

# High Frequency Ceramic Solutions

2.8 - 6.0GHz Wideband Ceramic Balun, 1:2 Impedance Ratio, EIA 0805

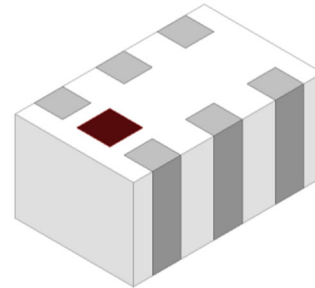
P/N 4400BL15A0100

Detail Specification: 4/28/2020

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## General Specifications

Part Number	4400BL15A0100
Frequency (GHz)	2.8 - 6.0
Unbalanced Impedance	50 $\Omega$
Balanced Impedance	100 $\Omega$
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.

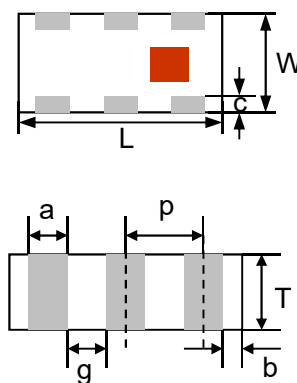
You can download measured s-parameters of this component at: <https://www.johansontechnology.com/baluns>

## Part Number Explanation

P/N Suffix	Packing Style	Bulk	Suffix = S	E.g. 4400BL15A0100S
		T & R	Suffix = E	E.g. 4400BL15A0100E
	Termination style	100% Tin	Suffix = None	E.g. 4400BL15A0100 (E or S)
	Evaluation Board	4400BL15A0100-EB1SMA (3 female SMA connectors)		

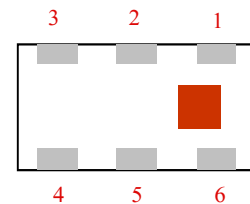
## Mechanical Dimensions

	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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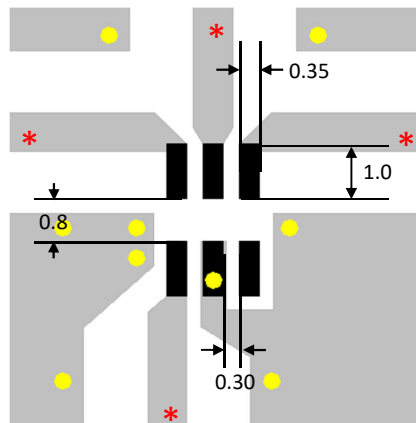
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## Mounting Considerations

Mount these devices with colored mark facing up.

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



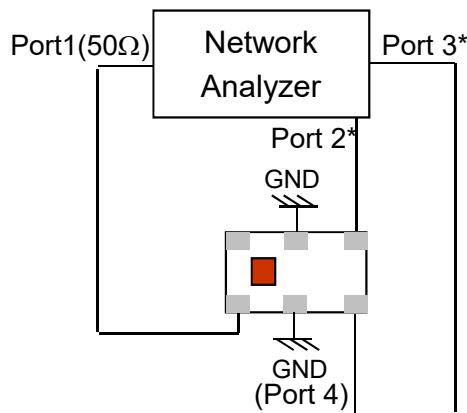
- Solder
- Land
- Through-hole ( $\Phi 0.3$ )

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

Need our help laying this out for you? Need the layout file?

Send us a message at: <https://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

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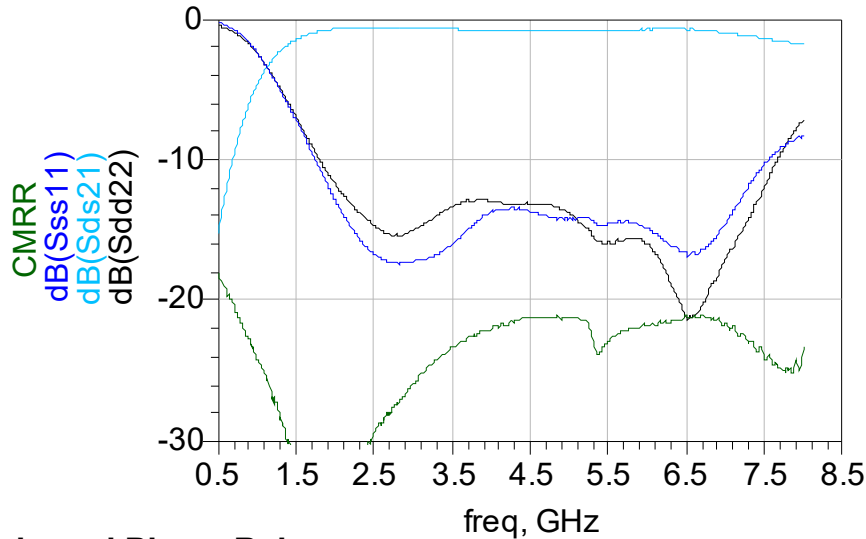
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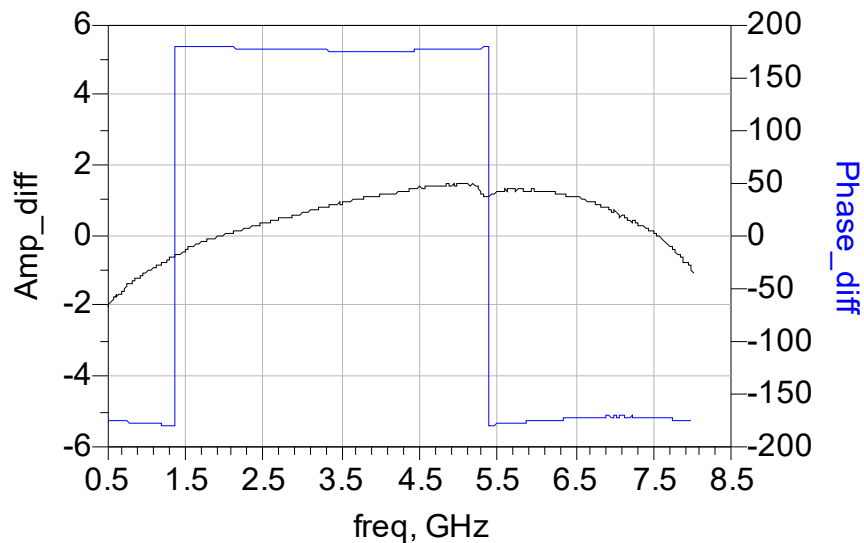
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## Typical Electrical Characteristics (T=25°C)

### Insertion and Return Loss



### Amplitude and Phase Balance



Would you like the s-parameter files? Please contact us at: <https://www.johansontechnology.com/ask-a-question>

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## More Baluns

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

## RoHS Compliance

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

## Packaging information

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

## Soldering Information (i.e. recommended profile)

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

## Layout Files, s-parameters and any other technical questions

<https://www.johansontechnology.com/ask-a-question>

## MSL Info

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

## Recommended Storage Condition and Max Shelf Life

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

## Antenna layout and tuning techniques

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

## Antenna layout review, tuning, and characterization services

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

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