

High Frequency Ceramic Solutions

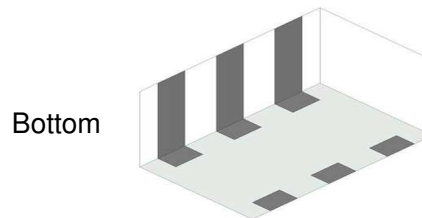
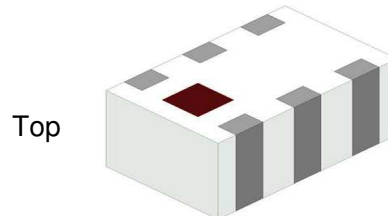
4GHz Balun, 1:2 Impedance, EIA 0603

P/N 4000BL14U100

Detail Specification: 4/27/2022

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General Specifications	
Part Number	4000BL14U100
Operating Frequency (MHz)	3100 - 4800
Unbalanced Impedance (Ω)	50
Balanced Impedance (Ω)	100
Insertion Loss (dB)	1.2 max.
Return Loss (dB)	9.5 min.
Phase Difference (deg.)	180 \pm 20
Amplitude Difference (dB)	1.5 max.
Power Capacity (W)	2 max. (CW)
Operating Temperature	-40 to +85°C
Recommended Storage Conditions and Period for unused Product on T&R	+5 to +35°C Humidity 45 - 75% RH 18 months max.
Reel Quantity (pcs./reel)	4,000



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

Part Number Explanation				
P/N Suffix	Packing Style	Bulk (loose pcs.)	Suffix = S	E.g. 4000BL14U100S
		T & R	Suffix = T	E.g. 4000BL14U100T
	Termination Style	Ni/Sn	Suffix = None	E.g. 4000BL14U100(T or S)
	Evaluation Board	4000BL14U100-EB2SMA (3 female SMA connectors)		

Mechanical Dimensions		
	In	mm
L	0.063 \pm 0.004	1.60 \pm 0.10
W	0.031 \pm 0.004	0.80 \pm 0.10
T	0.024 \pm 0.004	0.60 \pm 0.10
a	0.008 \pm 0.004	0.20 \pm 0.10
b	0.008 +0.004/-0.006	0.20 +0.10/-0.15
c	0.006 \pm 0.004	0.15 \pm 0.10
g	0.012 \pm 0.004	0.30 \pm 0.10
p	0.020 \pm 0.002	0.50 \pm 0.05

<Bottom View>

<Side View>

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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4GHz Balun, 1:2 Impedance, EIA 0603

P/N 4000BL14U100

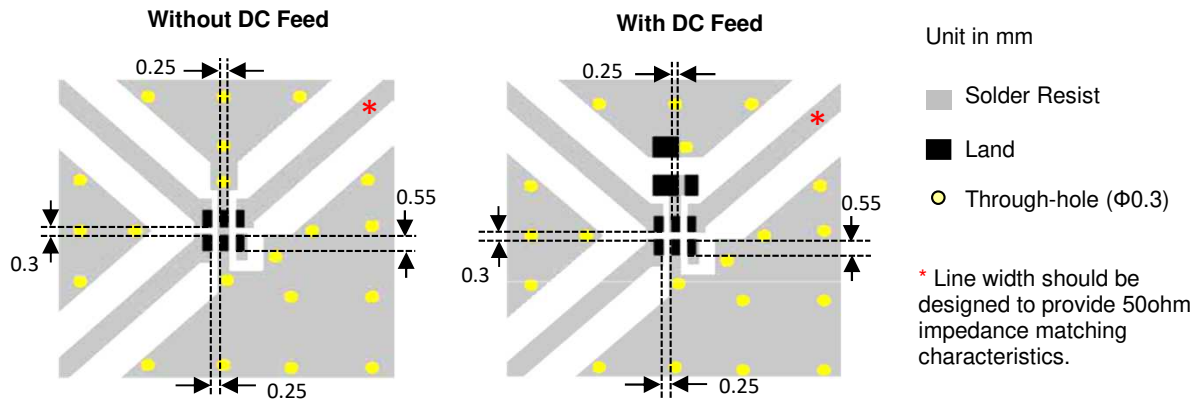
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Layout and Mounting Considerations

Mount these devices with colored mark facing up.

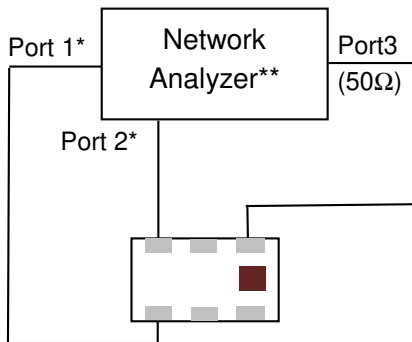
By-pass capacitor should be connected when feeding DC power.



