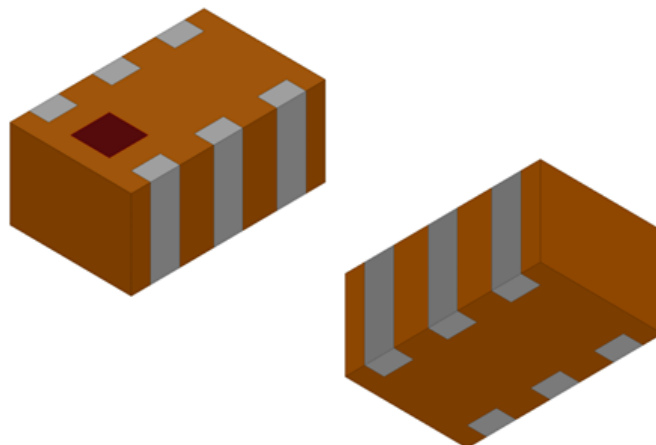




863 - 928 MHz RF 1:2 Balun-Filter Combination

- 863 – 928 MHz, 50:100 (1:2) Impedance Ratio
- Wireless communication systems including: Sub-GHz ISM, 868MHz, 915MHz
- SMD, EIA 0805
- RoHS compliant



General Specifications^{1 2}

Unbalanced Impedance (Ω)	863 - 928 MHz	50
Balanced Impedance (Ω)	863 - 928 MHz	100
Insertion Loss (dB)	863 - 928 MHz	1.5 Max.
Return Loss (dB)	863 - 928 MHz	11.7 Min.
Phase Difference (Degree)	863 - 928 MHz	180 ± 15
Amplitude Difference (dB)	863 - 928 MHz	2.0 Max.
Attenuation (dB)	1726 - 1856 MHz	30 Min.
	2589 - 2784 MHz	30 Min.
	3452 - 3712 MHz	30 Min.

Maximum Ratings

Power Capacity (W)	1 Max. (CW)
Operating Temperature ($^{\circ}\text{C}$)	-40 to +85
Recommended Storage Conditions post-installation ($^{\circ}\text{C}$)	-40 to +85
Recommended Storage Conditions and Period for Unused T&R Product ³	45% - 75% RH
	+5 to +35 $^{\circ}\text{C}$
	18 Months Max.

¹ Typical value represents average measurement at 25 $^{\circ}\text{C}$. Min./Max. values represent measurements over specified operating temperature.

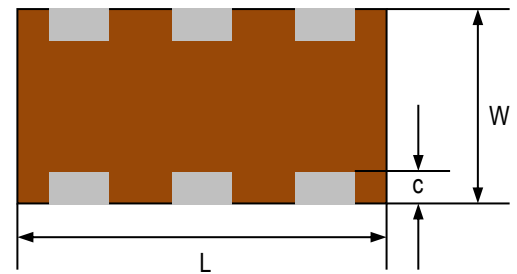
² General specifications measured on Johanson's evaluation board PN 0896FB15A0100001CE1.

³ 18 months max. in vacuum sealed bag and 1 week after opened. Please keep unused parts in vacuum sealed bags. For more info go to <https://www.johansontechnology.com/silverleads-profile>.

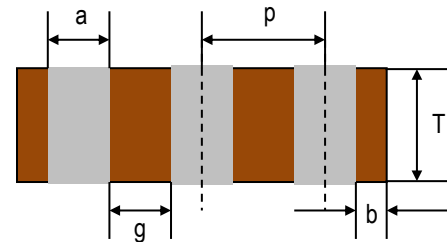
Mechanical Dimensions

	Inches			Millimeters		
L	0.079	±	0.004	2.00	±	0.10
W	0.049	±	0.004	1.25	±	0.10
T	0.028	±	0.004	0.70	±	0.10
a	0.012	±	0.004	0.30	±	0.10
b	0.008	±	0.004	0.20	±	0.10
c	0.012	±	0.004	0.30	±	0.10
g	0.014	±	0.004	0.35	±	0.10
p	0.026	±	0.002	0.65	±	0.05

Bottom view



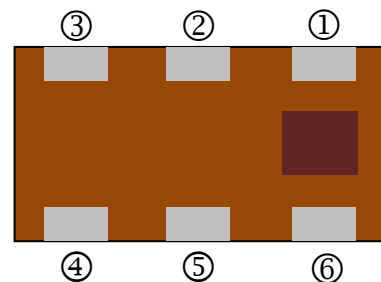
Side view



Terminal Configuration⁴

Pin Number	Function
1	Unbalanced Port (IN)
2	GND
3	Balanced Port (OUT1)
4	Balanced Port (OUT2)
5	GND
6	GND

