

"High Frequency Ceramic Solutions"

2.45 GHz Harmonic Filter-Balun Optimized for AT86RF230/231 and ATmega128RFA1 P/N 2450FB15L0001

Detail Specification: 11/10/2014

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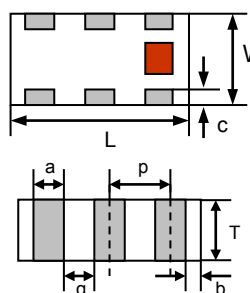
General Specifications

Part Number	2450FB15L0001	Differential Mode Attenuation (dB)	20 min.@ 4800~5000MHz
Frequency (MHz)	2400~2500		20 min.@ 7200~7500MHz
Unbalanced Impedance	50 Ω	Common Mode Attenuation (dB)	20 min.@ 4800~5000MHz
Balanced Impedance	Impedance match to AT86RF230/231 and ATmega128RFA1	Operating Temperature	-40°C to +125°C
Insertion Loss	1.5 dB max.	Storage Conditions	+5 to +35°C, Humidity: 45-75%RH, 18 mos. Max
Return Loss	9.5 dB min.	Input Power	2 Watts max. (CW)
Phase Difference	180° $\pm$ 10	Reel Quantity	4,000
Amplitude Difference	2.0 dB max.		

* 18 months in vacuum sealed bag and 1 week after opened. For more info go to www.johansontechnology.com/silverleads

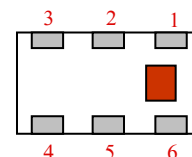
Mechanical Dimensions

	In	mm
L	0.079 $\pm$ 0.004	2.00 $\pm$ 0.10
W	0.049 $\pm$ 0.004	1.25 $\pm$ 0.10
T	0.031 $\pm$ 0.004	0.80 $\pm$ 0.10
a	0.012 $\pm$ 0.004	0.30 $\pm$ 0.10
b	0.008 $\pm$ 0.004	0.20 $\pm$ 0.10
c	0.012 $\pm$ 0.004/-0.008	0.30 $\pm$ 0.1/-0.2
g	0.014 $\pm$ 0.004	0.35 $\pm$ 0.10
p	0.026 $\pm$ 0.002	0.65 $\pm$ 0.05



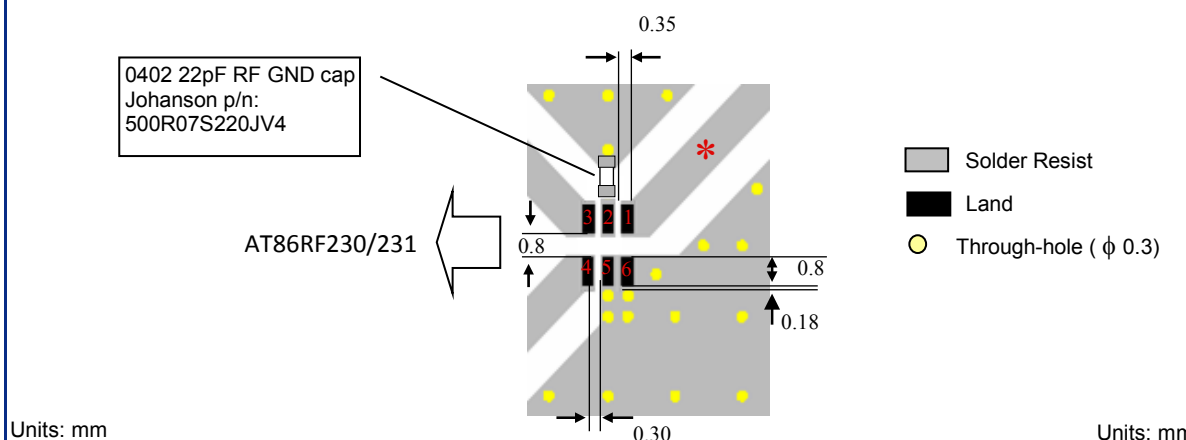
Terminal Configuration

No.	Function	No.	Function
1	Unbalanced Port	4	Balanced Port
2	DC Feed + RF GND	5	GND
3	Balanced Port	6	GND



