



**THE DATASHEET OF  
0900PC15A0036001E**



# High Frequency Ceramic Solutions

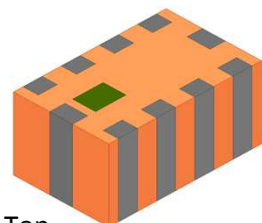
**862 - 928MHz, 2.4 - 2.5GHz Integrated Impedance-matched Balun Filter** P/N: 0900PC15A0036  
**for Texas Instruments CC1352R and CC1352P**

Detail Specification: 5/12/2021

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Do you need a small sub-GHz or 2.4GHz antenna? Go to: <https://www.johansontechnology.com/antennas>

## General Specifications

<b>Part Number</b>	0900PC15A0036		 <p>Top</p>
<b>Frequency (MHz)</b>	862 - 928	2400 - 2500	
<b>Insertion Loss (dB)</b>	1.8 typ (2.0 max.)	1.3 typ (1.6 max.)	
<b>Return Loss (dB)</b>	14 typ. (10 min.)	14 typ. (10 min.)	
<b>Phase Balance (deg)</b>	180±15	180±15	
<b>Amplitude Difference (dB)</b>	0.8 typ. (1.5 max.)	1.0 typ. (2.0 max.)	
<b>Attenuation (dB @MHz)</b>	17 min. @1736 - 1856 40 min. @2604 - 2784	20 min. @4800 - 5000 40 min. @7200 - 7500	
<b>Unbalanced Impedance (Ω)</b>	50		
<b>Balanced Impedance (Ω)</b>	Impedance matched to Texas Instruments CC1352R and CC1352P		
<b>Power Capacity (W)</b>	3 max. CW		
<b>Operating Temperature</b>	-40°C to +85°C		
<b>Quantity/Reel</b>	4,000		
<b>Recommended Storage Conditions and Period for unused product on T&amp;R</b>	+5 to +35°C Humidity 45~75%RH 18 months max.*		

\*18 months max. in vacuum sealed bag and 1 week after opened. Please see: <https://www.johansontechnology.com/silverleads>

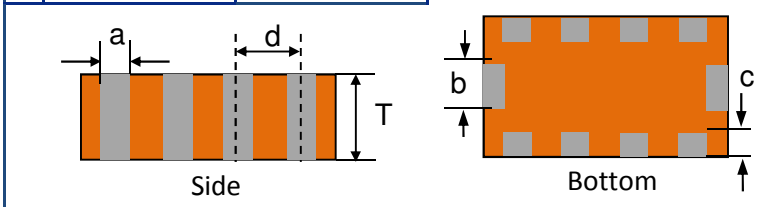
## Part Number Explanation

P/N Suffix	Packing Style	Bulk (loose pcs.)	Suffix = S	E.g. 0900PC15A0036S
		T & R	Suffix = E	E.g. 0900PC15A0036E
	Termination Style	Ag/Pt	Suffix = None	E.g. 0900PC15A0036(E or S)

For more Texas Instruments matched balun-filters, go to: <https://www.johansontechnology.com/ti>

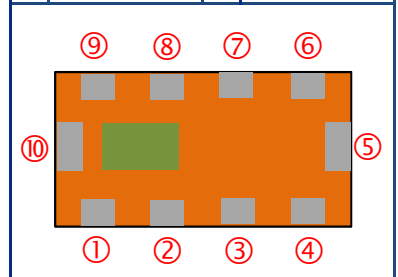
## Mechanical Dimensions

	In	mm
<b>L</b>	0.079 ± 0.008	2.00 ± 0.2
<b>W</b>	0.049 ± 0.008	1.25 ± 0.2
<b>T</b>	0.039 max.	1.00 max.
<b>a</b>	0.010 ± 0.004	0.25 ± 0.1
<b>b</b>	0.012 ± 0.006	0.30 ± 0.15
<b>c</b>	0.008+0.004/-0.006	0.20 +0.1/-0.15
<b>d</b>	0.020 ± 0.004	0.50 ± 0.1



## Terminal Configuration

No.	Function	No.	Function
1	ANT (2.4GHz)	6	RF_N (Sub-GHz)
2	GND	7	RX_P (Sub-GHz)
3	GND	8	RF_N (2.4GHz)
4	ANT (Sub-GHz)	9	RF_P (2.4GHz)
5	RX_TX	10	GND



