

High Frequency Ceramic Solutions

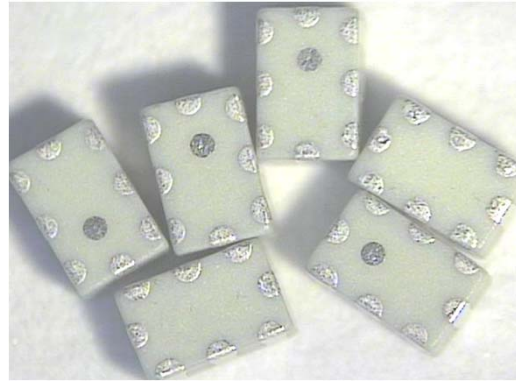
2.45GHz EIA 0805 BPF-Balun with 50Ω unbalanced impedance and 50Ω balanced differential impedance P/N 2450FB15C0050

Detail Specification: 5/14/2014

Page 1 of 4

General Specifications

Part Number	2450FB15C0050
Frequency (MHz)	2400 - 2500
Unbalanced Impedance	50 Ω
Balanced Impedance	50 Ω
Insertion Loss @ BW	2.2 max. (+25° C)
Return Loss	9.5 min.
Phase Difference	180±10
Amplitude Difference	1.5 max.
Attenuation	
35 min.@ 0~1000MHz	
32 min. / 35 typ. @1000~2000MHz	
35 min.@4800~5000MHz	
25 min.@7200~7500MHz	
Reel Quantity	4,000 pcs



Operating Temperature	-40 to +85°C
Recommended Storage Conditions for unused T&R product	+5 to +35°C, Humidity: 45-75%RH
Power Capacity	1W max.(CW)

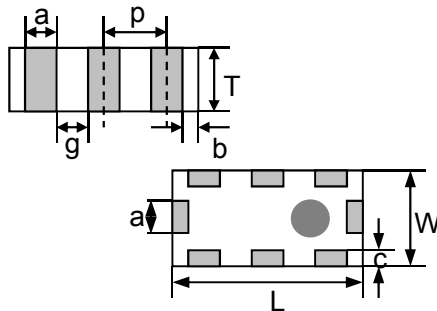
You can download measured s-parameters of this component at: <http://www.johansontechnology.com/integrated-passives/rohs-compliant-balun-filter-combos.html>

Part Number Explanation

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

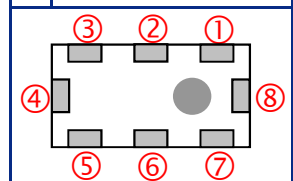
Mechanical Dimensions

	In	mm
L	0.079 ± 0.008	2.00 ± 0.20
W	0.049 ± 0.008	1.25 ± 0.20
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 .1/-(0.000	0.30 +0.1/-0.2
g	0.014 ± 0.004	0.35 ± 0.10
p	0.003 ± 0.002	0.07 ± 0.05



Terminal Configuration

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



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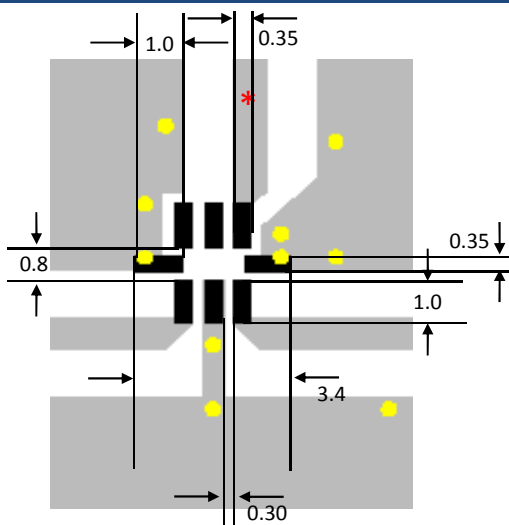
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Detail Specification: 5/14/2014

Page 2 of 4

Mounting Considerations



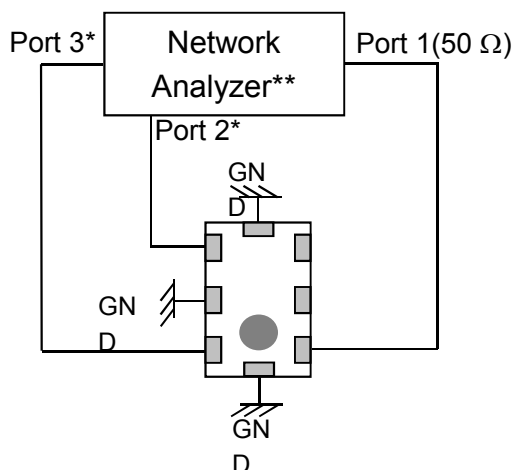
 Solder Resist

 Land

 Through-hole ($\phi 0.3$)