Balun Layout with AT86RF230/1

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



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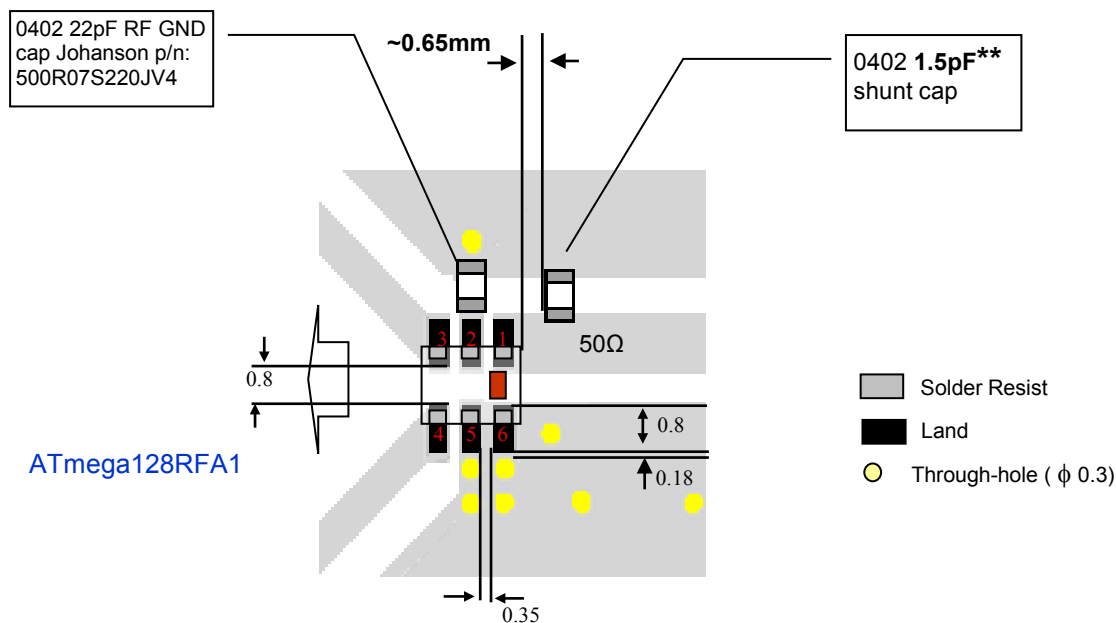
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Balun Layout with ATmega128RFA1



* Distance can vary depending on PCB layout and stack-up (matching phase may be influenced by this distance)

** Shunt capacitor value is between 0.5pF and 1.5pF, depending of the true line impedance

Part Numbering Scheme

P/N Suffix	Packaging Style	Bulk	Suffix = S	Eg. 2450FB15L0001S
		T & R	Suffix = E	Eg. 2450FB15L0001E
	Termination Style	AgPt	Suffix = None	Eg. 2450FB15L0001(E or S)
	Evaluation Board	2450FB15L0001-EB1SMA		

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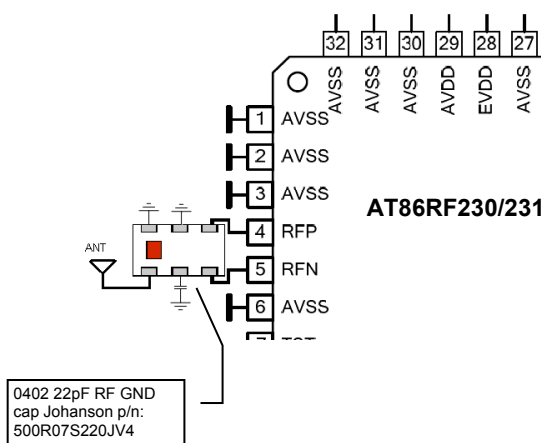
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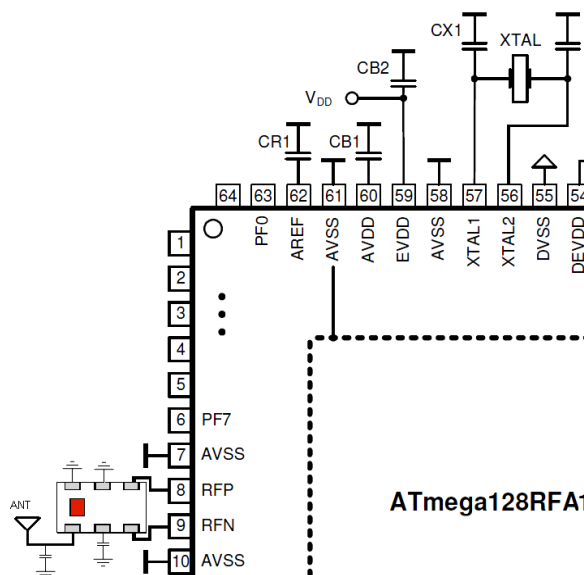
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AT86RF230/231 With DC feed graphical representation:



