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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# High Frequency Ceramic Solutions

Atmel AT86RF215 868/915/928 MHz Impedance Matched Balun + LPF  
(FCC/ETSI compliant) integrated Passive Component

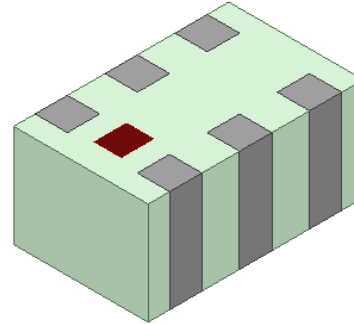
P/N: 0896BM15E0025

Detail Specification: 4/23/2018

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For the 2.4G Balun-filter, go to: [www.johansontechnology.com/atmel](http://www.johansontechnology.com/atmel)

General Specifications	
Part Number	0896BM15E0025
Frequency (MHz)	863-928
Unbalanced Impedance	50
Balanced Impedance	Conjugate match to Atmel's AT86RF215, AT86RF215M, AT86RF215IQ chipsets
Power Capacity	1W max. CW
Recommended Storage Conditions for unused T&R product	+5 to +35 °C Humidity 45 - 75%RH 18 months max
Quantity/Reel	4,000 pcs



Electrical Specifications		
Operating Temperature	-40°C to +85°C	+85°C to +125°C
Insertion Loss	1.25dB Typ. (1.6dB max.)	1.5dB Typ. (1.8dB max.)
Return Loss	9.5dB min.	9.5dB min.
Phase Balance	180±10	180±10
Amplitude Difference	2.0 max.	2.0 max.
Attenuation	40Typ. 30 min.@ 1726~1856 MHz 45Typ. 34 min.@ 2589~2784 MHz 45Typ. 42 min.@ 3452~3712 MHz 45Typ. 34 min.@ 4315~4640 MHz 54Typ. 31 min.@ 5178~5568 MHz	40Typ. 30 min.@ 1726~1856 MHz 45Typ. 34 min.@ 2589~2784 MHz 45Typ. 42 min.@ 3452~3712 MHz 45Typ. 34 min.@ 4315~4640 MHz 54Typ. 31 min.@ 5178~5568 MHz

Part Number Explanation				
P/N Suffix	Packing Style	Bulk	Suffix = S	eg. 0896BM15E0025S
		T & R	Suffix = E	eg. 0896BM15E0025E
		100% Tin	Suffix = None	eg. 0896BM15E0025(E or S)

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 +.004/-.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			
No.	Function	No.	Function
1	Unbalanced Port	4	Balanced Port
2	GND	5	GND
3	Balanced Port	6	GND

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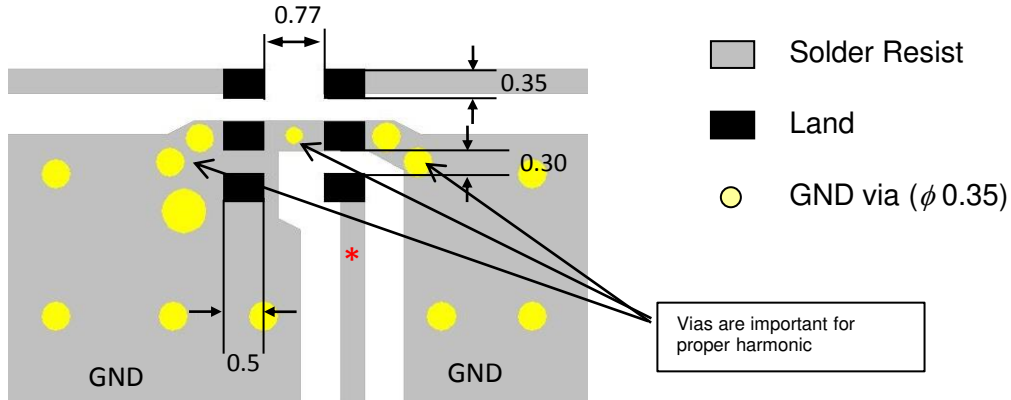
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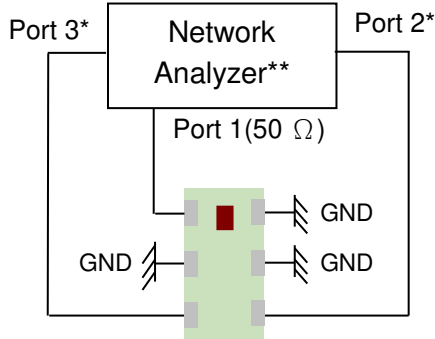
## Pad-Soldermask Guidelines



\* Line width should be designed to match 50ohm characteristic impedance, depending on PCB material and thickness. Grounded CPWG is recommended.

