High Frequency Ceramic Solutions

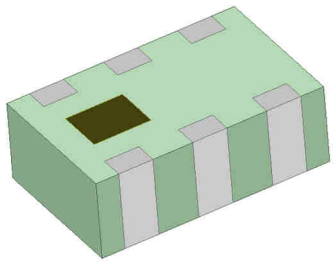
Sub-GHz Impedance Matched Balun + LPF integrated Passive Component for Microchip SAM R30 **P/N: 0896BM15A0032**

Detail Specification: 1/27/2017

For the Full App Note and Layout Files, go to: www.johansontechnology.com/microchip

General Specifications

Part Number	0896BM15A0032
Frequency (MHz)	863 - 928
Unbalanced Impedance	50 Ω
Balanced Differential Impedance	Conjugate match to Microchip (Atmel) SAM R30
Insertion Loss	1.5 dB Typ (1.7dB max.)
Return Loss (dB)	12dB Typ (9.5 min.)
Attenuation Differential mode (dB):	
40 Typ. (30 min.) @ 1726-1856 MHz	
49 Typ. (40 min.) @ 2589-2784 MHz	
46 Typ. (38 min.) @ 3452-3712 MHz	



Phase Difference (deg.)	180 ± 10
Amplitude Difference	2.0 max.
Power Capacity	1W max (CW)
Qty/Reel (pcs)	4,000
Operating Temp. Range	-40 - +85°C
Storage Temp. Range	-40 - +85°C
Recommended Storage Conditions of Unused Product on T&R	+5 - +35 °C, Humidity 45-75%
Storage Period	18 months max.

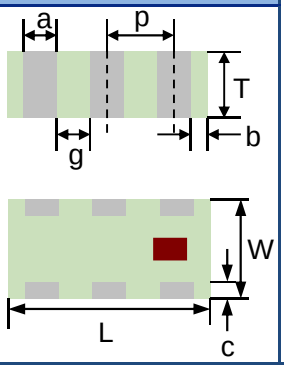
Do you need help selecting the best sub-GHz antenna for your application? Send us a message at:
www.johansontechnology.com/ask-a-question

Part Number Explanation

P/N Suffix	**Packaging Style**	Bulk	Suffix = S	E.g. 0896BM15A0032S
		T & R	Suffix = E	E.g. 0896BM15A0032E
	Termination Style	100% Tin	Suffix = None	E.g. 0896BM15A0032(E or S)

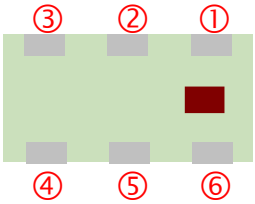
Mechanical Dimensions

	Inches	Millimeter
L	0.079 ± 0.004	2.00 ± 0.1
W	0.049 ± 0.004	1.25 ± 0.1
T	0.028 ± 0.004	0.70 ± 0.1
a	0.012 ± 0.004	0.30 ± 0.1
b	0.008 ± 0.004	0.20 ± 0.1
c	0.012 +0.004/-0.008	0.30 +0.1/-0.2
g	0.014 ± 0.004	0.35 ± 0.1
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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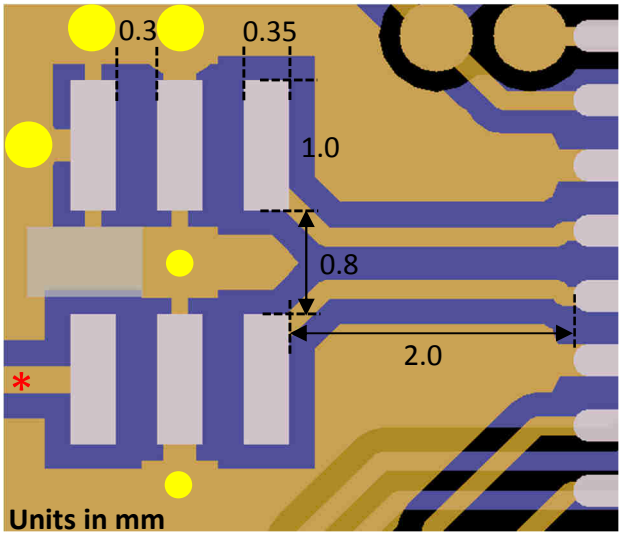
Mounting Considerations



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

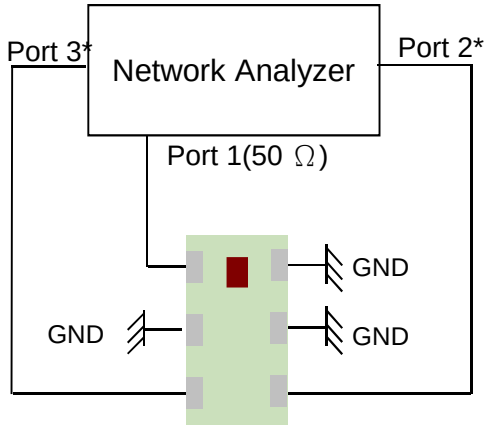
Vias are important for proper harmonic

- GND
- Footprint
- GND Vias (ϕ0.35/ϕ0.2)

