

# High Frequency Ceramic Solutions

## 2.45 GHz EIA 0805 Balun / Filter Combination

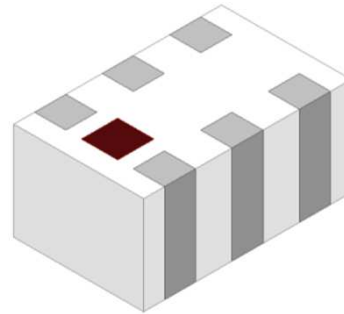
P/N 2450FB15A050

Detail Specification: 1/15/2020

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### General Specifications

Part Number	2450FB15A050
Frequency	2400 - 2500 MHz
Unbalanced Impedance	50 Ω
Balanced Impedance	50 Ω
Insertion Loss	1.5 dB max.
Return Loss	9.5 dB min.
Phase Difference	180 ± 10 deg.
Amplitude Difference	2.0 dB max.
Power Capacity	1W max. (CW)
Reel Quantity	4,000 pcs
Operating Temperature	-40 to +85°C
Attenuation	28 dB min. @2xF0
	20 dB min. @3xF0



**Recommended Storage Conditions of unused product on T&R**

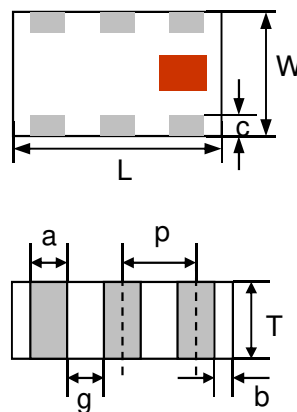
+5 to +35°C, 18 mos. max.  
Humidity 45~75% RH

### Part Number Explanation

P/N Suffix	Packing Style	Bulk	Suffix = S	Eg. 2450FB15A050S
		T & R	Suffix = E	Eg. 2450FB15A050E
	Termination style	100% Tin	Suffix = None	Eg. 2450FB15A050 (E or S)
	Evaluation Board	2450FB15A050-EB1SMA (3 female SMA connectors)		

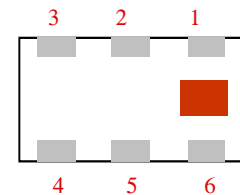
### Mechanical Dimensions

	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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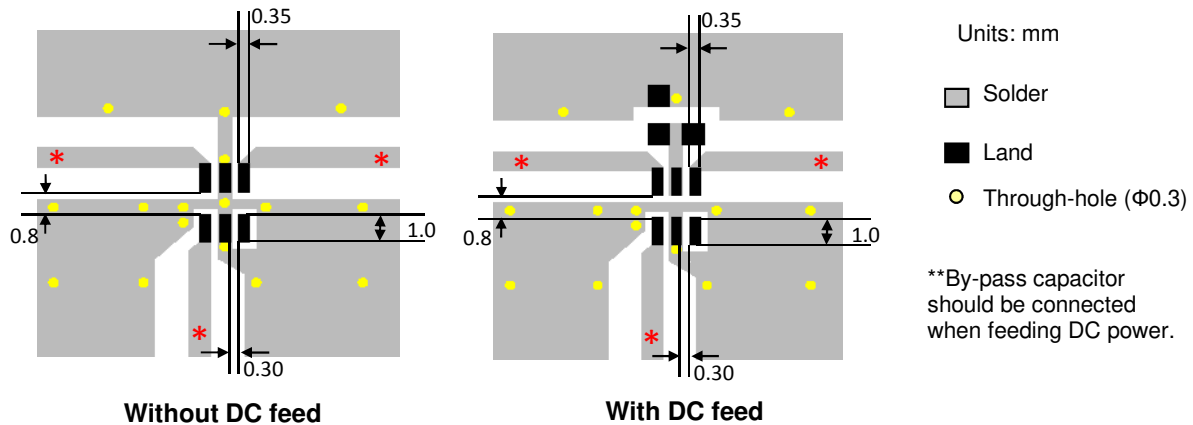
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## Mounting Considerations

