

# High Frequency Ceramic Solutions

**3 - 8 GHz Ultra Wideband Balun, 1:2 Impedance Ratio, EIA 0805**

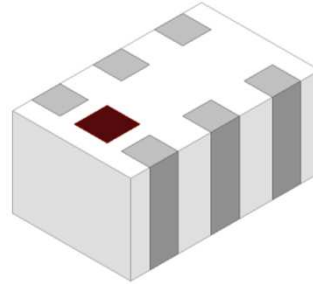
**P/N 5500BL15U0100**

Detail Specification: 2/24/2020

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## General Specifications

<b>Part Number</b>	5500BL15U0100
<b>Frequency (MHz)</b>	3000 - 8000
<b>Unbalanced Impedance</b>	50 $\Omega$
<b>Balanced Impedance</b>	100 $\Omega$
<b>Insertion Loss (dB)</b>	1.8 max.
<b>Return Loss (dB)</b>	9.5 min.
<b>Phase Difference (degree)</b>	180 $\pm$ 20
<b>Amplitude Difference (dB)</b>	2.0 max.
<b>Power Capacity (W)</b>	0.5 max. (CW)
<b>Reel Quantity</b>	4,000 pcs
<b>Operating Temperature</b>	-40 to +85°C



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

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

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

## Part Number Explanation

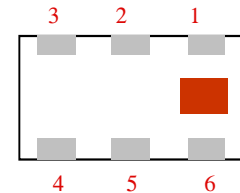
<b>P/N Suffix</b>	<b>Packing Style</b>	Bulk	Suffix = S	Eg. 5500BL15U0100S
		T & R	Suffix = E	Eg. 5500BL15U0100E
	<b>Termination style</b>	100% Tin	Suffix = None	Eg. 5500BL15U0100 (E or S)
	<b>Evaluation Board</b>	5500BL15U0100-EBSMA (3 female SMA connectors)		

## Mechanical Dimensions

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

## Terminal Configuration

1	Unbalanced Port (IN)
2	GND
3	NC or DC Feed
4	Balanced Port (OUT1)
5	GND
6	Balanced Port (OUT2)



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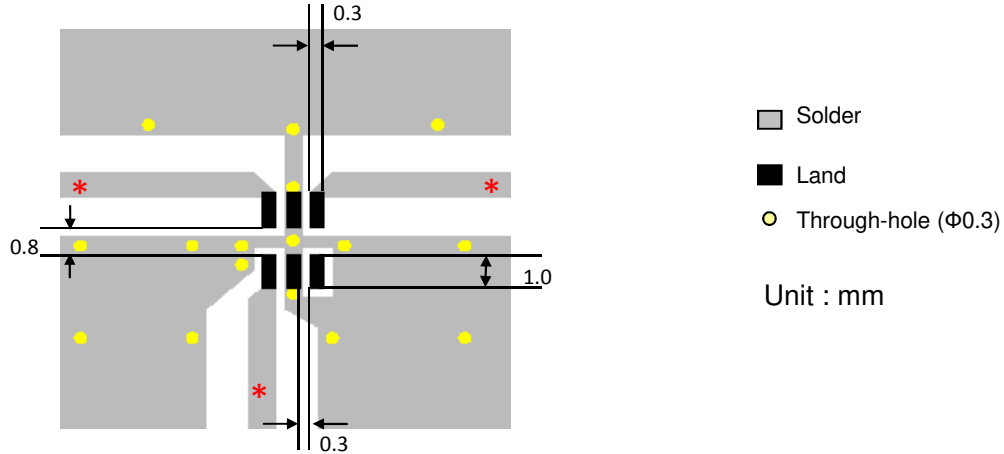
Detail Specification: 2/24/2020

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## Mounting Considerations

Mount these devices with colored mark facing up.

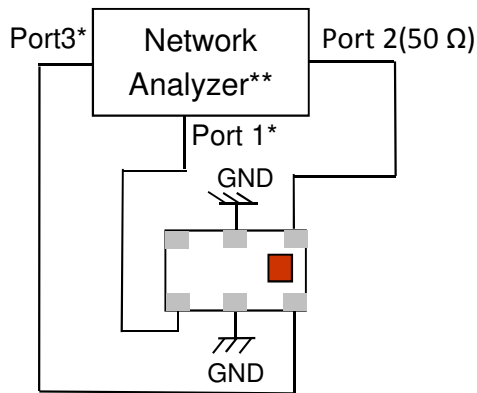
\* Line width should be designed to provide 50ohm impedance matching characteristics.



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 2: Unbalanced Port  
 Ports 1 and 3: Balanced Port  
 $IL = S_{ds21}$   
 $RL = S_{ss11}$   
 $Amp\_balance = dB(S(1,2)/S(3,2))$   
 $Phase\_balance = Phase(S(1,2)/S(3,2))$

\*Impedance for ports 1 and 3 = Balanced Impedance/2

\*\*E5071B from Agilent

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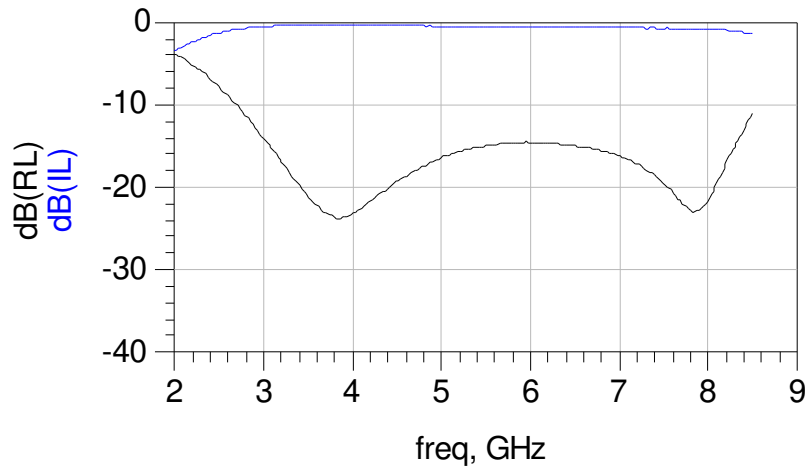
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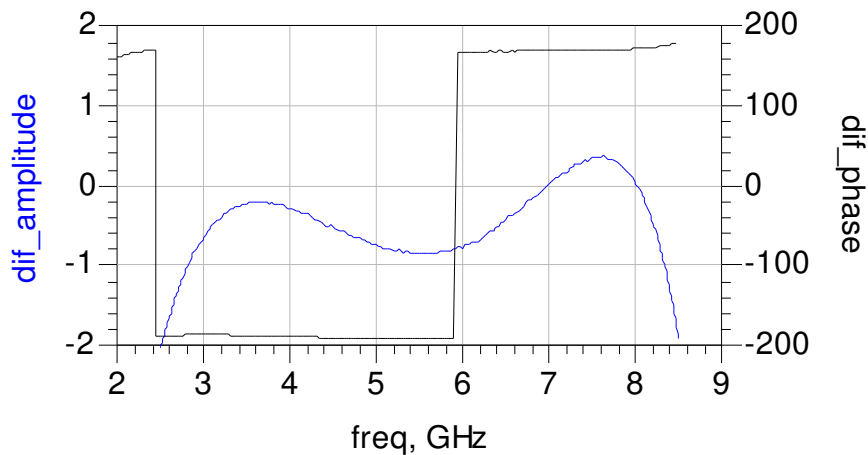
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## Typical Electrical Characteristics (T=25°C)

### 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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