

# "High Frequency Ceramic Solutions"

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

Detail Specification: 07/12/2010

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## General Specifications

Part Number	2450FB15L0001
Frequency (MHz)	2400~2500
Unbalanced Impedance	50 $\Omega$
Balanced Impedance	Impedance match to AT86RF230/231 and ATmega128RFA1
Insertion Loss	1.5 dB max.
Return Loss	9.5 dB min.
Phase Difference	180° $\pm$ 10
Amplitude Difference	2.0 dB max.

Differential Mode Attenuation (dB)	20 min.@ 4800~5000MHz
	20 min.@ 7200~7500MHz
Common Mode Attenuation (dB)	20 min.@ 4800~5000MHz
Operating Temperature	-40 to +85°C
Storage Temperature	+5 to +35°C, Humidity: 45-75%RH, 12 mos. Max
Input Power	2 Watts max.
Reel Quantity	4,000

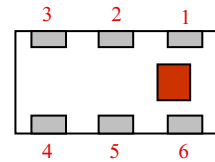
\* 12 months in vacuum sealed bag and 1 week after opened.

## 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

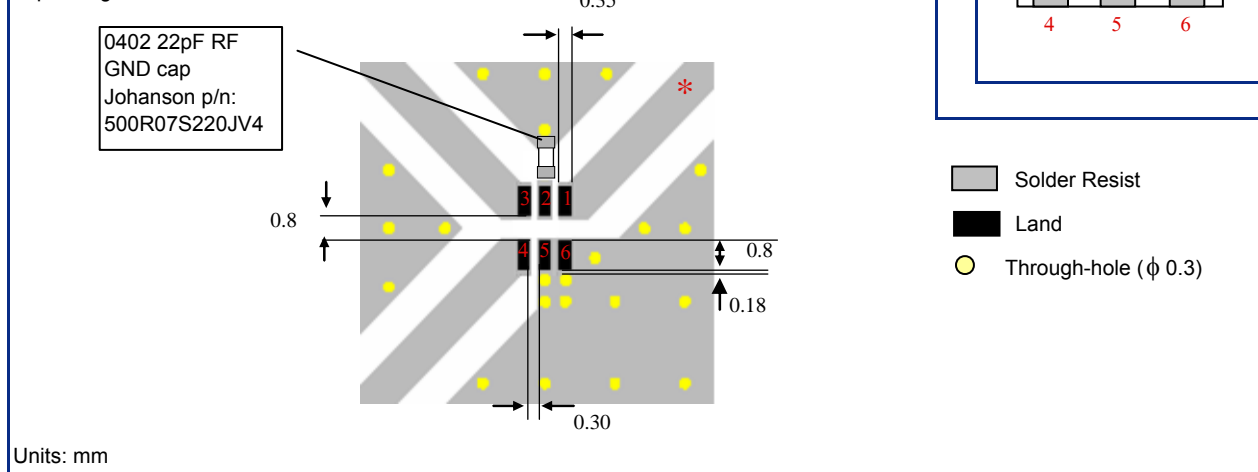
## Terminal Configuration

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



## Balun Layout with AT86RF230/1

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



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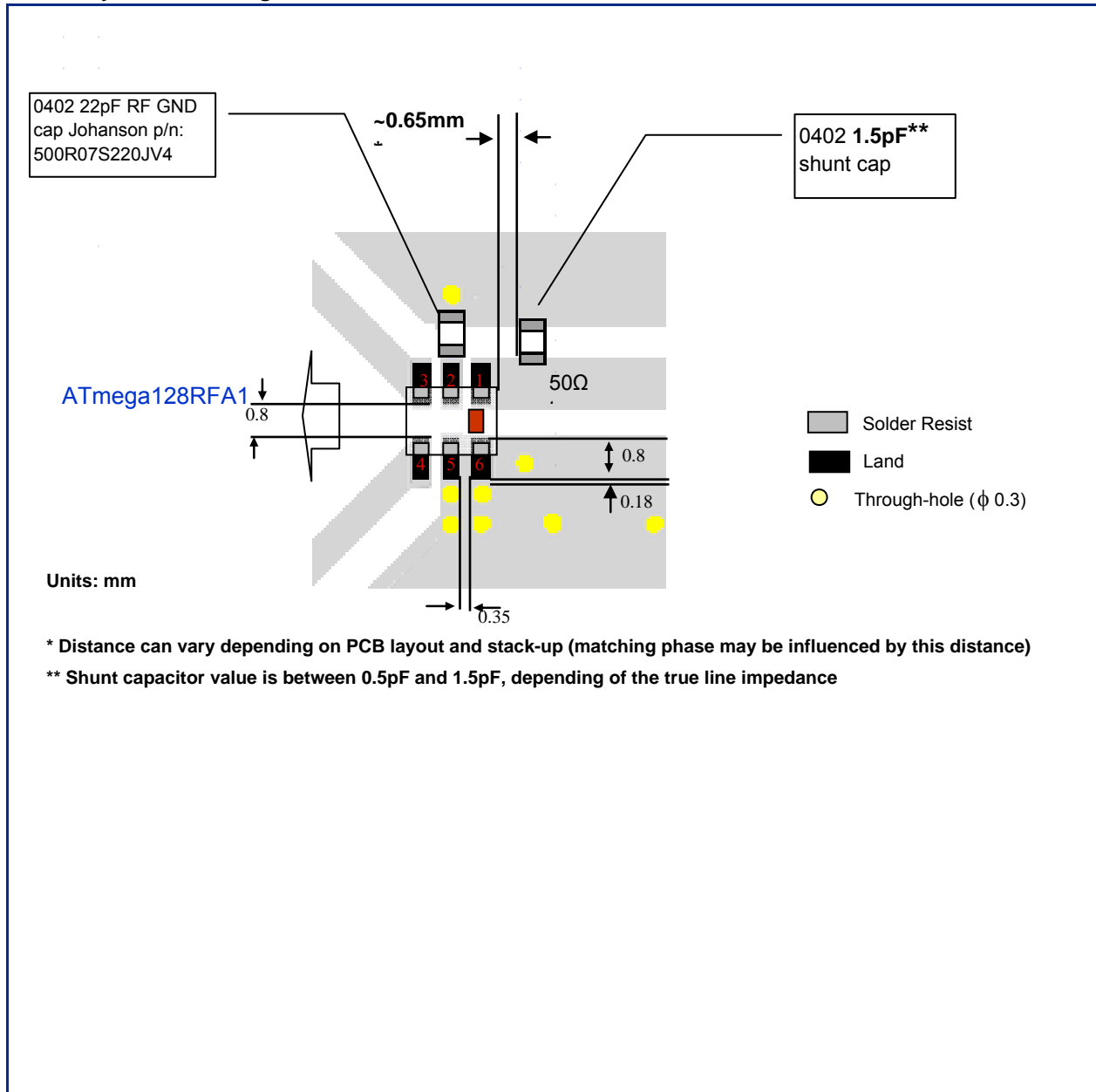
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## Balun Layout with ATmega128RFA1



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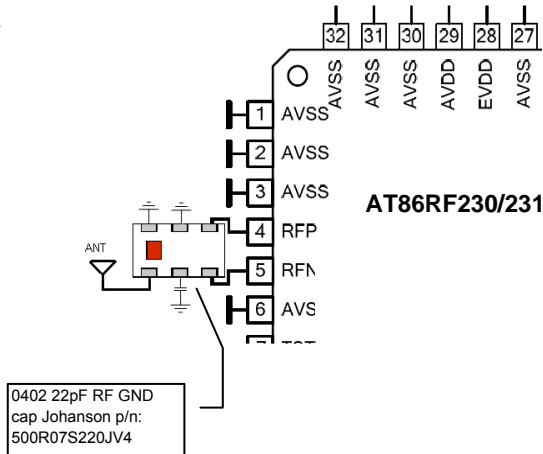
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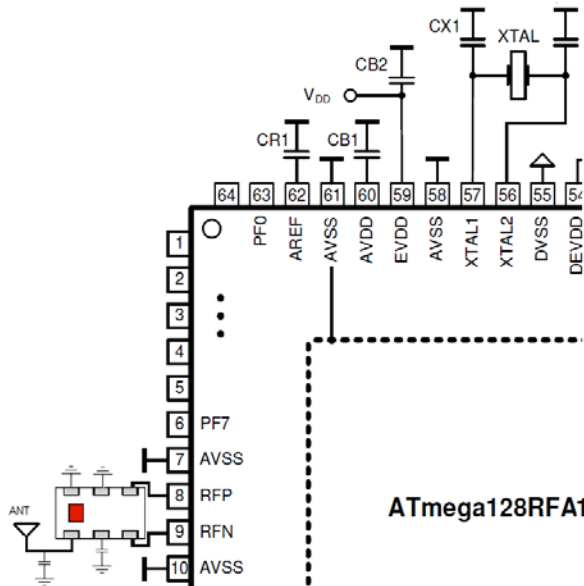
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## AT86RF230/231 With DC feed graphical representation:



See last page for filtering performance

## ATmega128RFA1 With DC feed graphical representation:



See last page for filtering performance

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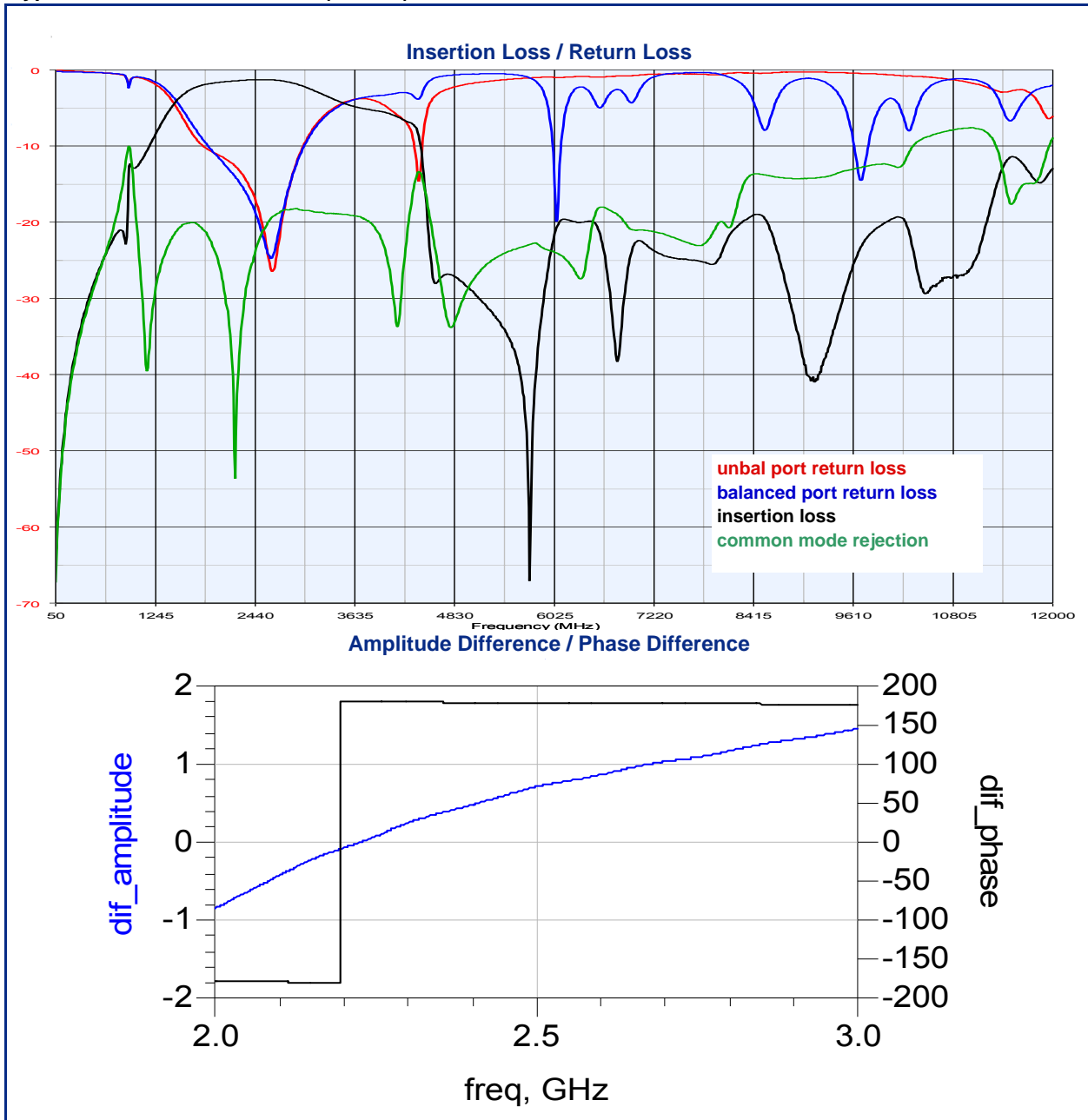
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## Typical Electrical Performance (T=25°C)



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