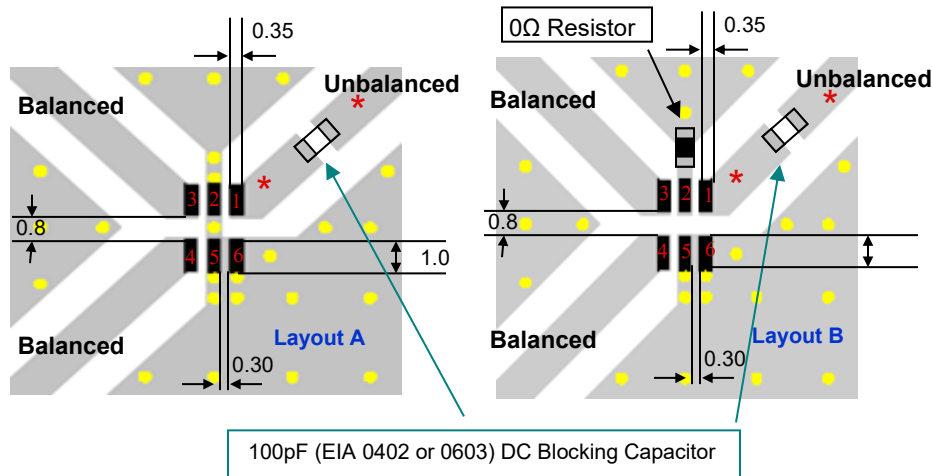
Top view



⁴ The termination type is Silver. Go to: <https://www.johansontechnology.com/tech-notes/typical-soldering-profile-ipc> for Typical Soldering Profile.

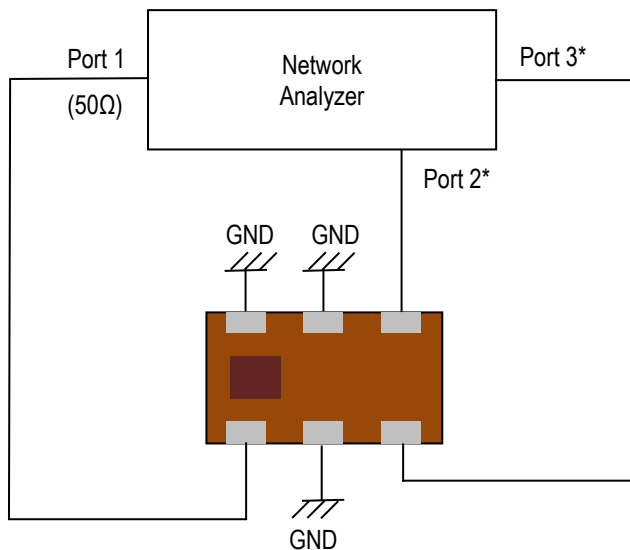
Recommended PCB Layout

Note: Mount device with colored mark facing up.



If you would like the full reference design package or have any questions, contact our application engineers at <https://www.johansontechnology.com/ask-a-question>

Measuring Diagram



Port 1: Unbalanced Port

Ports 2 and 3: Balanced Port

Insertion Loss = S_{ds21}

Return Loss = S_{ss11}

Amplitude Balance = $\text{dB}(S(2,1)/S(3,1))$

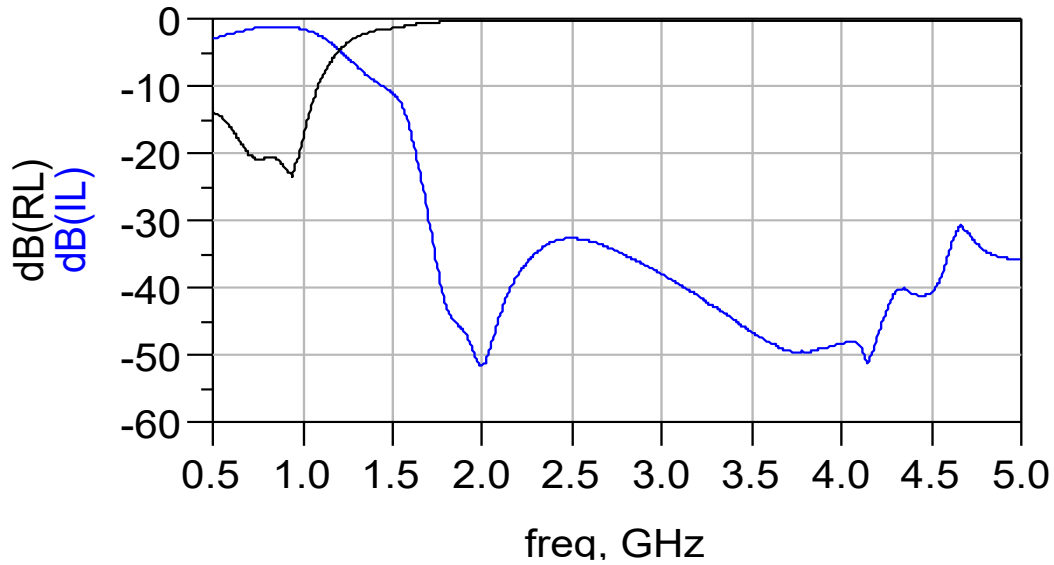
Phase Balance = $\text{Phase}(S(2,1)/S(3,1))$