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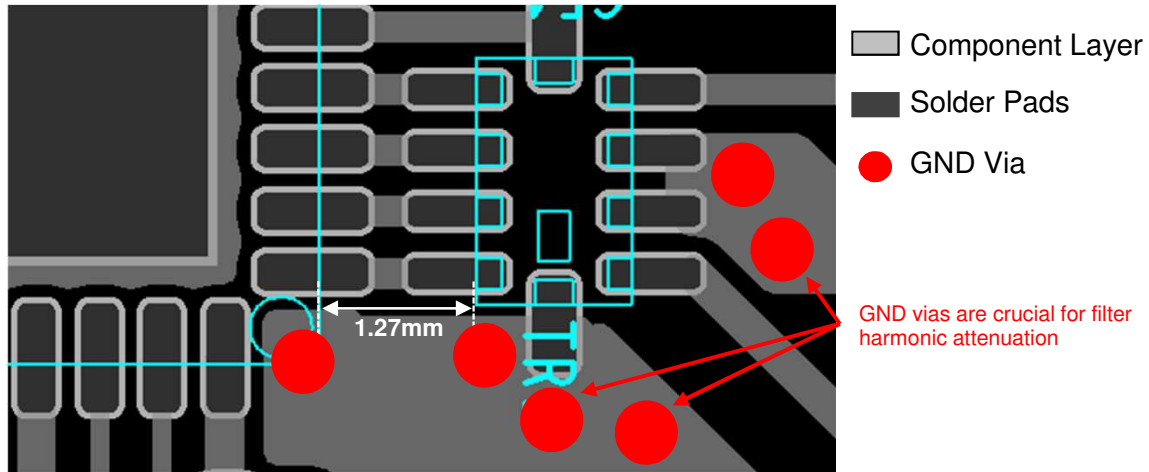
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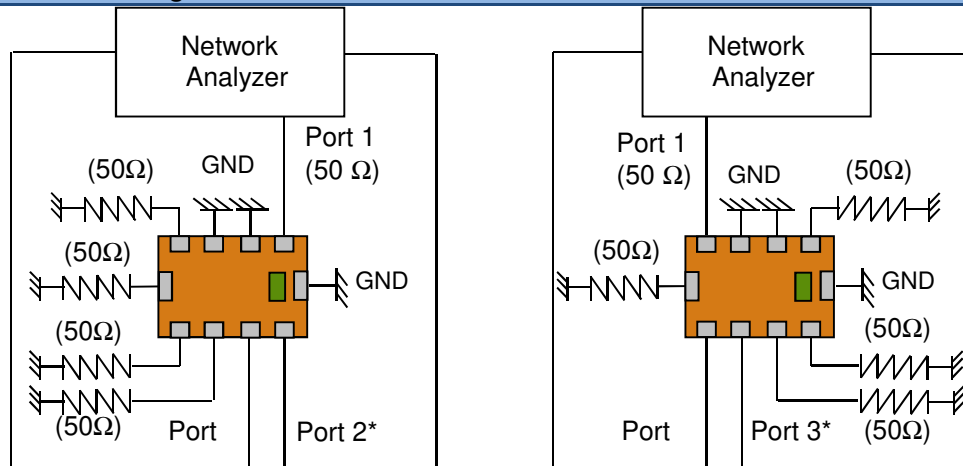
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## Pad-Soldermask Guidelines



For reference design package and PCB CAD files, please contact us at: <https://www.johansontechnology.com/ask-a-question>

