

# High Frequency Ceramic Solutions

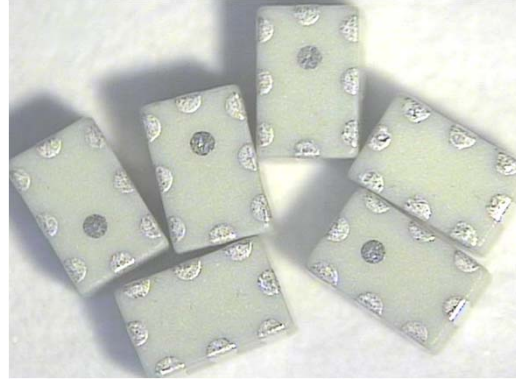
**2.45GHz EIA 0805 BPF-Balun with 50Ω unbalanced impedance and 50Ω balanced differential impedance** P/N 2450FB15C0050

Detail Specification: 5/14/2014

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## General Specifications

<b>Part Number</b>	2450FB15C0050	
<b>Frequency (MHz)</b>	2400 - 2500	
<b>Unbalanced Impedance</b>	50 Ω	
<b>Balanced Impedance</b>	50 Ω	
<b>Insertion Loss @ BW</b>	2.2 max. (+25° C)	
<b>Return Loss</b>	9.5 min.	
<b>Phase Difference</b>	180±10	
<b>Amplitude Difference</b>	1.5 max.	
<b>Attenuation</b>		
	35 min. @ 0~1000MHz	
	32 min. / 35 typ. @1000~2000MHz	
	35 min. @4800~5000MHz	
	25 min. @7200~7500MHz	
<b>Reel Quantity</b>	4,000 pcs	<b>Operating Temperature</b> -40 to +85°C
		<b>Recommended Storage Conditions for unused T&amp;R product</b> +5 to +35°C, Humidity: 45-75%RH
		<b>Power Capacity</b> 1W max.(CW)



You can download measured s-parameters of this component at: <http://www.johansontechnology.com/integrated-passives/rohs-compliant-balun-filter-combos.html>

## Part Number Explanation

<b>P/N Suffix</b>	<b>Packaging Style</b>	Bulk	Suffix = S	Eg. 2450FB15C0050S
		T & R	Suffix = T	Eg. 2450FB15C0050T
	<b>Termination Style</b>	100% Tin	Suffix = None	Eg. 2450FB15C0050(T or S)

## Mechanical Dimensions

	In	mm
<b>L</b>	0.079 ± 0.008	2.00 ± 0.20
<b>W</b>	0.049 ± 0.008	1.25 ± 0.20
<b>T</b>	0.037 ± 0.004	0.95 ± 0.10
<b>a</b>	0.012 ± 0.004	0.30 ± 0.10
<b>b</b>	0.008 ± 0.004	0.20 ± 0.10
<b>c</b>	0.012 .1/-(0.000)	0.30 +0.1/-0.2
<b>g</b>	0.014 ± 0.004	0.35 ± 0.10
<b>p</b>	0.003 ± 0.002	0.07 ± 0.05

## Terminal Configuration

<b>1</b>	Unbalanced Port
<b>2</b>	NC or DC Feed
<b>3</b>	NC or DC Feed
<b>4</b>	GND
<b>5</b>	Balanced Port
<b>6</b>	GND
<b>7</b>	Balanced Port
<b>8</b>	GND

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[www.johansontechnology.com](http://www.johansontechnology.com)

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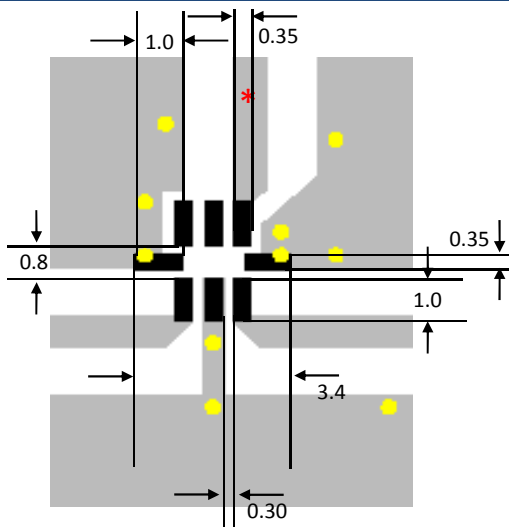
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## Mounting Considerations



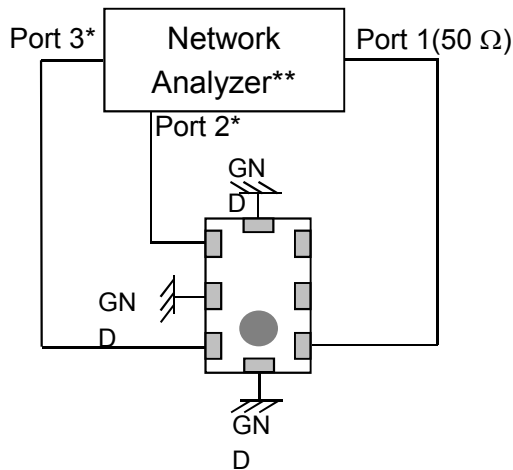
■ Solder Resist

■ Land

● Through-hole ( $\phi$  0.3)