See last page for filtering performance

ATmega128RFA1 With DC feed graphical representation:



See last page for filtering performance

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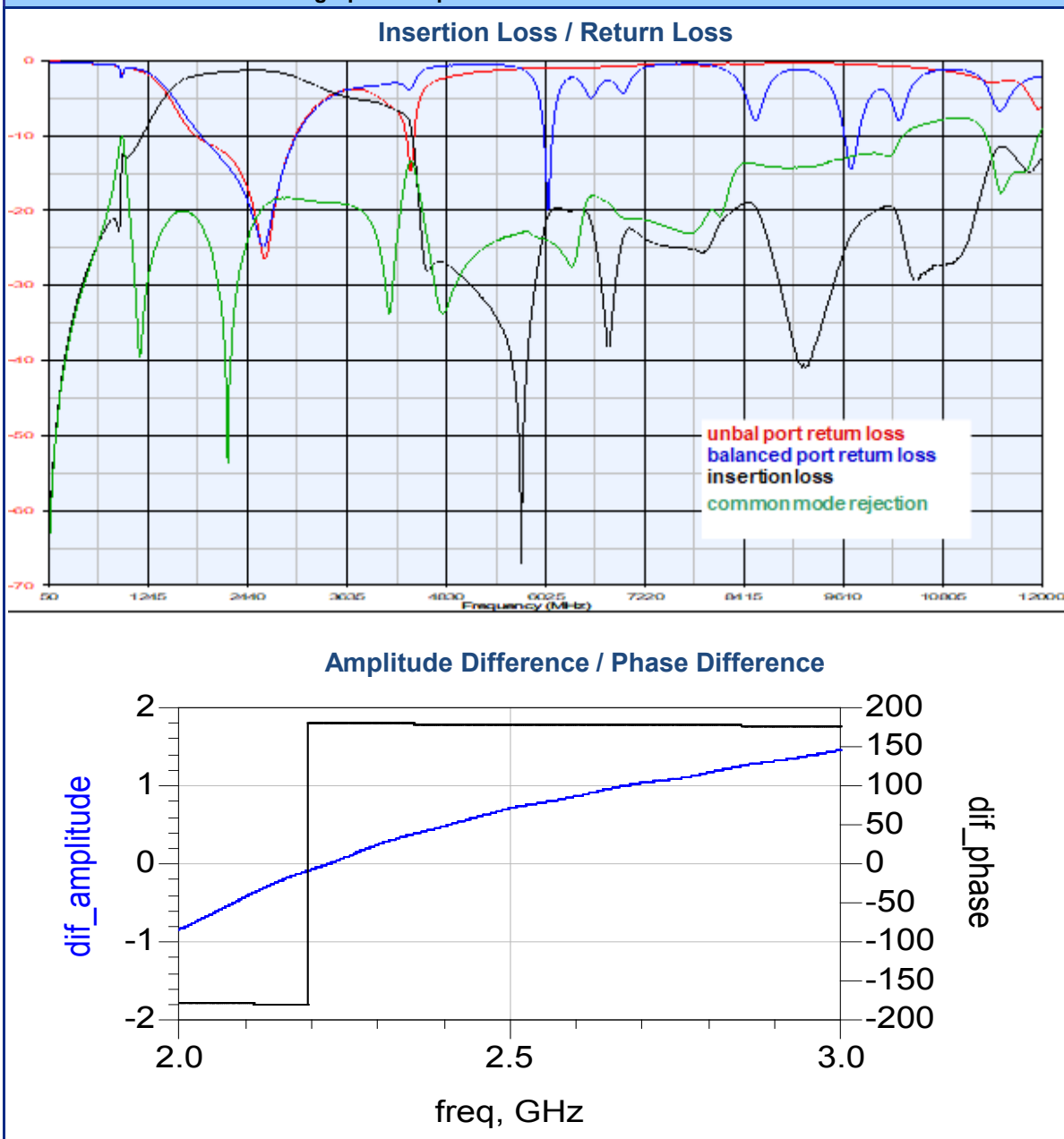
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AT86RF230/231 With DC feed graphical representation:



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RoHS Compliance

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Packaging information

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Soldering Information

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Antenna layout and tuning techniques

www.johansontechnology.com/tuning

Antenna layout review, tuning, and characterization services

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Pad metalization information

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MSL Info

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

Recommended Storage Condition and Max Shelf Life

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Application Notes, Layout Files, and more

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