


High Frequency Ceramic Solutions

2.4GHz EIA 0202 Micro Balun 1:2 impedance for BLE/WiFi/LTE/Cellular P/N 2450BL05A0100

Detail Specification: 5/2/2017

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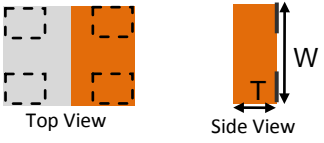
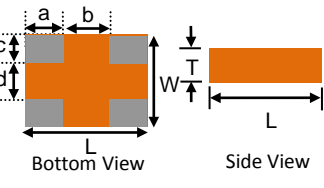
General Specifications

Part Number	2450BL05A0100				
Frequency (MHz)	2300 ~ 2690				
Unbalanced Impedance	50 (ohms)				
Balanced Impedance (ohm)	100 (ohms)				
Insertion Loss (dB)	0.55 max.				
Return Loss	9.5 dB min.				
Phase Difference	180° ± 10°				
Amplitude Difference (dB)	2.5 max.			Solder Paste	SAC 305 type is recommended
Power Capacity	2 Watts max. (CW)			Recommended Storage Cond.	+5 ~ +35°C, Humidity 45~75%RH
Operating Temperature	-40 to +85°C			Storage Period	18 months max.*
Storage Temperature Range	-40 to +85°C	Reel Quantity	10,000 pcs		

*18 months in vacuum sealed bag and 1 week after opened. Please keep unused parts in vacuum sealed bags.

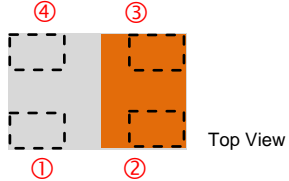
For more info like handling and soldering profile, go to: www.johansontechnology.com/silverleads-profile.html

Mechanical Dimensions

	In	mm	
L	0.026 ± 0.002	0.65 ± 0.05	
W	0.020 ± 0.002	0.50 ± 0.05	
T	0.018 max.	0.45 max.	
a	0.008 +0.004/-0.002	0.20 +0.1/-0.05	
b	0.010 +0.004/-0.002	0.25 +0.1/-0.05	
c	0.004 +0.004/-0.002	0.10 +0.1/-0.05	

Terminal Configuration

No	Function	No	Function
1	GND	3	Balanced Port
2	Unbalanced Port	4	Balanced Port



P/N Suffix	Packing Style	Bulk	Suffix = S	eg. 2450BL05A0100S
		T & R	Suffix = T	eg. 2450BL05A0100T
	Evaluation Board	2450BL05A0100-EB1SMA (3 Female SMA connector on a 50Ω PCB)		

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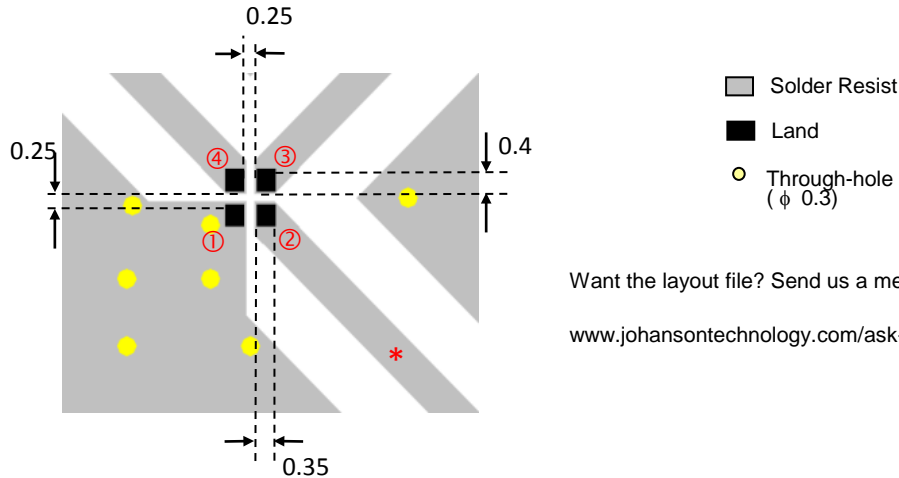
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Recommended PC Board Pattern

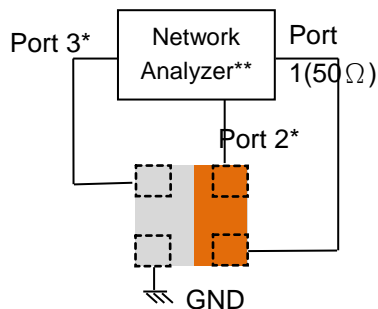
This micro balun fits well with differential feedlines that have a very small pitch.