## PCB Reference Design Schematic



**Port 1:** Unbalanced Port, **Ports 2 and 3:** Balanced Port

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

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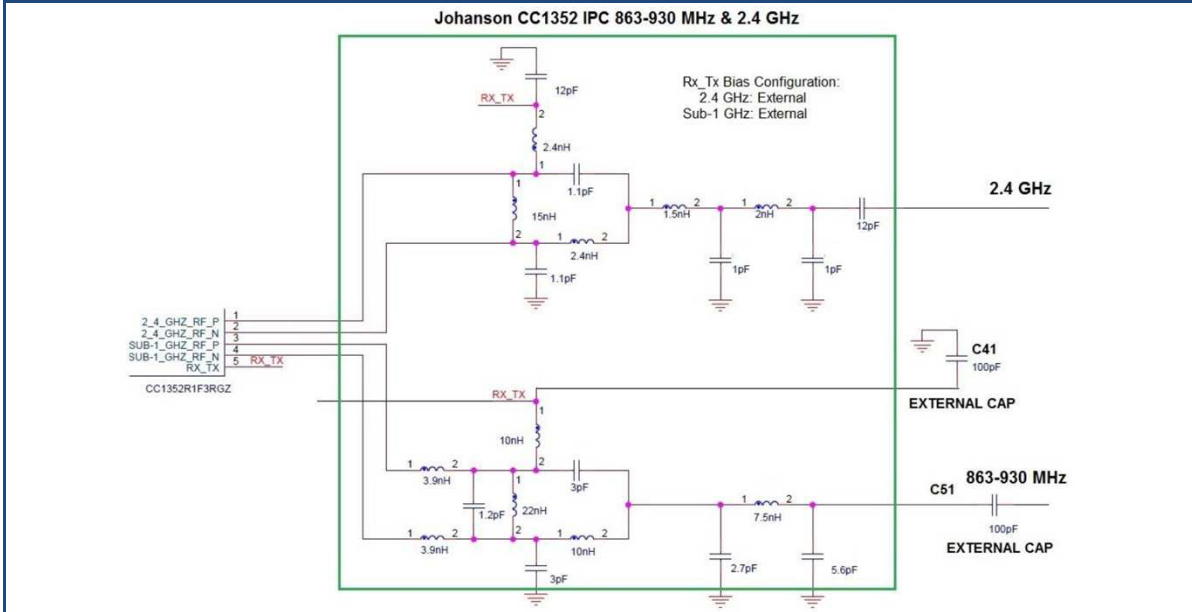
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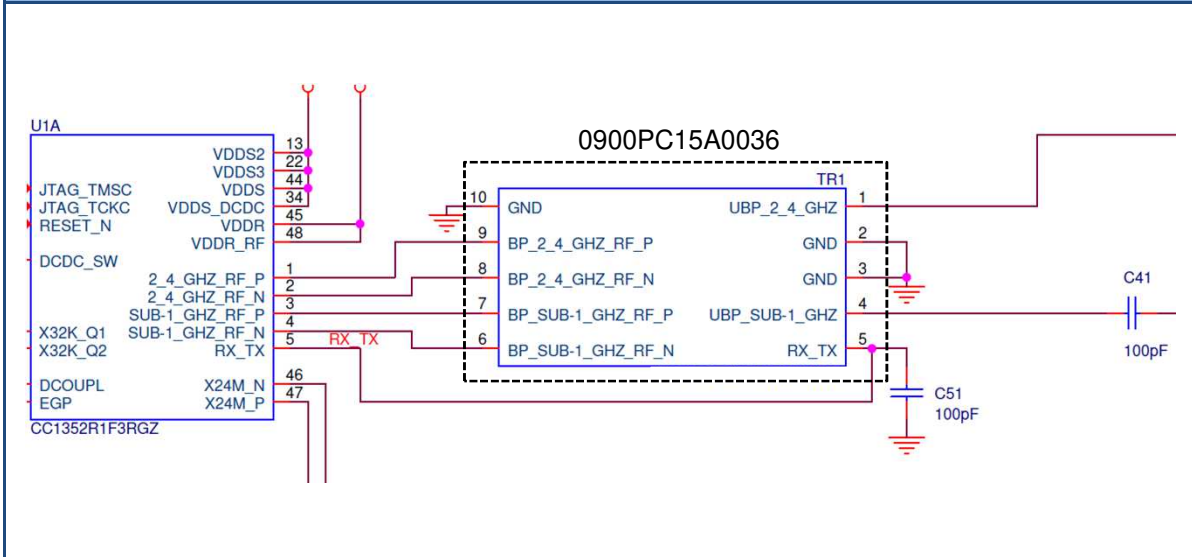
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## Discrete Components Integrated into IPC



## PCB Reference Design Schematic



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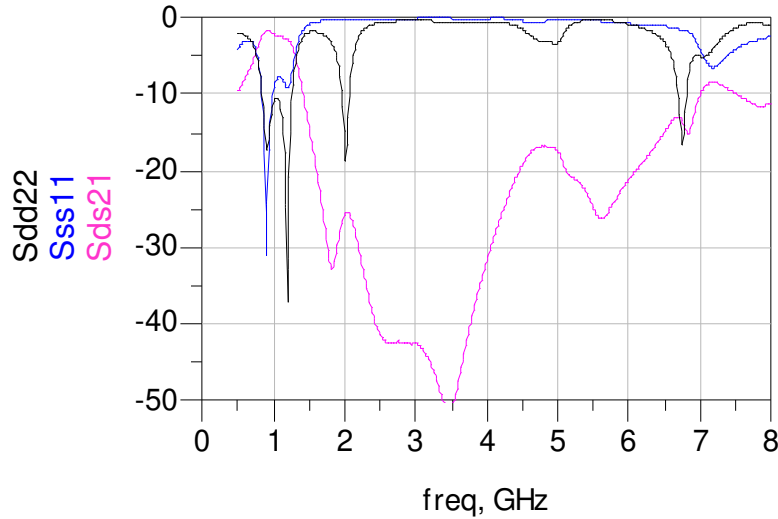
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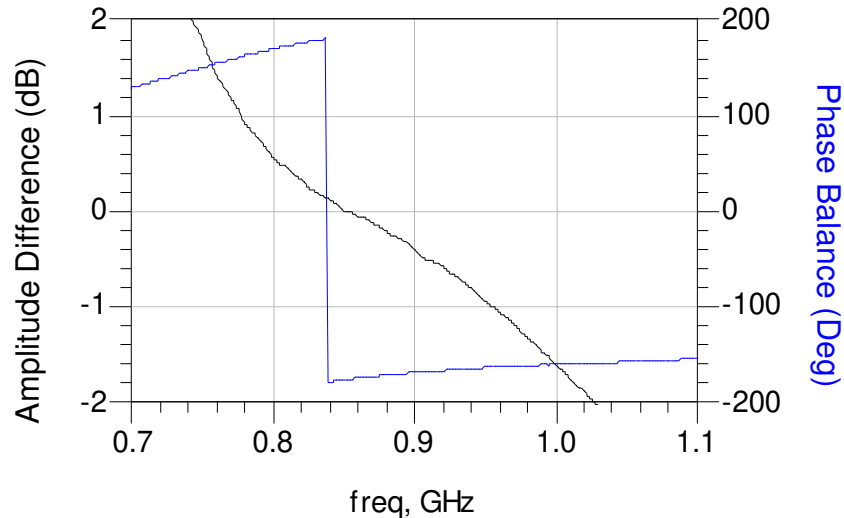
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## Sub-GHz Electrical Characteristics at T=25°C

