High Frequency Ceramic Solutions

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

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

General Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N Suffix</td>
<td>0900PC15A0036S</td>
</tr>
<tr>
<td>Frequency (MHz)</td>
<td>862 - 928 2400 - 2500</td>
</tr>
<tr>
<td>Insertion Loss (dB)</td>
<td>1.8 typ (2.0 max.) 1.3 typ (1.6 max.)</td>
</tr>
<tr>
<td>Return Loss (dB)</td>
<td>14 typ. (10 min.) 14 typ. (10 min.)</td>
</tr>
<tr>
<td>Phase Balance (deg)</td>
<td>180±15 180±15</td>
</tr>
<tr>
<td>Amplitude Difference (dB)</td>
<td>0.8 typ. (1.5 max.) 1.0 typ. (2.0 max.)</td>
</tr>
<tr>
<td>Attenuation (dB @MHz)</td>
<td>17 min. @1736 - 1856 40 min. @2604 - 2784</td>
</tr>
<tr>
<td>Unbalanced Impedance (Ω)</td>
<td>50</td>
</tr>
<tr>
<td>Balanced Impedance (Ω)</td>
<td>Impedance matched to Texas Instruments CC1352R and CC1352P</td>
</tr>
<tr>
<td>Power Capacity (W)</td>
<td>3 max. CW</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Quantity/Reel</td>
<td>4,000</td>
</tr>
</tbody>
</table>

Recommended Storage Conditions and Period for unused product on T&R:  
+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

<table>
<thead>
<tr>
<th>P/N Suffix</th>
<th>Packing Style</th>
<th>Termination Style</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Bulk (loose pcs.)</td>
<td>Ag/Pt Suffix = None</td>
<td>E.g. 0900PC15A0036S</td>
</tr>
<tr>
<td>E</td>
<td>T &amp; R</td>
<td>Suffix = E</td>
<td>E.g. 0900PC15A0036E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Suffix = None</td>
<td>E.g. 0900PC15A0036(E or S)</td>
</tr>
</tbody>
</table>

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

Mechanical Dimensions

<table>
<thead>
<tr>
<th>Side</th>
<th>Top</th>
<th>Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Terminal Configuration

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ANT (2.4GHz)</td>
<td>6</td>
<td>RF_N (Sub-GHz)</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>7</td>
<td>RX_P (Sub-GHz)</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
<td>8</td>
<td>RF_N (2.4GHz)</td>
</tr>
<tr>
<td>4</td>
<td>ANT (Sub-GHz)</td>
<td>9</td>
<td>RF_P (2.4GHz)</td>
</tr>
<tr>
<td>5</td>
<td>RX_TX</td>
<td>10</td>
<td>GND</td>
</tr>
</tbody>
</table>

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Detail Specification:  5/12/2021  Page 2 of 6

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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Detail Specification: 5/12/2021

Sub-GHz Electrical Characteristics at T=25°C

Insertion Loss, Attenuation

Phase Balance, Amplitude Difference

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Detail Specification: 5/12/2021

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

#### Insertion Loss, Attenuation

![Insertion Loss Curve](image)

#### Phase Balance, Amplitude Difference

![Phase Balance Curve](image)

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

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