramic Solutions

2.8 - 6.0GHz Wideband Ceramic Balun, 1:1 Impedance Ratio, EIA 0805

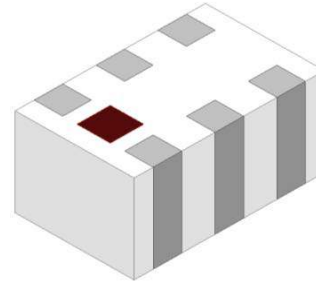
P/N 4400BL15A0050

Detail Specification: 5/18/2018

Page 1 of 4

## General Specifications

Part Number	4400BL15A0050
Frequency (GHz)	2.8 - 6.0
Unbalanced Impedance	50 $\Omega$
Balanced Impedance	50 $\Omega$
Insertion Loss	1.5 dB max.
Return Loss	9.5 dB min.
Phase Difference	180 $\pm$ 12 deg.
Amplitude Difference	1.8 dB max.
CMRR (dB)	15 dB min.
Power Capacity (W)	3 max. (CW)
Reel Quantity	4,000 pcs
Operating Temperature	-40 to +85°C



**Recommended Storage Conditions of unused product on T&R**

+5 to +35°C  
Humidity 45~75% RH  
18 months max.

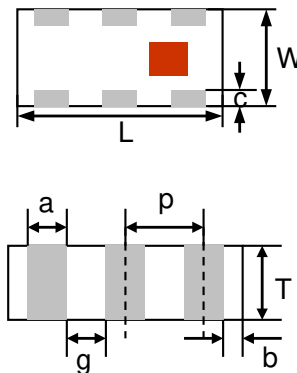
You can download measured s-parameters of this component at: [www.johansontechnology.com/baluns](http://www.johansontechnology.com/baluns)

## Part Number Explanation

P/N Suffix	Packing Style	Bulk	Suffix = S	E.g. 4400BL15A0050S
		T & R	Suffix = E	E.g. 4400BL15A0050E
	Termination style	100% Tin	Suffix = None	E.g. 4400BL15A0050 (E or S)
	Evaluation Board	4400BL15A0050-EB1SMA (3 female SMA connectors)		

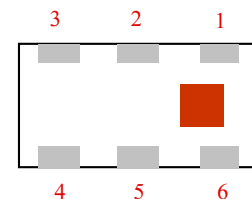
## Mechanical Dimensions

	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



Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



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

4001 Calle Tecate • Camarillo, CA 93012, USA • TEL +1.805.389.1166

Ver 1.0

2018 Johanson Technology, Inc. All Rights Reserved

# High Frequency Ceramic Solutions

2.8 - 6.0GHz Wideband Ceramic Balun, 1:1 Impedance Ratio, EIA 0805

P/N 4400BL15A0050

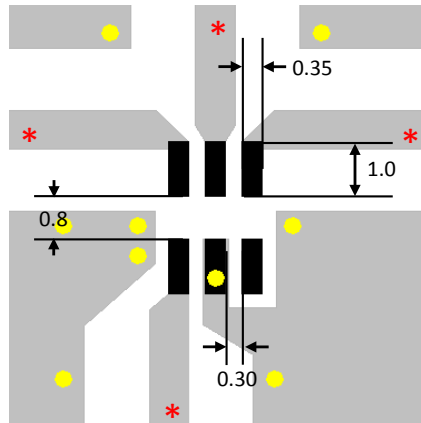
Detail Specification: 5/18/2018

Page 2 of 4

## Mounting Considerations

Mount these devices with colored mark facing up.

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

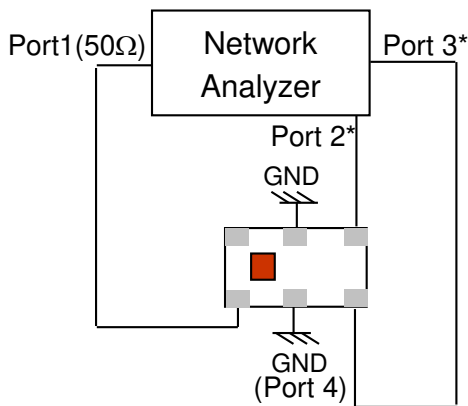


\* Line width should be designed to match 50W characteristic impedance, depending on PCB