Insertion Loss, Attenuation



Phase Balance, Amplitude Difference



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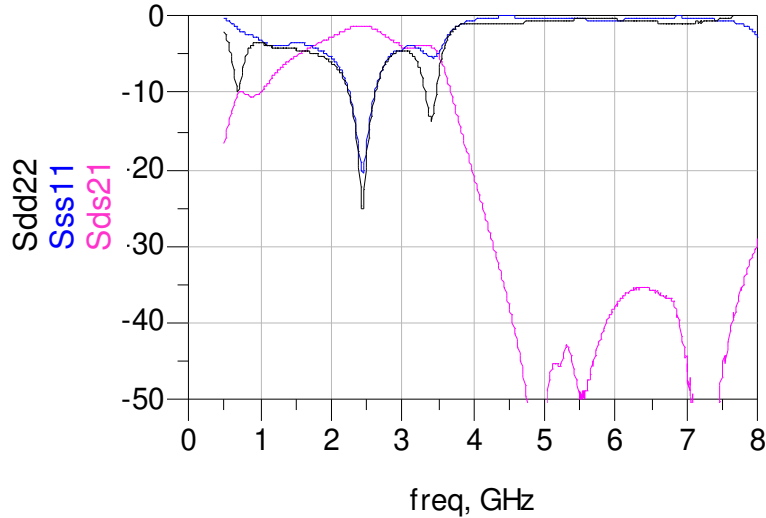
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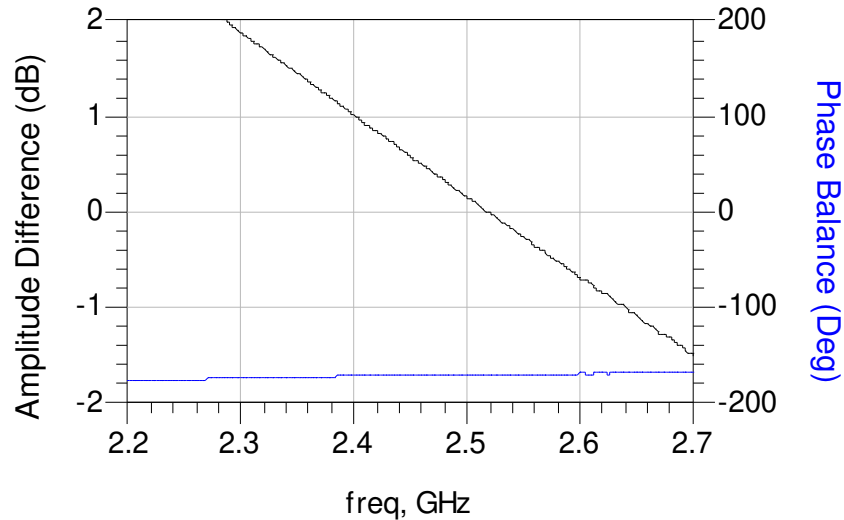
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## 2.4GHz Electrical Characteristics at T=25°C

Insertion Loss, Attenuation



Phase Balance, Amplitude Difference



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## Application Notes, Layout Files, and more

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

## Small SMD 900MHz (or 2.4G, 5G) antennas at:

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

## RoHS Compliance

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

## Soldering Information

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

## Antenna layout and tuning techniques

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

## Antenna layout review, tuning, and characterization services

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

## MSL Info

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

## Recommended Storage Condition and Max Shelf Life

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

## Packaging information

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

## Silverleads Information

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

Would you like us to review your layout for free? Need an embedded antenna recommendation for your application?

Contact us at:

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