Schematic and layout file download: [www.johansontechnology.com/atmel](http://www.johansontechnology.com/atmel)

## Measurement Diagram



Port 1: Unbalanced Port  
Ports 2 and 3: Balanced Port  
IL=Sds21  
RL=Sss11  
Amp\_diff =  $\text{dB}(S(2,1)/S(3,1))$   
Phase\_diff =  $\text{Phase}(S(2,1)/S(3,1))$

\* Impedance for ports 2 and 3 = Balanced Impedance/2  
\*\* E5071B from Agilent

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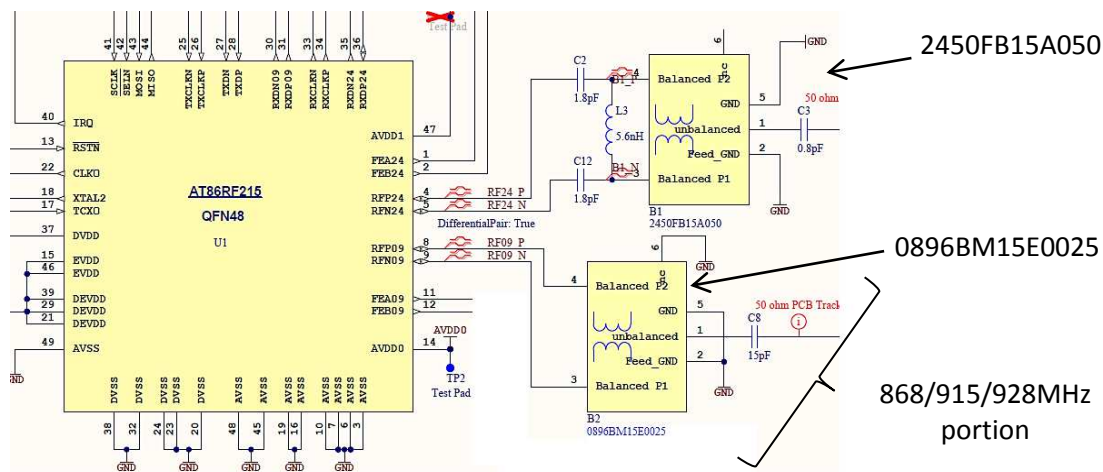
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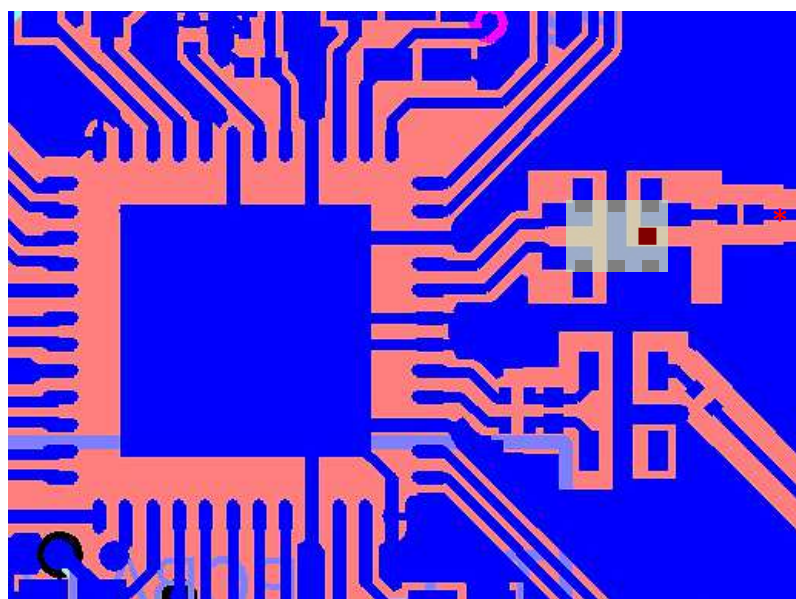
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## Schematic



Schematic and layout file download: [www.johansontechnology.com/atmel](http://www.johansontechnology.com/atmel)

## Layout Mounting Considerations



\* Line width should be designed to match 50ohm characteristic impedance, depending on PCB material and thickness. Grounded CPW is recommended.