*Impedance for Ports 2 and 3 = Balanced Impedance/2

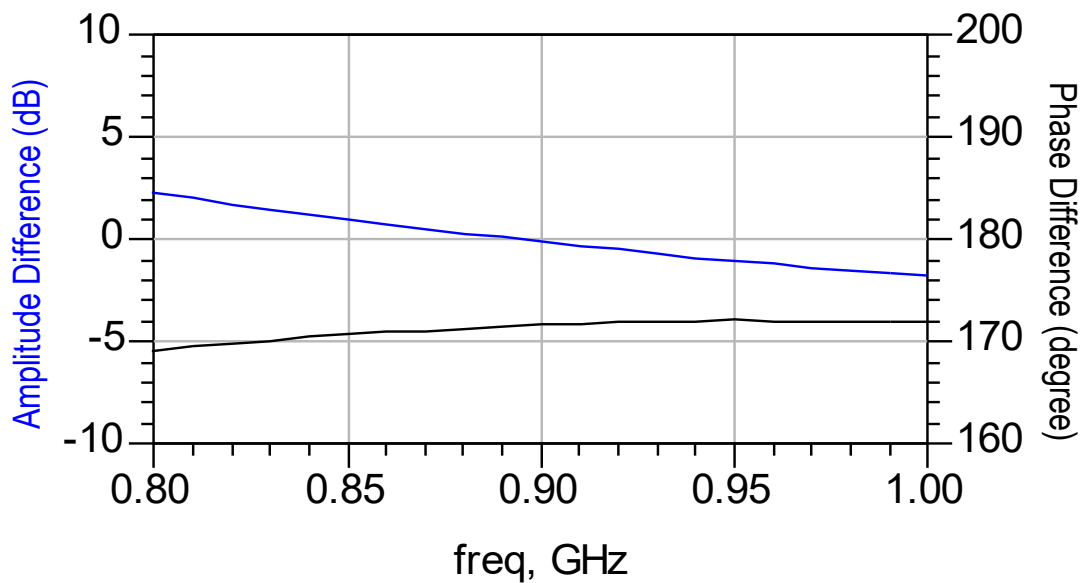


RF Measurement (T=25°C)

Insertion Loss and Return Loss



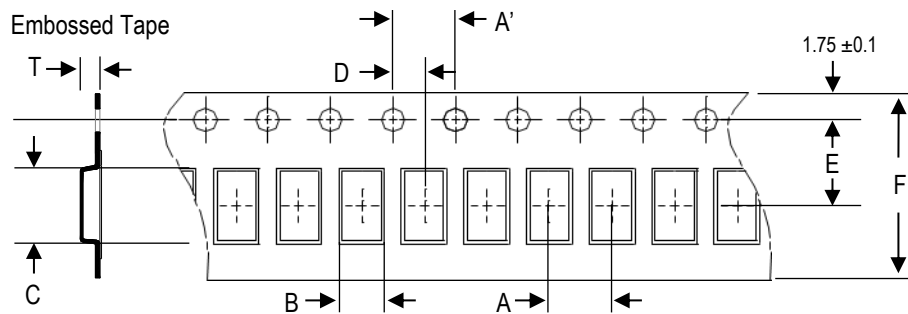
Phase Difference and Amplitude Difference



S-parameter and layout files available upon request. Please contact us at <https://www.johansontechnology.com/ask-a-question>