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

## Measuring Diagram



Port 1: Unbalanced Port  
Ports 2 and 3: Balanced Port

$$IL = S_{ds21}$$

$$RL = S_{ss11}$$

$$\text{Amp\_balance} = \text{dB}(S(2,1)/S(3,1))$$

$$\text{Phase\_balance} = \text{Phase}(S(2,1)/S(3,1))$$

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

\*\* E5071B from Agilent

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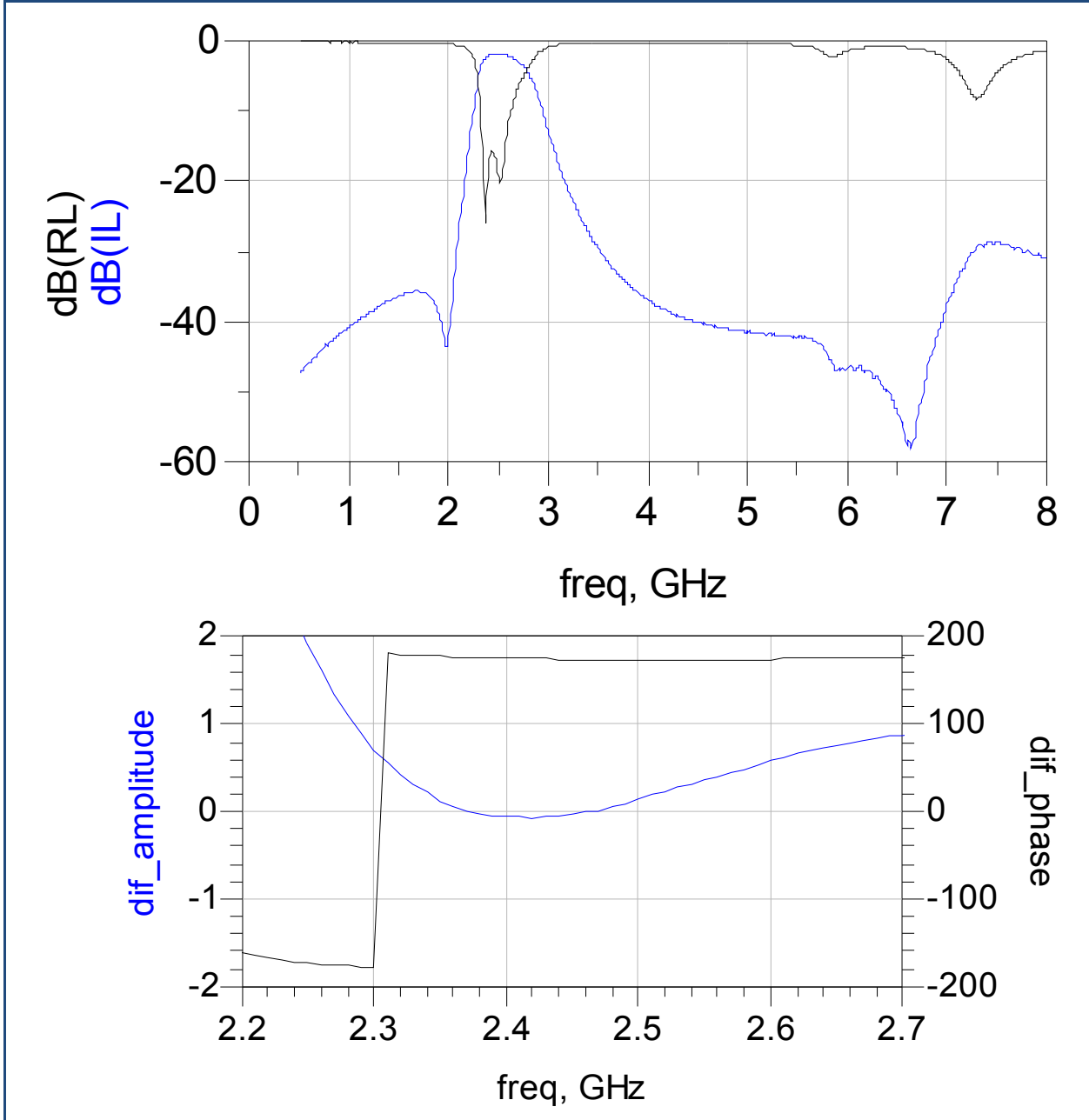
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## Typical Electrical Characteristics (T=25°C)



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## More Filter-Balun info at:

<http://www.johansontechnology.com/integrated-passives/rohs-compliant-balun-filter-combos.html>

## Packaging information

[www.johansontechnology.com/ipcpackaging.html](http://www.johansontechnology.com/ipcpackaging.html)

## Soldering Information

[www.johansontechnology.com/ipcsoldering-profile](http://www.johansontechnology.com/ipcsoldering-profile)

## MSL Info

[www.johansontechnology.com/technical-notes/msl-rating.html](http://www.johansontechnology.com/technical-notes/msl-rating.html)

## Recommended Storage Condition and Max Shelf Life

[www.johansontechnology.com/ipcstorage-shelflife](http://www.johansontechnology.com/ipcstorage-shelflife)

## RoHS Compliance

[www.johansontechnology.com/technical-notes/rohs-compliance.html](http://www.johansontechnology.com/technical-notes/rohs-compliance.html)

## Antenna layout and tuning techniques

[www.johansontechnology.com/tuning](http://www.johansontechnology.com/tuning)

## Antenna layout review, tuning, and characterization services

[www.johansontechnology.com/ipcantennaservices](http://www.johansontechnology.com/ipcantennaservices)

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