Would you like us to provide the layout files of the Microchip chipset + 2450BM15A0032? Review your layout for free? Please go to this link to contact our RF team: www.johansontechnology.com/ask-a-question "Applications Engineering" on the drop down question type

Do you need the layout/gerber files of the above? Go to: www.johansontechnology.com/microchip or send us message to review your layout at: http://www.johansontechnology.com/ask-a-question

Measuring Diagram



Port 1:Unbalanced Port
Ports 2 and 3: Balanced Port
IL=S_{ds21}
RL=S_{ss11}
Amp_balance = dB(S(2,1)/S(3,1))
Phase_balance = Phase(S(2,1)/S(3,1))

*Impedance for ports 2 and 3
= Conjugate to Balanced Impedance/2

You can download the s-parameters at: http://www.johansontechnology.com/microchip

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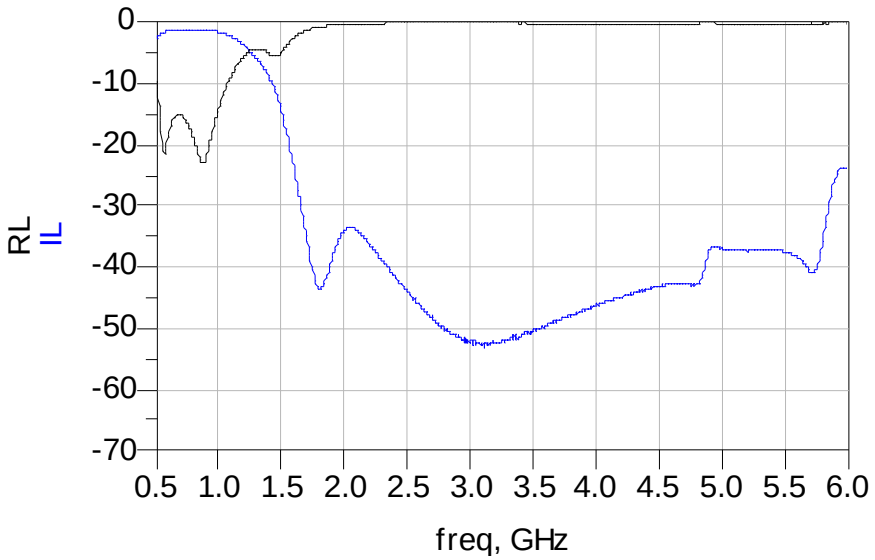
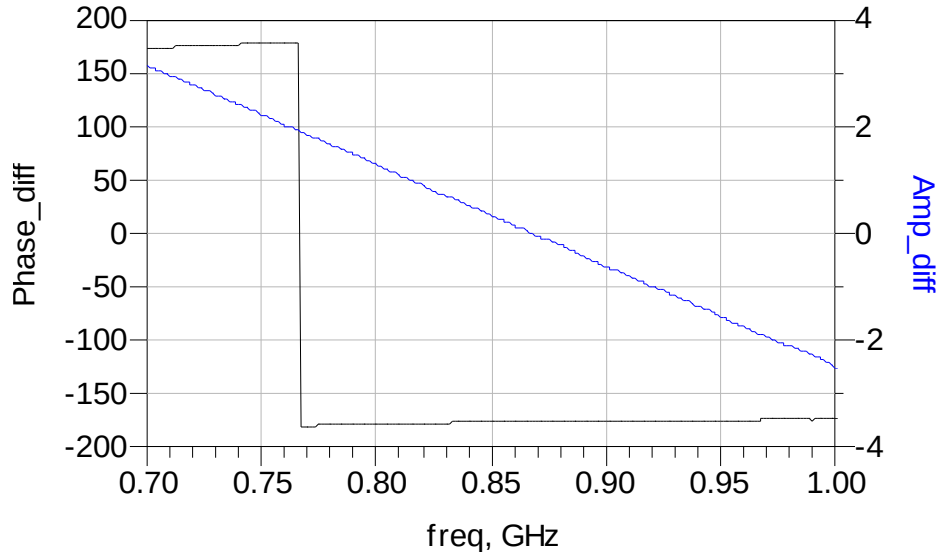
Typical Electrical Characteristics (T=25°C)

Insertion and Return Loss



Amplitude and Phase Balance



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Application Notes, Layout Files, and more
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Packaging information
www.johansontechnology.com/tape-reel-packaging

Soldering Information
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