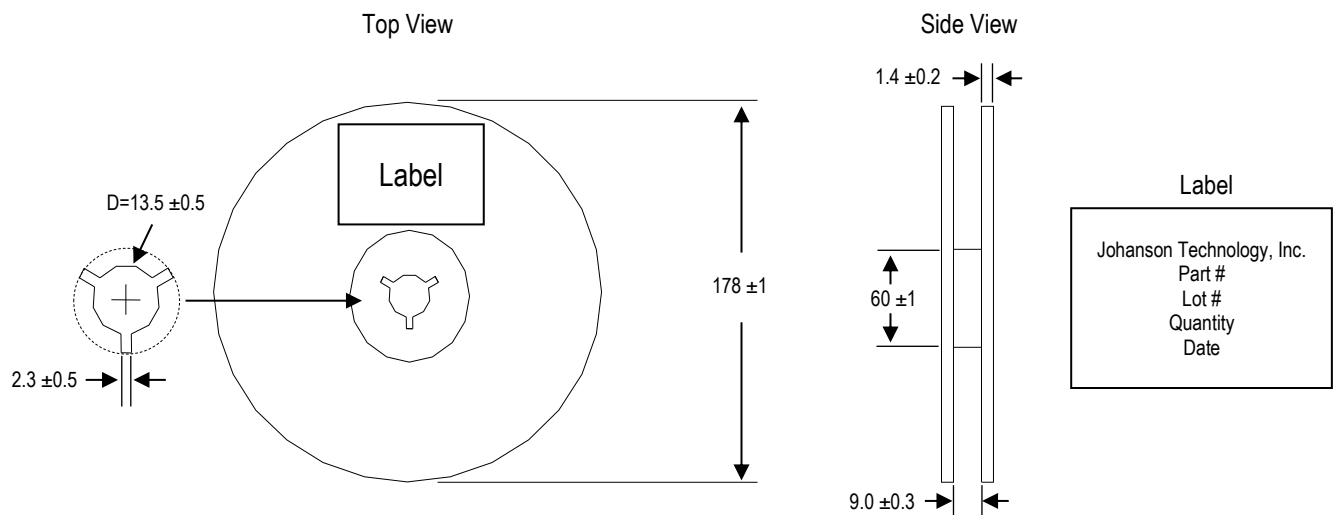
Tape and Reel Specifications (Units in mm)

Tape Dimensions

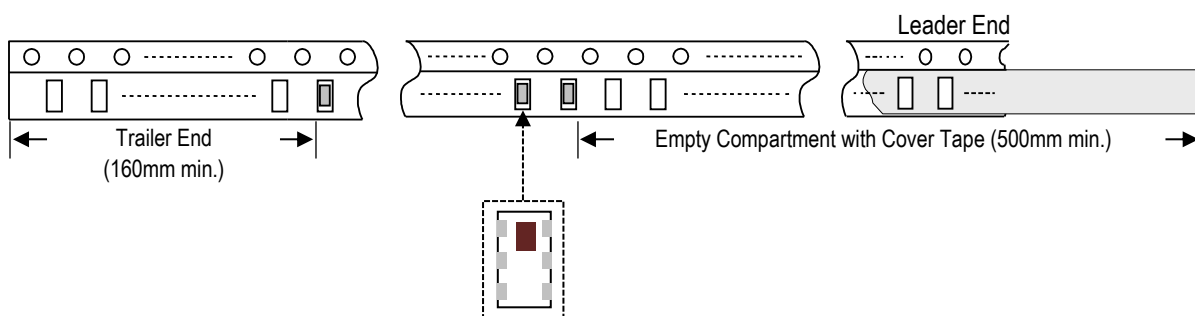


A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
4.0 ±0.1	4.0 ±0.1	1.35 ±0.05	2.15 ±0.05	2.0 ±0.05	3.5 ±0.1	8.0 ±0.1	1.08 ±0.05	4,000 pcs.	Plastic (Embossed)

Reel Dimensions



Leader and Trailer Dimensions



Orderable Part Numbers

Packaging Style	Part Number	Termination
Bulk (loose pcs.)	0896FB15A0100001B	Silver
T & R (7" Reel Embossed Tape)	0896FB15A0100001E (Qty: 4,000 pcs./reel)	
Evaluation Board with 3 SMA Connector	0896FB15A0100001CE1 (Without DC feed)	

Important Links

[0896FB15A0100001E Product Page](#)

[More RF Baluns](#)

[Antenna Tuning, Optimization, and Validation Services](#)

[Soldering Information](#)

[MSL Information](#)

[Packaging Information](#)

[Recommended Storage Condition and Max Shelf Life](#)

[RoHS Compliance](#)

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