

"High Frequency Ceramic Solutions"

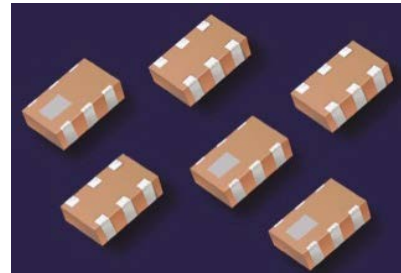
2.45GHz Impedance Matched Balun-Filter for Atmel Chipset AT86RF232 and AT86RF233. Platforms: ATMega256RFR2, Zigbit 256RFR2, Zigbit RF233, ZigBit RF233+FEM, Extension RF233, USB RF233

P/N 2450BM15A0015

Detail Specification: 1/21/2013

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General Specifications	
Part Number	2450BM15A0015
Frequency (MHz)	2400~2500
Unbalanced Impedance	50 Ω
Differential Balanced Impedance	Impedance match to: Atmel AT86RF232, AT86RF233, ATMega256RFR2, Zigbit 256RFR2, Zigbit RF233, ZigBit RF233+FEM, Extension RF233, USB RF233
Insertion Loss (-40C to +85C)	1.1dB Typ, 1.5 dB max.
Insertion Loss (-40C to +125C)	1.3dB Typ, 1.9 dB max.
Return Loss	9.5 min.
Phase Difference	180 \pm 10 (deg)
Amplitude Difference	2.0 dB max.
Power Capacity	1 Watt max.
Differential Mode Attenuation	20dB min. @2Fo 20dB min. @3Fo
Common Mode Rejection	20dB min. @2Fo



Operating Temp.	-40 to +125°C
Solder Paste	SAC 305 type is recommended
Recommended Storage Conditions*	+5 to +35 oC, Humidity 45~75%RH
Reel Quantity	4,000
Storage Period	18 months max.

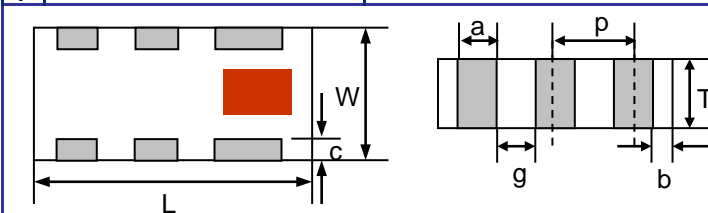
*18 months in vacuum sealed bag and 1 week cumulative after opened.
For more info go to www.johansontechnology.com/silverleads

Part Number Explanation

P/N Suffix	Packing Style	Bulk (Loose)	Suffix = S	eg. 2450BM15A0015S
		T & R	Suffix = E	eg. 2450BM15A0015E
	Termination style	100% Tin	Suffix = None	eg. 2450BM15A0015 (E or S)
	Evaluation Board	2450BM15A0015-EBSMA		

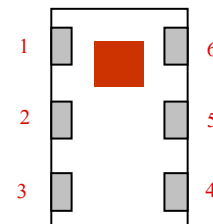
Mechanical Dimensions

	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 /-0.2	0.30 \pm 0.10
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 (50 Ω)
2	GND
3	Balanced Differential Port
4	Balanced Differential Port
5	GND
6	GND



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Ver 6.1

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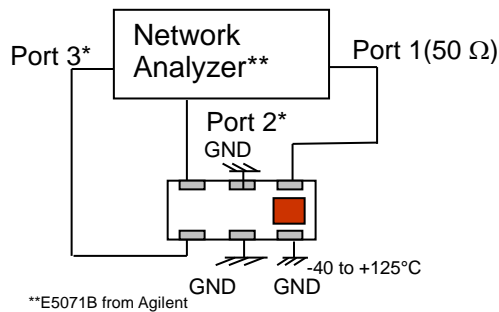
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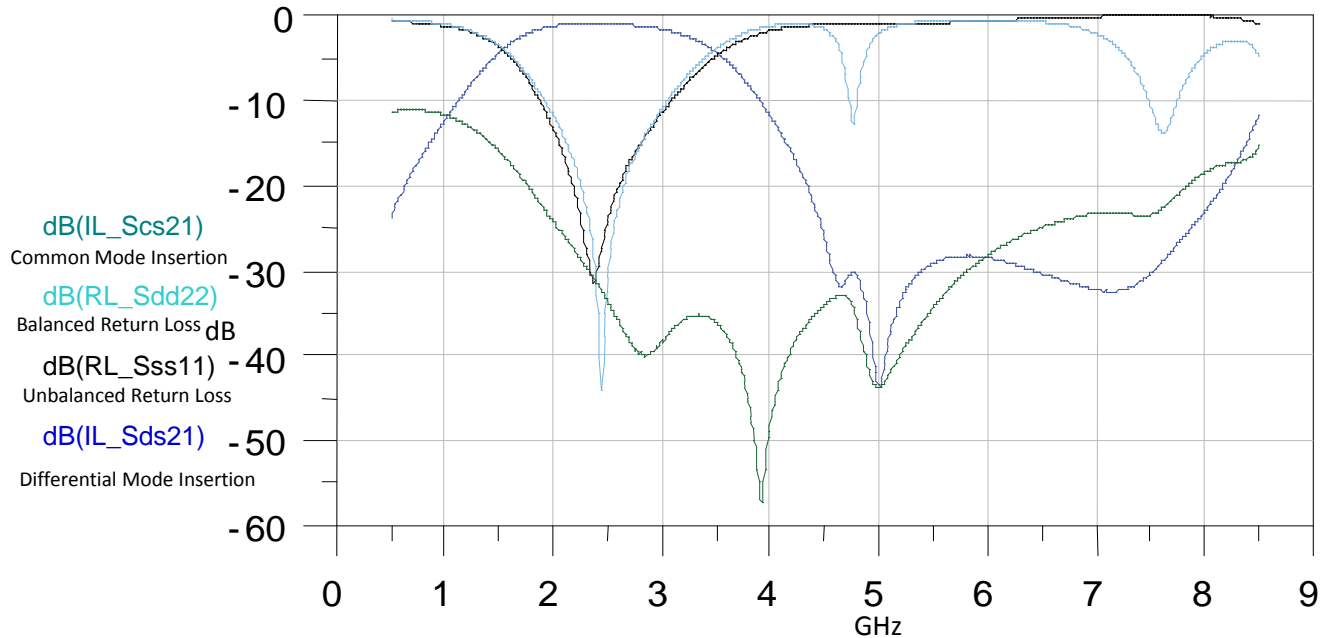
Measuring Diagram



