

# High Frequency Ceramic Solutions

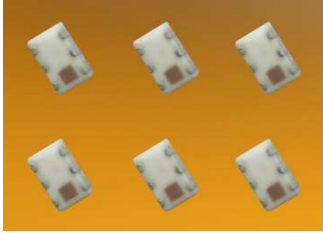
## 3.7 GHz 1:2 RF Balun

Detail Specification: 10/29/2019

P/N 3700BL15B100

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### General Specifications

<b>Part Number</b>	3700BL15B100			
<b>Frequency (MHz)</b>	3400 ~ 4000			
<b>Unbalanced Impedance</b>	50 Ω			
<b>Differential Balanced Imp.</b>	100 Ω			
<b>Insertion Loss</b>	1.0 dB max.			
<b>Return Loss</b>	9.5 dB min.			
<b>Phase Difference (degree)</b>	180 ± 20		<b>Operating Temperature</b>	-40 to +125°C
<b>Amplitude Difference</b>	1.0 dB max.		<b>Storage Temperature</b>	-40 to +125°C
<b>Impedance</b>	50 / 50 Ω		<b>Recommended Storage Conditions of unused product on T&amp;R</b>	+5 to +35°C, 18 mos. max. Humidity 45~75% RH
<b>Power Capacity</b>	3W max. (CW)			
<b>Reel Quantity</b>	4,000 pcs			

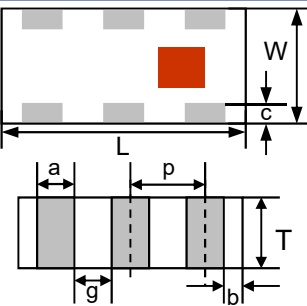
You can download measured s-parameters of this component at: <https://www.johansontechnology.com/baluns>

### Part Number Explanation

<b>P/N Suffix</b>	<b>Packing Style</b>	Bulk	Suffix = S	Eg. 3700BL15B100S
		T & R	Suffix = E	Eg. 3700BL15B100E
	<b>Termination style</b>	100% Tin	Suffix = None	Eg. 3700BL15B100 (E or S)
	<b>Evaluation Board</b>	3700BL15B100-EB2SMA (3 female SMA connectors)		

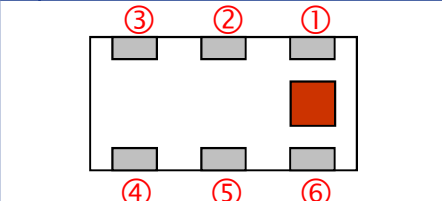
### Mechanical Dimensions

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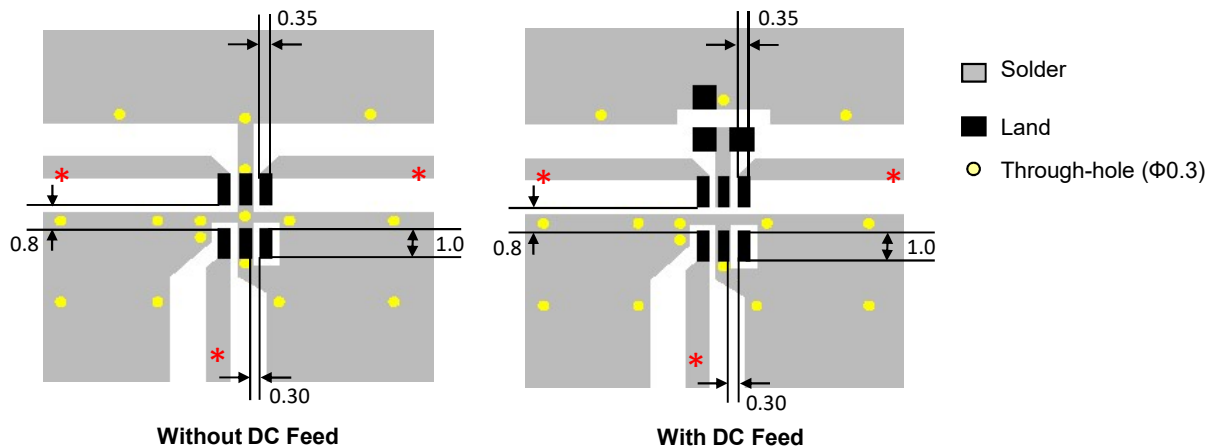
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## Mounting Considerations

Mount these devices with colored mark facing up.