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

Port 4: GND or DC feed + RF GND

$$IL = S_{ds21}$$

$$RL = S_{ss11}$$

$$\text{Amp\_balance} = \text{dB}(S(2,1)/S(3,1))$$

$$\text{Phase\_balance} = \text{Phase}(S(2,1)/S(3,1))$$

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

Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



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

4001 Calle Tecate • Camarillo, CA 93012, USA • TEL +1.805.389.1166

Ver 1.0

2018 Johanson Technology, Inc. All Rights Reserved

# High Frequency Ceramic Solutions

2.8 - 6.0GHz Wideband Ceramic Balun, 1:1 Impedance Ratio, EIA 0805

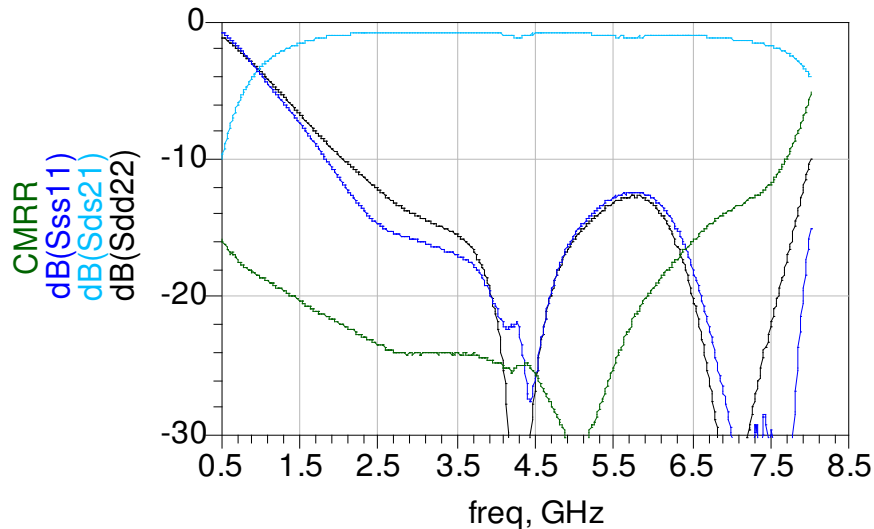
P/N 4400BL15A0050

Detail Specification: 5/18/2018

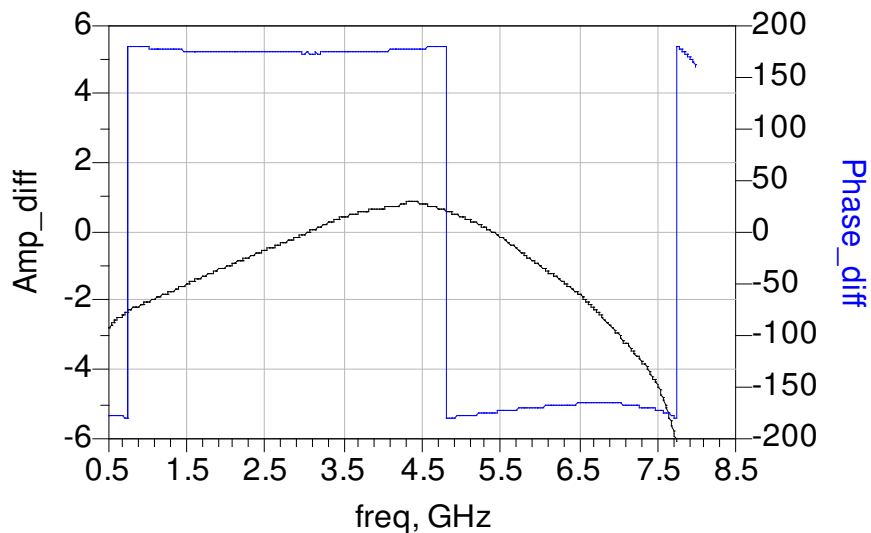
Page 3 of 4

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

### Insertion and Return Loss



### Amplitude and Phase Balance



Would you like the s-parameter files? Please contact us at: [www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



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

4001 Calle Tecate • Camarillo, CA 93012, USA • TEL +1.805.389.1166

Ver 1.0

2018 Johanson Technology, Inc. All Rights Reserved

# High Frequency Ceramic Solutions

**2.8 - 6.0GHz Wideband Ceramic Balun, 1:1 Impedance Ratio, EIA 0805** P/N 4400BL15A0050

Detail Specification: 5/18/2018

Page 4 of 4

## 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/ipcsoldering-profile](http://www.johansontechnology.com/ipcsoldering-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)

Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



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

4001 Calle Tecate • Camarillo, CA 93012, USA • TEL +1.805.389.1166

Ver 1.0

2018 Johanson Technology, Inc. All Rights Reserved