868/915/928MHz portion

2.4GHz portion

Download the complete layout file at at: [www.johansontechnology.com/atmel](http://www.johansontechnology.com/atmel)

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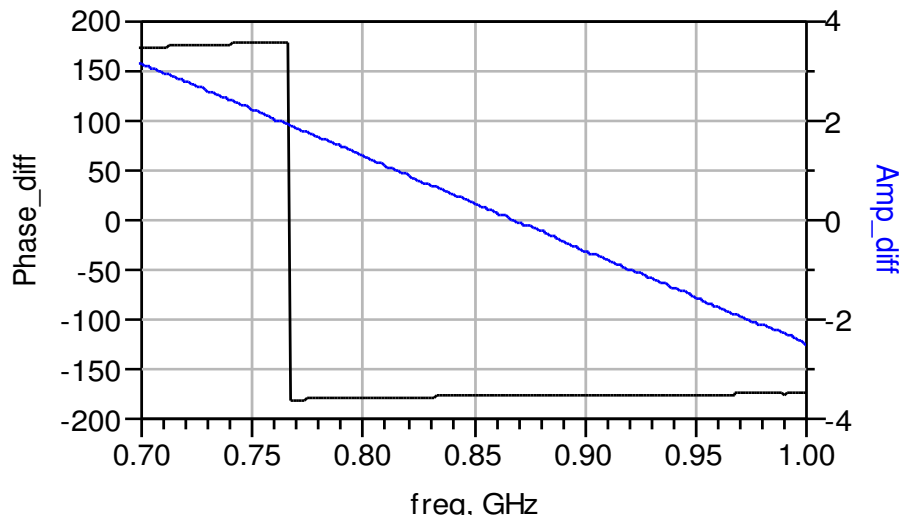
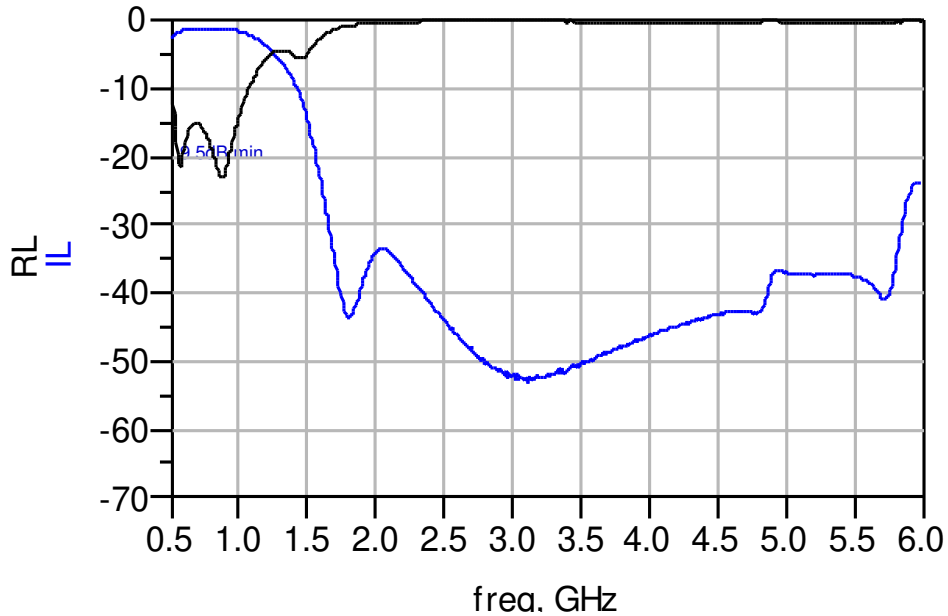
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## Typical Electrical Characteristics (T=25°C)



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## Application Notes, Layout Files, and more

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

## RoHS Compliance

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

## Soldering Information

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

## Antenna layout and tuning techniques

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

## Antenna layout review, tuning, and characterization services

[www.johansontechnology.com/ipc-antenna-services](http://www.johansontechnology.com/ipc-antenna-services)

## MSL Info

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

## Recommended Storage Condition and Max Shelf Life

[www.johansontechnology.com/recommended-storage-conditions](http://www.johansontechnology.com/recommended-storage-conditions)

## Packaging information

[www.johansontechnology.com/tape-reel-packaging](http://www.johansontechnology.com/tape-reel-packaging)

Would you like us to review your layout for free and, if needed, recommend you an small antenna solution for your application?

Contact us at:

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