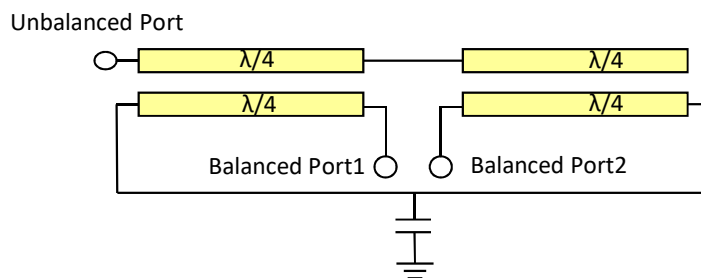
\* Line width should be designed to match 50W characteristic impedance, depending on PCB material and thickness.

\*\* By-pass capacitor should be connected when feeding DC power.



Need our help laying this out for you? Need the layout file? Send us a message at:  
<https://www.johansontechnology.com/ask-a-question>

## Equivalent Circuit



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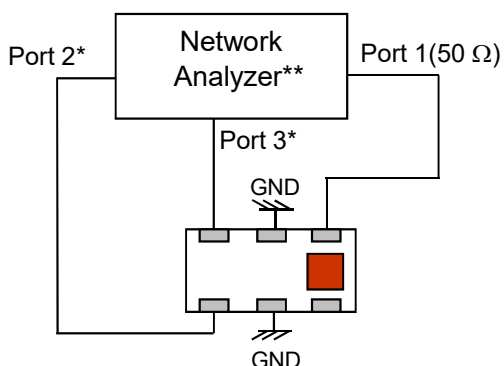
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## Measuring Diagram

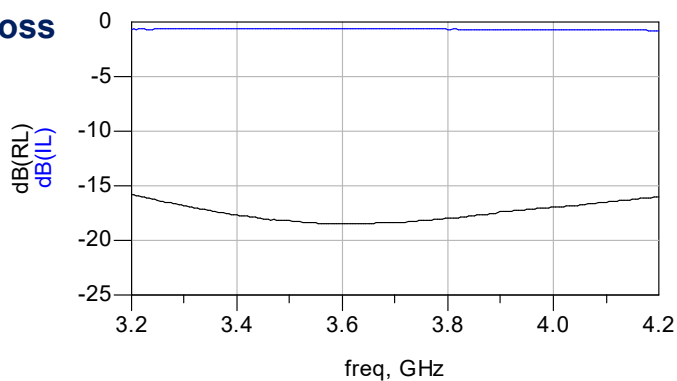


Port 1: Unbalanced Port  
 Ports 2 and 3: Balanced Port  
 $IL = S_{ds21}$   
 $RL = S_{ss11}$   
 $Amp\_balance = dB(S(2,1)/S(3,1))$   
 $Phase\_balance = Phase(S(2,1)/S(3,1))$

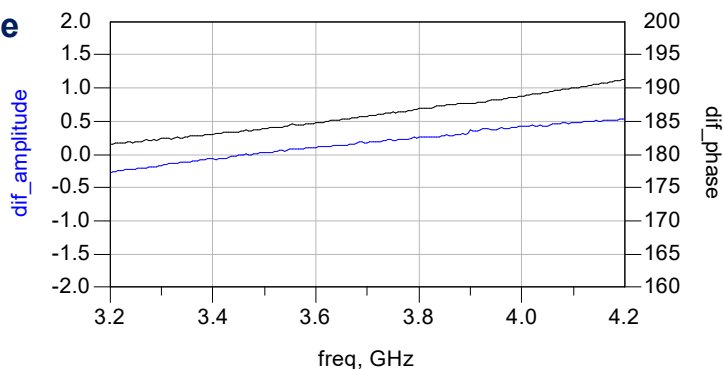
\*Impedance for ports 2 and 3 = Balanced Impedance/2  
 \*\*E5071B from Agilent

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

### Insertion Loss and Return Loss



### Amplitude and Phase Balance



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## More Balun info at:

<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/jpc-antenna-services>

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

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

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