* Line width should be designed to match 50W 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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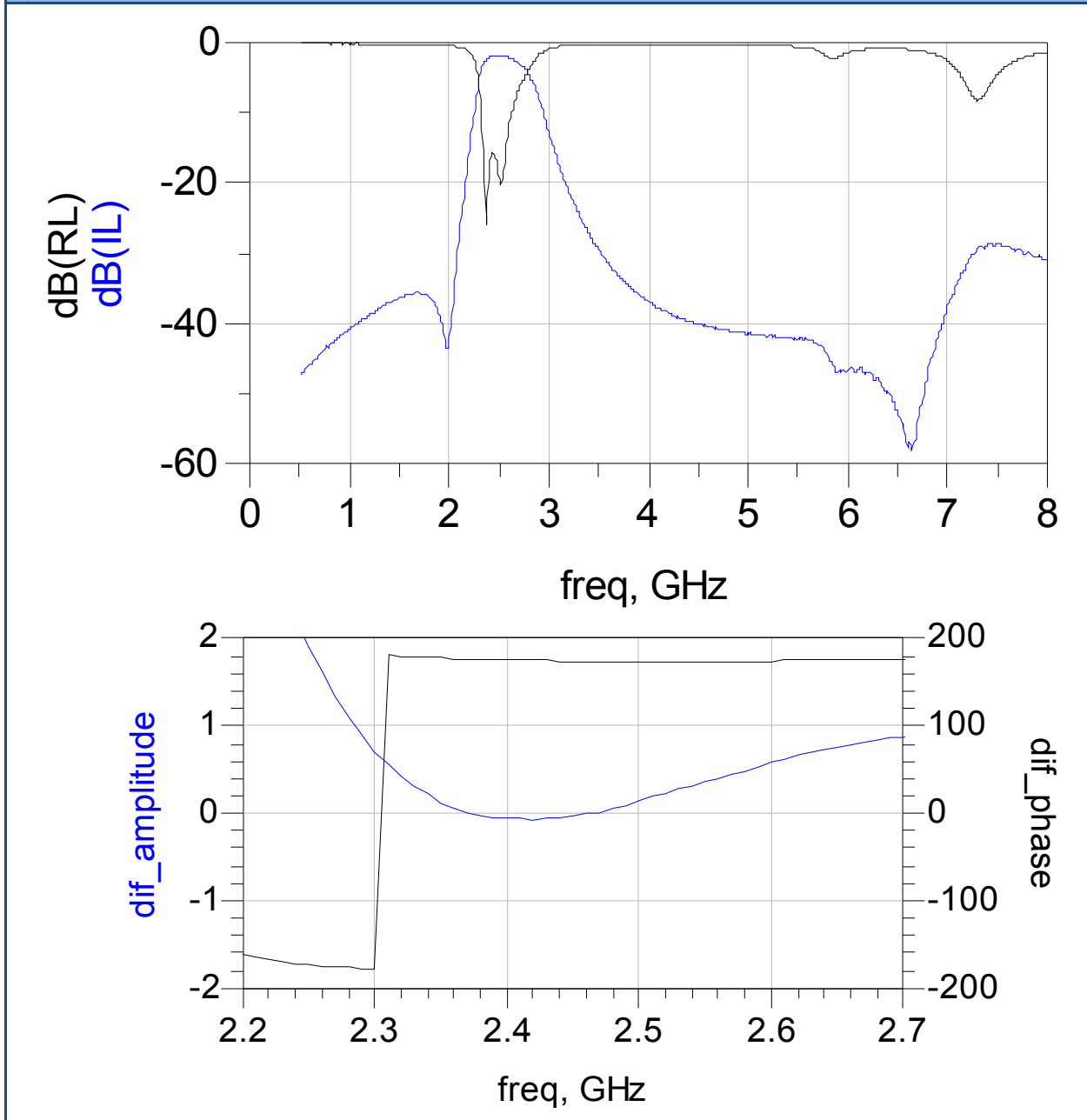
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Detail Specification: 5/14/2014

Page 3 of 4

Typical Electrical Characteristics (T=25°C)



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Detail Specification: 5/14/2014

Page 4 of 4

More Filter-Balun info at:

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

Packaging information

www.johansontechnology.com/ipcpackaging.html

Soldering Information

www.johansontechnology.com/ipcsoldering-profile

MSL Info

www.johansontechnology.com/technical-notes/msl-rating.html

Recommended Storage Condition and Max Shelf Life

www.johansontechnology.com/ipcstorage-shelflife

RoHS Compliance

www.johansontechnology.com/technical-notes/rohs-compliance.html

Antenna layout and tuning techniques

www.johansontechnology.com/tuning

Antenna layout review, tuning, and characterization services

www.johansontechnology.com/ipcantennaservices

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