USD025A - PRELIMINARY
Band 25 USD Series Duplexer

Features
- Low Loss with High Rejection
- Superior power handling and reliability
- Universal footprint across all FDD frequency bands

Applications
- Wireless Infrastructure applications
- High-performance carrier-grade small-cells using linearized PA for 1.0-2.0W at the antenna port.
- Wide-band pico-cells or small-cells requiring multi-channel or carrier aggregation.

Description
Surface mount ceramic duplexer supports a universal footprint across all FDD frequency bands enabling the use of a common system PCB. Provides superior rejection, insertion loss, reliability, as well as both peak and average power handling compared to other duplexer 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>6.0 Watt max</td>
</tr>
<tr>
<td>Peak Input Power</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>60 Watt max</td>
</tr>
</tbody>
</table>

Antenna to UL Response

- **Passband Insertion Loss (5 MHz avg)**: 1850 - 1915 kHz, 2.8 dB, 3.0 dB max, 3.0 dB max
- **Passband Insertion Loss (single point)**: 1850 - 1915 kHz, 3.4 dB, 3.8 dB max, 3.8 dB max
- **Passband Return Loss**: 1850 - 1915 kHz, 14 dB, 12 dB min, 12 dB min
- **Attenuation**: 1930 - 1995 kHz, 52 dB, 50 dB min, 50 dB min
- **Attenuation**: 1933 - 1995 kHz, 67 dB, 63 dB min, 63 dB min

DL to Antenna Response

- **Passband Insertion Loss (5 MHz avg)**: 1930 - 1995 kHz, 2.9 dB, 3.0 dB max, 3.0 dB max
- **Passband Insertion Loss (single point)**: 1930 - 1995 kHz, 3.2 dB, 3.8 dB max, 3.8 dB max
- **Passband Return Loss**: 1930 - 1995 kHz, 14 dB, 12 dB min, 12 dB min
- **Attenuation**: 1930 - 1995 kHz, 70 dB, 68 dB min, 68 dB min
- **Attenuation**: 1912 - 1915 kHz, 52 dB, 50 dB min, 50 dB min

DL to UL Response

- **Attenuation for UL band**: 1850 - 1912 kHz, 70 dB, 69 dB min, 69 dB min
- **Attenuation for UL band**: 1912 - 1995 kHz, 52 dB, 50 dB min, 50 dB min
- **Attenuation for DL band**: 1930 - 1995 kHz, 67 dB, 64 dB min, 64 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: 63.0 × 11.4 × 10.6 mm • 21.0 g
Materials: Ag plated ceramic block with tin plated brass shield
Mechanical Drawing

PCB Layout

Packaging and Marking

Electrical Response

The trays have 20 slots each with 1 filter per slot. Boxes are packed with 12 Trays per box for a total of 240 filters per box.

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