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

Send us a message at: <https://www.johansontechnology.com/ask-a-question>

Measuring Diagram



Port 3: Unbalanced Port
 Ports 1 and 2: Balanced Port
 Ports 4: GND or DC feed + RF GND
 $IL = S_{ds21}$
 $RL = S_{ss11}$
 $Amp_balance = dB(S(1,3)/S(2,3))$
 $Phase_balance = Phase(S(1,3)/S(2,3))$

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

** E5071B from Agilent

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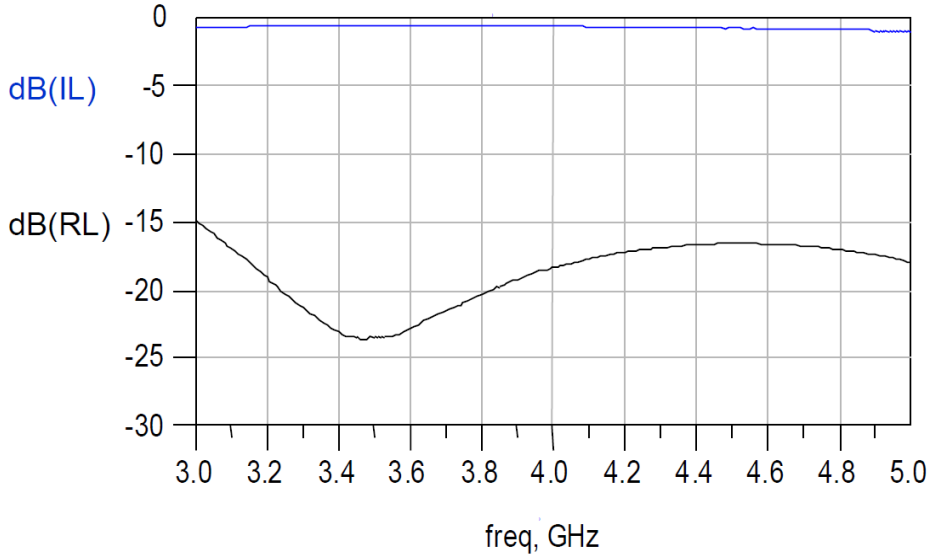
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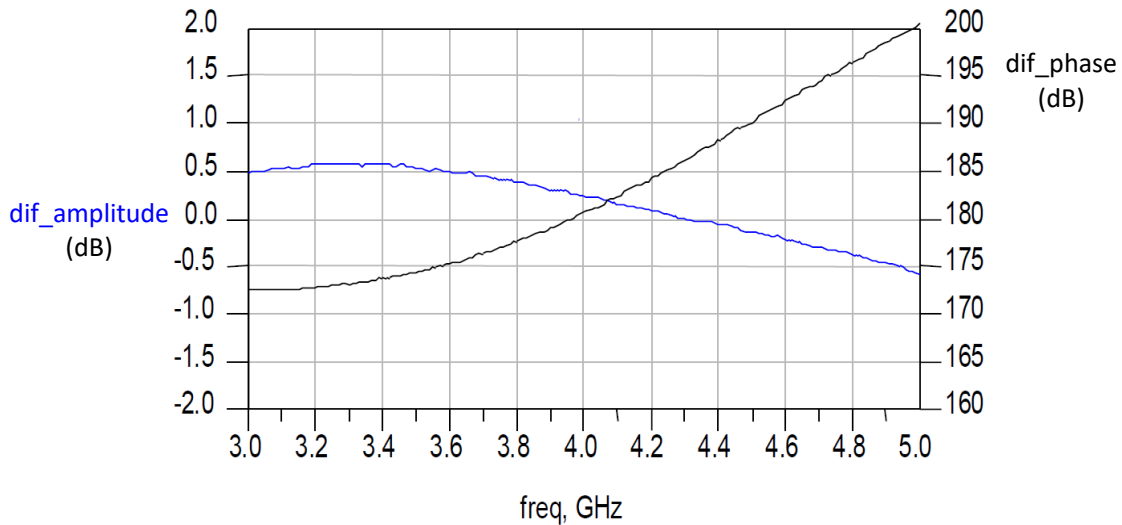
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Typical Electrical Characteristics (T=25°C)

Insertion and Return Loss



Amplitude and Phase Balance



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More RF 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>

Layout review services

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

Antenna layout review, tuning, and characterization services

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

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