Want the layout file? Send us a message at:
www.johansontechnology.com/ask-a-question

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

Measuring Diagram



Port 1: Unbalanced Port
 Ports 2 and 3: Balanced Port
 IL=Sds21
 RL=Sss11
 Amp_balance = dB(S(2,1)/S(3,1))
 Phase_balance = Phase(S(2,1)/S(3,1))

* Impedance for ports 2 and 3 = Balanced Impedance/2
 ** E5071B from Agilent

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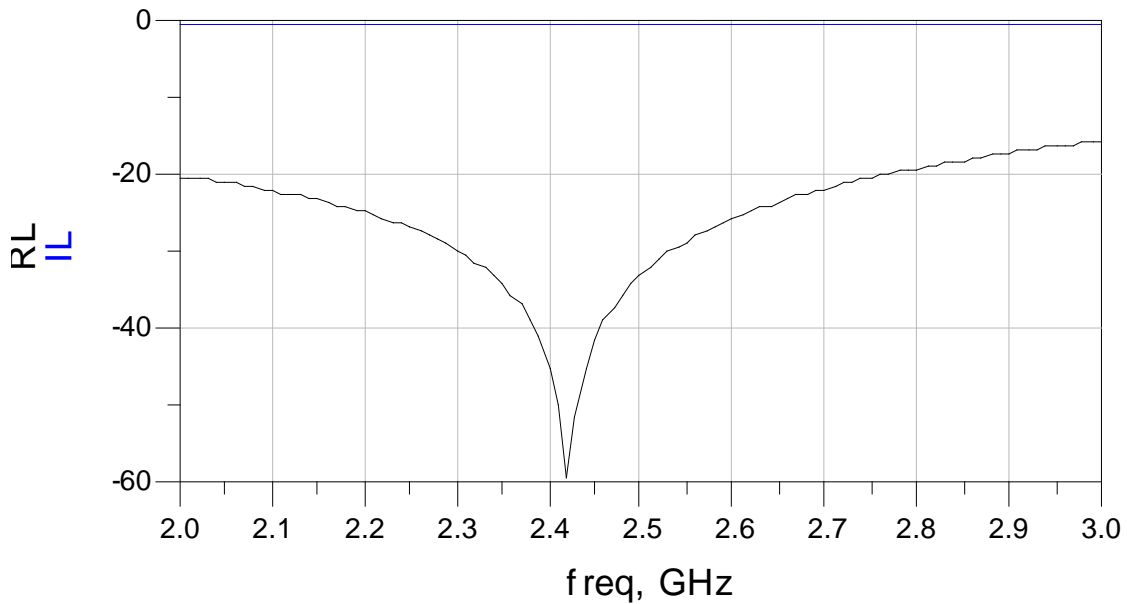
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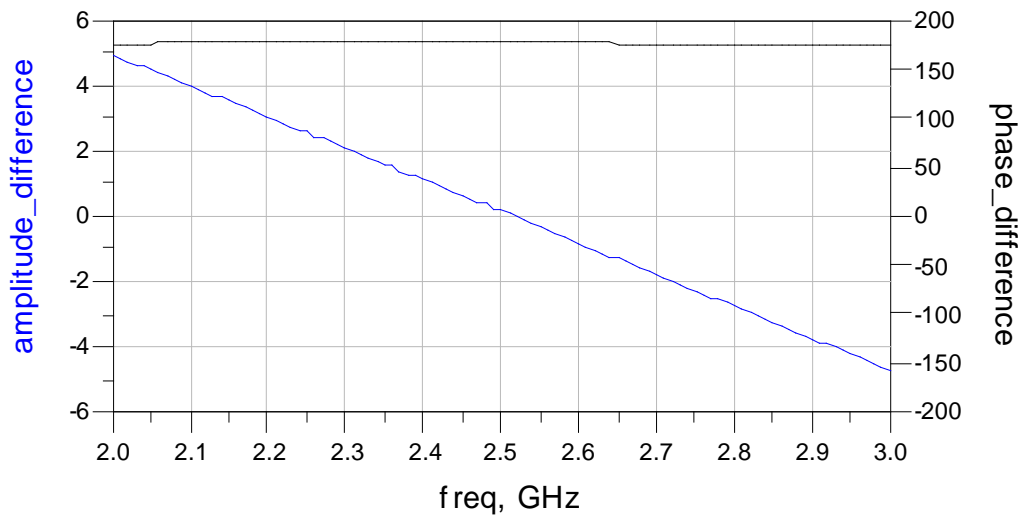
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Typical Electrical Characteristics (T=25°C)