Port 1: Unbalanced Port
Ports 2 and 3: Balanced Port
IL=Sds21
RL=Sss11
Amp_balance = $\text{dB}(S(2,1)/S(3,1))$
Phase_balance = $\text{Phase}(S(2,1)/S(3,1))$
*Impedance for ports 2 and 3
= Conjugate to Balanced Impedance/2

Typical Electrical Performance (T=25°C)

Insertion and Return Loss



Impedance matching network, balun and harmonic filter all in one EIA 0805 package!

Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



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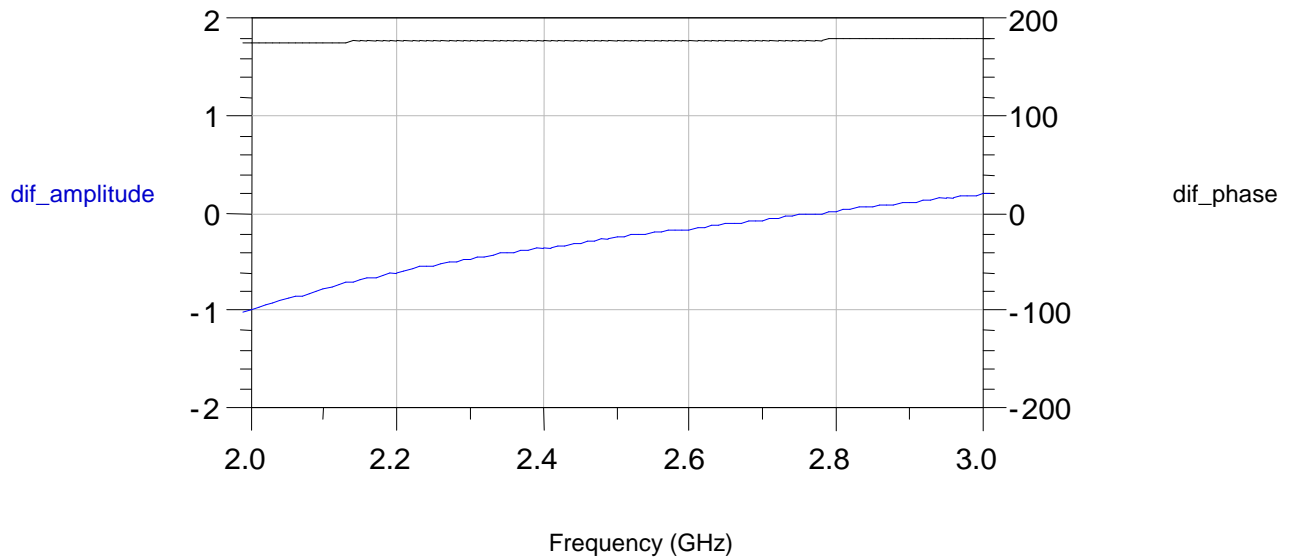
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Typical Electrical Performance (T=25°C)

Amplitude and Phase Balance



Impedance matching network, balun and harmonic filter all in one EIA 0805 package!

Mounting Considerations

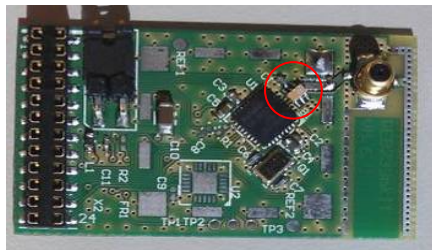
Mount these devices with brown mark facing up.

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

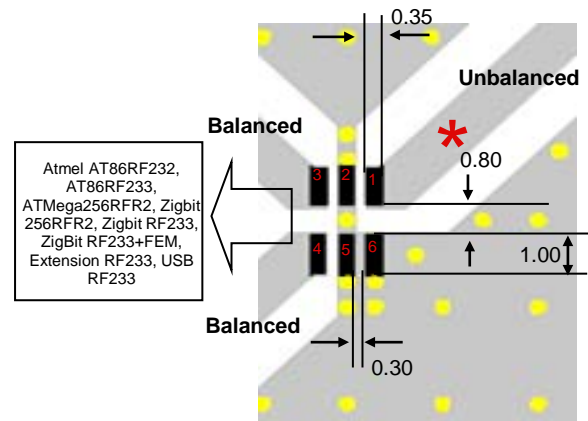
LEGEND

- Solder Resist
- Land
- Through-hole ($\phi 0.3$)

Units : mm



REB233mkII V8.6.1 EVB Example



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