

High Frequency Ceramic Solutions

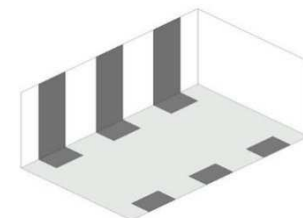
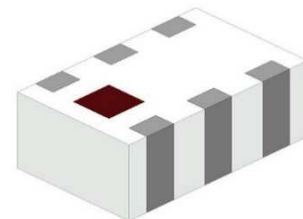
6.75 GHz Balun, 1:1 Impedance, EIA 0603

P/N 6750BL14A0050

Detail Specification: 7/5/2022

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General Specifications		
Part Number	6750BL14A0050	
Frequency (MHz)	4900 - 8500	5000 - 8500
Unbalanced Impedance (Ω)	50	
Balanced Impedance (Ω)	50	
Insertion Loss (dB)	0.7 typ. (1.5 max.)	
Return Loss (dB)	14.5 typ. (9.5 min.)	
Phase Difference (deg.)	180 \pm 14	180 \pm 13
Amplitude Difference (dB)	\pm 1.5 max.	\pm 1.25 max.
CMRR (dB)	17.5 min.	17.5 min.
Power Capacity (W)	3 max. (CW)	3 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. 6750BL14A0050S
		T & R	Suffix = T	E.g. 6750BL14A0050T
	Termination Style	Ni/Sn	Suffix = None	E.g. 6750BL14A0050(T or S)
	Evaluation Board	6750BL14A0050-EB1SMA		

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 \pm 0.006	0.20 \pm 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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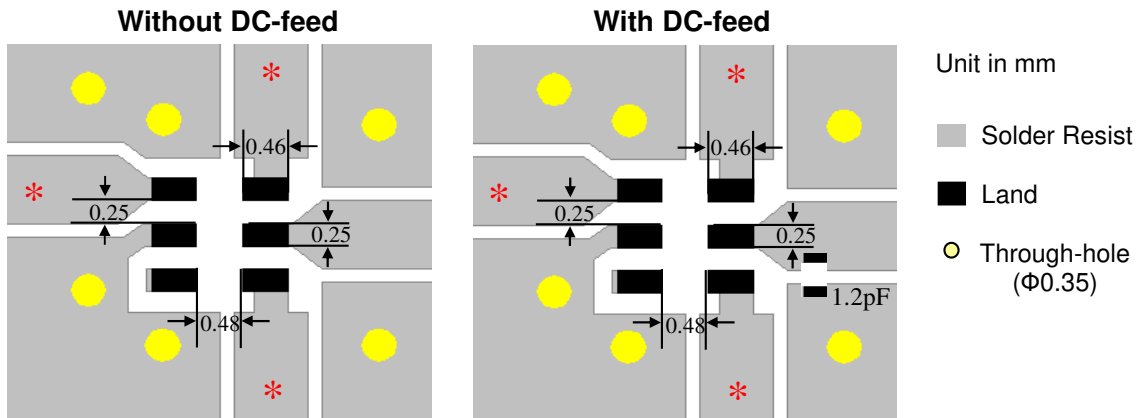
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Layout and Mounting Considerations

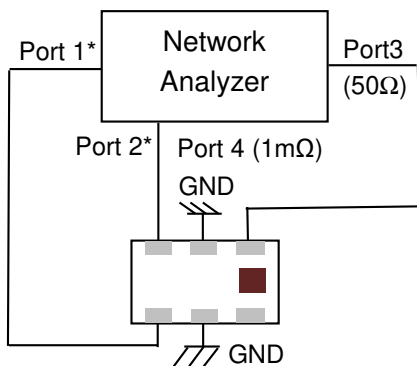
Mount these devices with colored mark facing up.
By-pass capacitor should be connected when feeding DC power.



*Transmission 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 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

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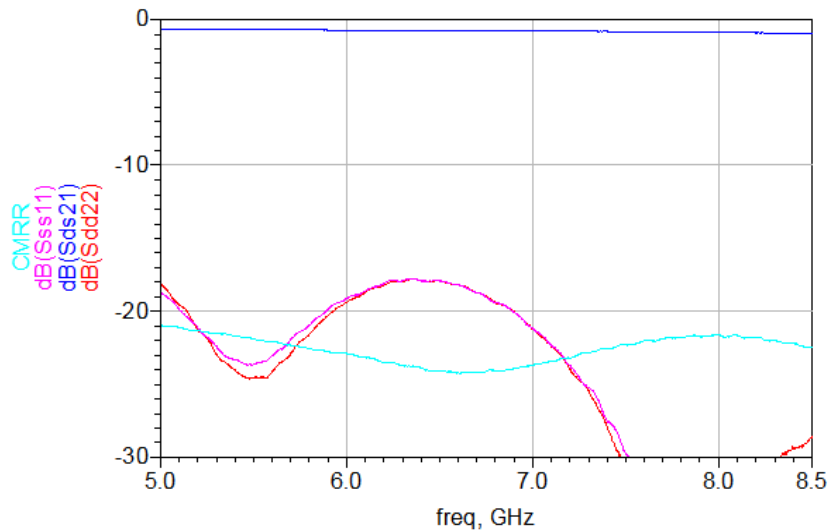
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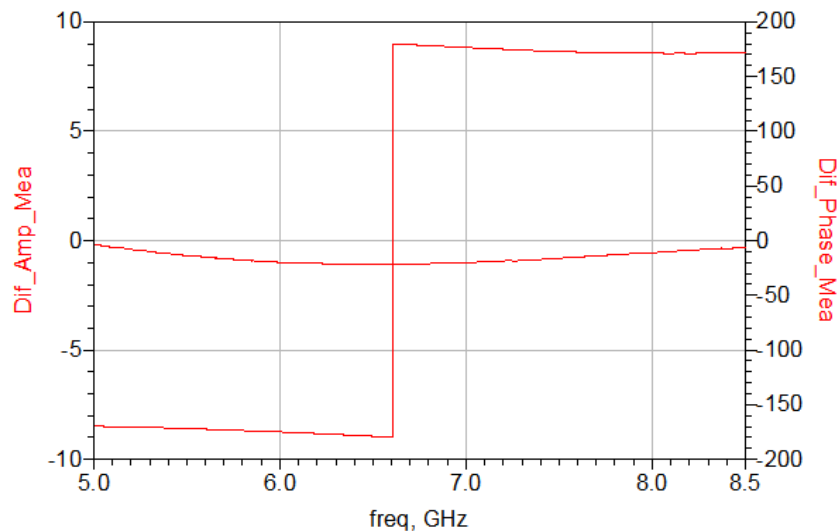
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Typical Electrical Characteristics (T=25°C)

Insertion, Return Loss and CMRR



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/pc-antenna-services>

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