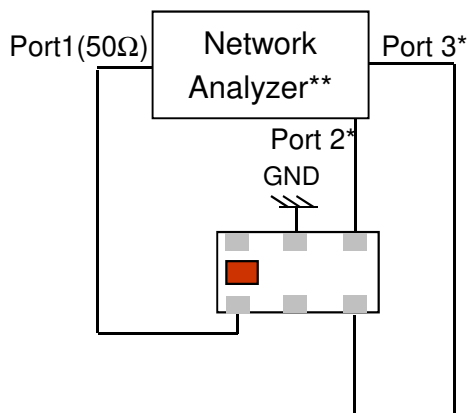
Mount these devices with colored mark facing up.

\* Line width should be designed to 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/component/techquestion>

## Measuring Diagram



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

IL=Sds21

RL=Sss11

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

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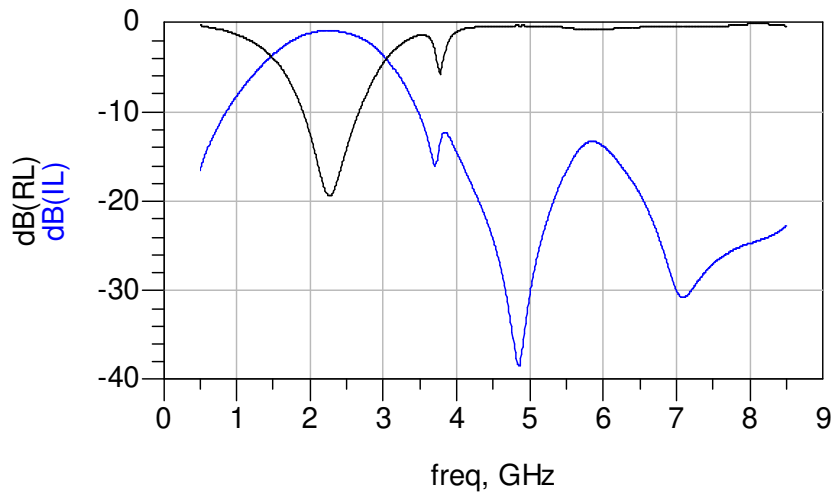
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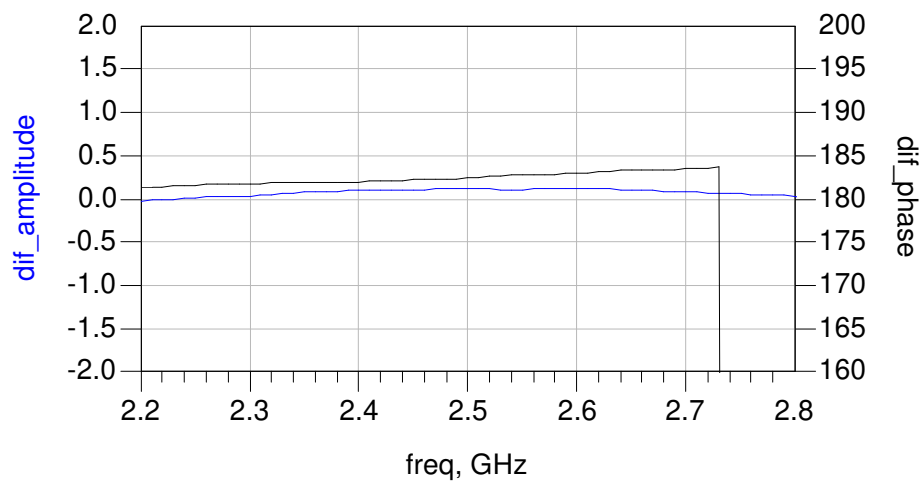
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## Typical Electrical Characteristics (T=25°C)

### Insertion and Return Loss



### Amplitude and Phase Balance



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## Application Notes, Layout Files, and more

<https://www.johansontechnology.com/balun-filter-combos>

## 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/technical-notes/rohs-compliance>

## Antenna layout and tuning techniques

<https://www.johansontechnology.com/tuning.html>

## Antenna layout review, tuning, and characterization services

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

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