Insertion and Return Loss



Amplitude and Phase Balance



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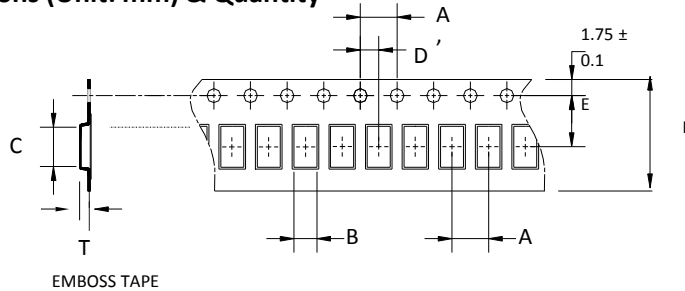
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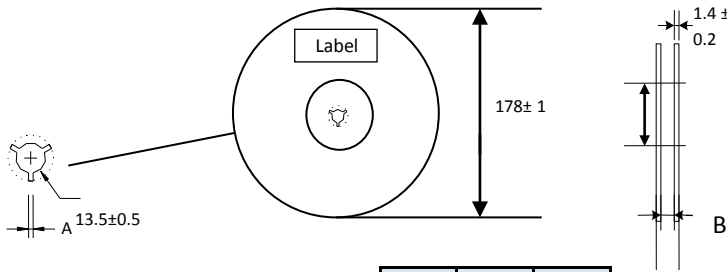
Taping Specifications

❖ Tape Dimensions (Unit: mm) & Quantity



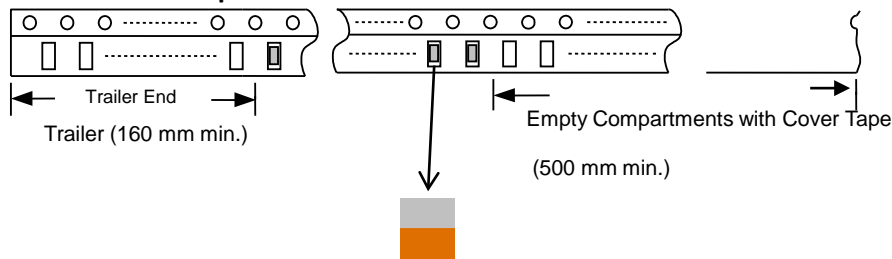
Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
0202	2± 0.05	4.0± 0.1	0.58± 0.03	0.78± 0.03	2.0± 0.05	3.5± 0.05	8.0± 0.2	0.48± 0.03	10,000pcs	Paper

❖ Reel Dimensions (Unit: mm)



Type	A	B
0202	2.3±0.5	9.0±0.3

❖ Leader and Trailer Tape



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More Baluns
www.johansontechnology.com/baluns
RoHS Compliance
www.johansontechnology.com/technical-notes/rohs-compliance.html
Packaging information
www.johansontechnology.com/ipcpackaging.html
Soldering Information (i.e. recommended profile)
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Layout Files, s-parameters and any other technical questions
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MSL Info
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Antenna layout and tuning techniques
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