

High Frequency Ceramic Solutions

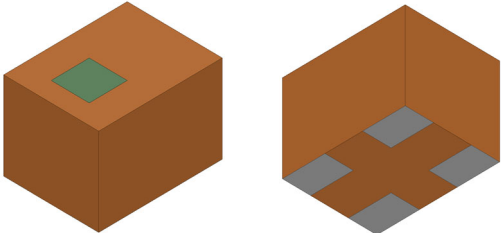
Sub-GHz EIA 0202 Micro Balun 1:2 Impedance for Global ISM

P/N 0845BL05A0100

Detail Specification: 3/5/2019

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General Specifications

Part Number	0845BL05A0100		
Frequency (MHz)	729 - 960		
Unbalanced Impedance (Ω)	50		
Balanced Impedance (Ω)	100		
Insertion Loss (dB)	0.85 max. (0.95 max. @85°C)		
Return Loss (dB)	9.5 min.		
Phase Difference	180° ± 10°		
Amplitude Difference (dB)	4.8 max.		
Power Capacity	2 Watts max. (CW)		
Operating Temperature	-40 to +85°C		
Storage Temperature Range	-40 to +85°C	Solder Paste	SAC 305 type is recommended
		Recommended Storage Condition for un-used product on T&R	+5 to +35°C, Humidity 45~75%RH 18 months max.*
		Reel Quantity	10,000 pcs

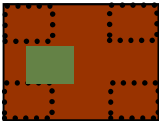
*18 months in vacuum sealed bag and 1 week after opened. Please keep unused parts in vacuum sealed bags.

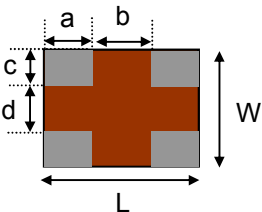
For more info like handling and soldering profile, go to: <https://www.johansontechnology.com/silverleads-profile>

Part Number Explanation

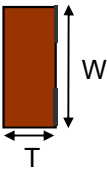
P/N Suffix	Packing Style	Bulk	Suffix = S	e.g. 0845BL05A0100S
		T & R	Suffix = T	e.g. 0845BL05A0100T
	Evaluation Board	0845BL05A0100-EB1SMA (3 Female SMA connector on a 50 Ω PCB)		

Mechanical Dimensions

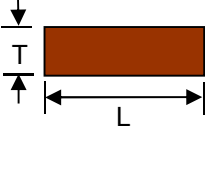
	In	mm	
L	0.026 ± 0.002	0.65 ± 0.05	 <p>Top View</p>
W	0.020 ± 0.002	0.50 ± 0.05	
T	0.018 max.	0.45 max.	
a	0.009 +0.004/-0.002	0.225 +0.1/-0.05	
b	0.008 +0.004/-0.002	0.20 +0.1/-0.05	
c	0.006 +0.004/-0.002	0.15 +0.1/-0.05	
d	0.008 +0.004/-0.002	0.20 +0.1/-0.05	



Bottom View



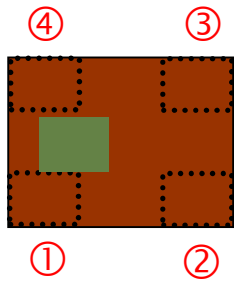
Side View



Side View

Terminal Configuration

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



Top View

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Ver 1.0

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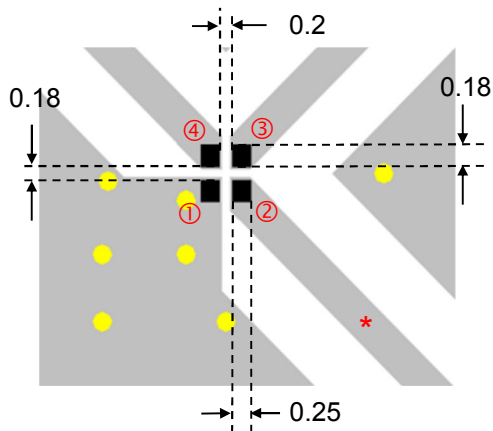
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Recommended Layout

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



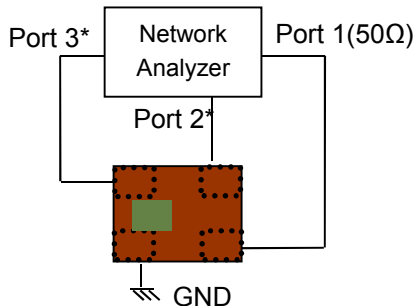
- Solder Resist
- Land
- Through-hole (φ 0.3)

Want the layout file? Send us a message at:

<https://www.johansontechnology.com/ask-a-question>

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

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 = Balanced Impedance/2

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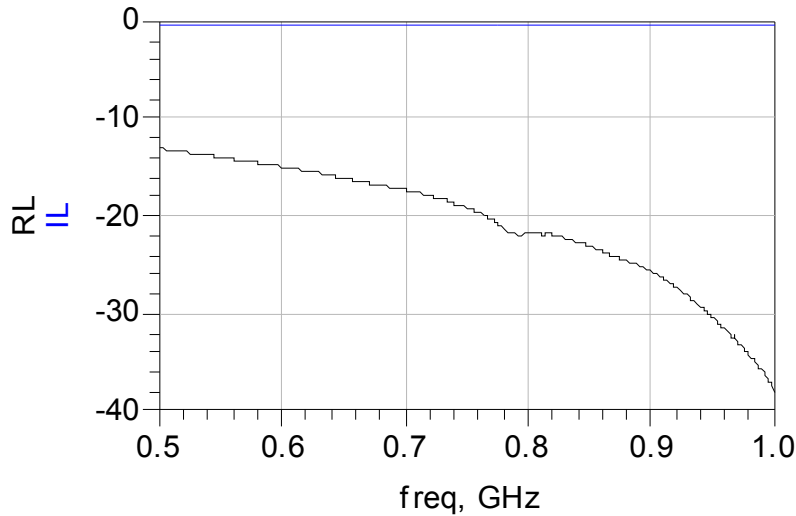
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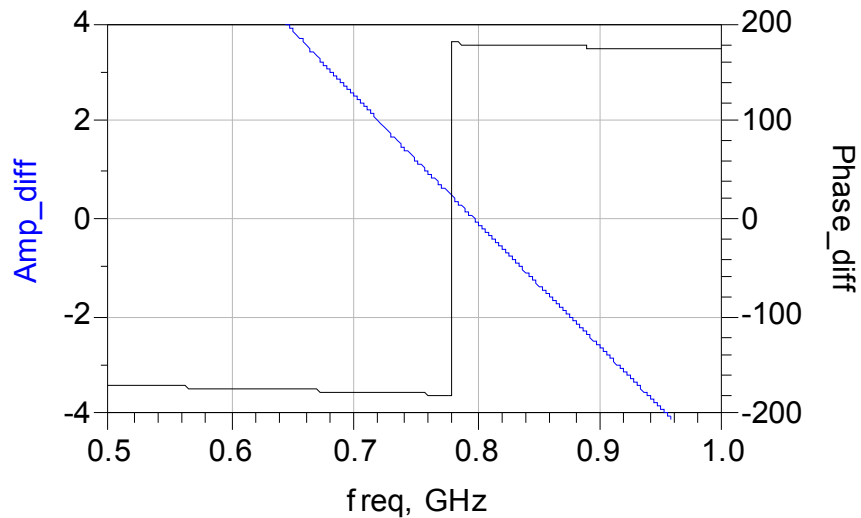
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Typical Electrical Characteristics (T=25°C)

Insertion and Return Loss



Amplitude and Phase Balance



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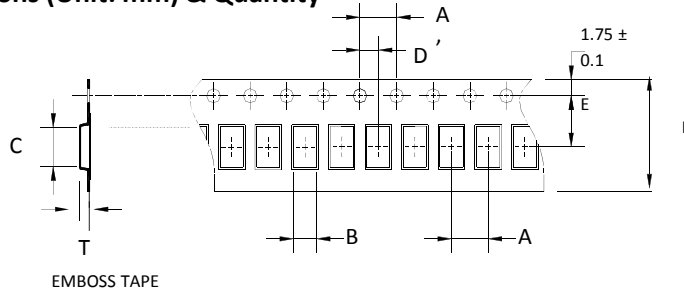
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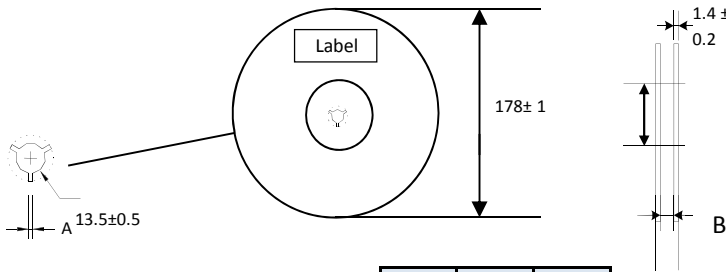
Taping Specifications

❖ Tape Dimensions (Unit: mm) & Quantity



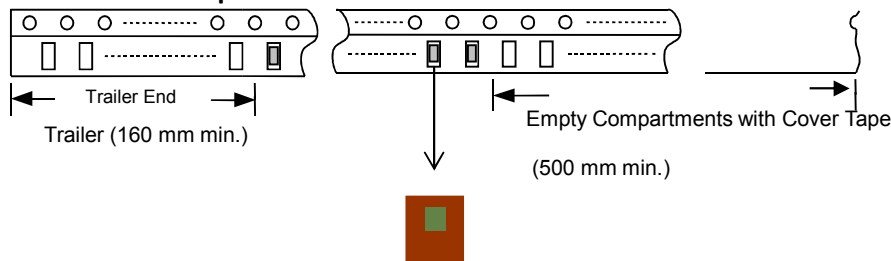
Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
0202	2± 0.05	4.0± 0.1	0.58± 0.03	0.78± 0.03	2.0± 0.05	3.5± 0.05	8.0± 0.2	0.48± 0.03	10,000pcs	Paper

❖ 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

<https://www.johansontechnology.com/baluns>

RoHS Compliance

<https://www.johansontechnology.com/rohs-compliance>

Packaging information

<https://www.johansontechnology.com/tape-reel-packaging>

Soldering Information (i.e. recommended profile)

<https://www.johansontechnology.com/ipcsoldering-profile>

Layout Files, s-parameters and any other technical questions

<https://www.johansontechnology.com/ask-a-question>

MSL Info

<https://www.johansontechnology.com/msl-rating>

Recommended Storage Condition and Max Shelf Life

<https://www.johansontechnology.com/recommended-storage-conditions>

Antenna layout and tuning techniques

<https://www.johansontechnology.com/tuning>

Antenna layout review, tuning, and characterization services

<https://www.johansontechnology.com/ipc-antenna-services>

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