USB042A - PRELIMINARY
Band 42 USB Series TDD Bandpass Filter

Features
- Low Loss with High Rejection
- Low ripple
- Universal footprint across family for all TDD bands

Applications
- Wireless Infrastructure applications
- High-performance carrier-grade single-band TDD Pico-cell basestations for up to 5.0W at the antenna port.

Description
Surface mount ceramic bandpass filter supports a universal footprint across all TDD frequency bands enabling the use of a common system PCB. Superior rejection, insertion loss, reliability, as well as both peak and average power handling compared to other bandpass filter technologies.

Electrical Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Frequency (MHz)</th>
<th>Typical at 25°C</th>
<th>Spec. at 25°C</th>
<th>Spec. over -40°C to +85°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Impedance</td>
<td>-</td>
<td>50 ohms</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Average Input Power</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8.0 Watt max</td>
</tr>
<tr>
<td>Peak Input Power</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>80 Watt max</td>
</tr>
</tbody>
</table>

Input-Output Response
- Passband Insertion Loss (5 MHz avg): 3400-3600 0.8 dB, 3400-3600 0.3 dB, 3400-3600 17 dB, 1-2700 62 dB, 4200-4900 62 dB, 4900-6000 62 dB
- 1.0 dB max
- 0.5 dB min
- 60 dB min
- 55 dB min

Note: CTS tests each unit to the critical specifications above. Subsequent audits may deviate due to repeatability among different test systems which shall not exceed these allowances.

Specification Allowance
- Insertion Loss 0.1 dB
- Return Loss 1.0 dB
- Attenuation 1.0 dB

Part Dimensions: 25.9 × 5.5 × 6.7 mm • 2.8 g
Materials: Ag plated ceramic block with tin plated brass shield
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Mechanical Drawing

PCB Layout

Packaging and Marking

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Units</th>
<th>Spec.</th>
<th>Product Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reel Diameter</td>
<td>mm</td>
<td>330</td>
<td>CTS 042 YWW</td>
</tr>
<tr>
<td>Reel Weight</td>
<td>kg</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>Reel Quantity</td>
<td>ea.</td>
<td>500</td>
<td></td>
</tr>
</tbody>
</table>

Customer Feed Direction → → →

Electrical Response

<table>
<thead>
<tr>
<th>W₀</th>
<th>A₀</th>
<th>B₀</th>
<th>K₀</th>
<th>P₀</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.732 in</td>
<td>0.236 in</td>
<td>1.028 in</td>
<td>0.283 in</td>
<td>0.472 in</td>
</tr>
<tr>
<td>44.0 mm</td>
<td>6.00 mm</td>
<td>26.10 mm</td>
<td>7.20 mm</td>
<td>12.0 mm</td>
</tr>
</tbody>
</table>

NOTE: The width of 9.50mm is necessary to support frequencies as low as 1885MHz for Band 39. If only higher frequency TDD bands are supported, then a smaller space can be allocated on the layout.