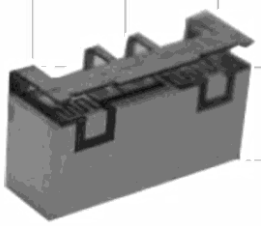
# UPB345A

## 3300-3600MHz UPB Series TDD Bandpass Filter

### Features

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



Part Dimensions: 9.0 × 6.7 est × 3.1 mm • <1.0 est g
Materials: Ag plated ceramic block with tin plated brass shield

### Applications

- Wireless Infrastructure applications
- High-performance carrier-grade single-band TDD Pico-cell basestations for up to 1.0W 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 other bandpass filter technologies.

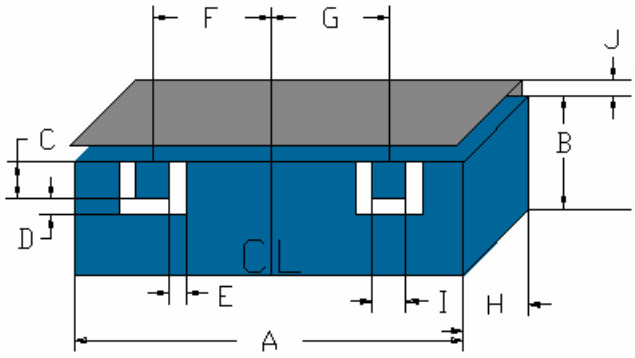
### Electrical Specifications

| Parameter | Frequency (MHz) | Typical at 25°C | Spec. at 25°C | Spec. over -40°C to +85°C |
|---|---|---|---|---|
| Nominal Impedance | - | 50 ohms | - | - |
| Average Input Power | - | - | - | 2.0 Watt max |
| Peak Input Power | - | - | - | 20 Watt max |
| **Input-Output Response** | | | | |
| Passband Insertion Loss (10 MHz avg) | 3300-3600 | 1.4 dB | 1.6 dB max | 1.8 dB max |
| Passband Ripple | 3300-3600 | 0.6 dB | 1.0 dB max | 1.2 dB max |
| Passband Return Loss | 3300-3600 | 13 dB | 10 dB min | 10 dB min |
| Attenuation: | 1-2200 | 47 dB | 40 dB min | 40 dB min |
| | 2201-2700 | 39 dB | 35 dB min | 35 dB min |
| | 2701-3050 | 30 dB | 25 dB min | 25 dB min |
| | 3051-3240 | 12 dB | 10 dB min | 10 dB min |
| | | | | |
| | 3660-3999 | 12 dB | 10 dB min | 10 dB min |
| | 4000-4199 | 30 dB | 25 dB min | 25 dB min |
| | 4200-5149 | 39 dB | 35 dB min | 35 dB min |
| | 5150-5950 | 30 dB | 25 dB min | 25 dB min |
| | 5951-7000 | 21 dB | 16 dB min | 16 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.

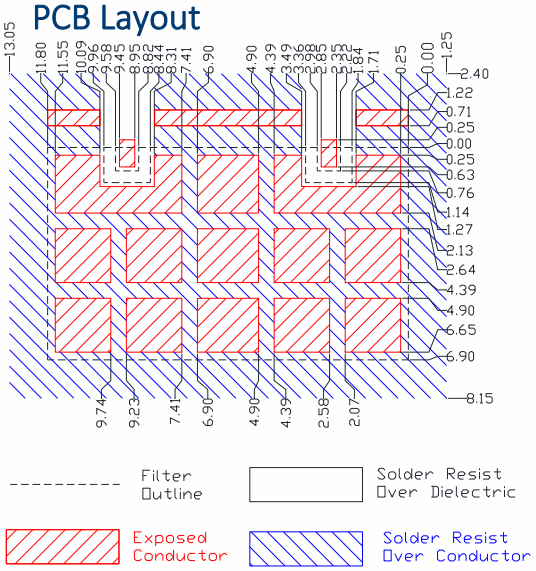
| Specification Allowance | |
|---|---|
| Insertion Loss | 0.1 dB |
| Return Loss | 1.0 dB |
| Attenuation | 1.0 dB |

## Mechanical Drawing




| Dim. | Nominal (mm) | Tolerance (±mm or Max) |
|---|---|---|
| A | 8.97 | max |
| B | 5.70 | max |
| C | 0.76 | 0.13 |
| D | 0.38 | 0.13 |
| E | 0.38 | 0.13 |
| F | 3.30 | 0.13 |
| G | 3.30 | 0.13 |
| H | 3.10 | max |
| I | 0.76 | 0.13 |
| J | 0.95 | 0.20 |

## PCB Layout




IMPORTANT: Please assure >=30mils (0.75mm) thickness of dielectric beneath the I/O Pads and the surrounding clearance zone down to the required ground plane.

Please assure sufficient ground vias between the top metal ground plane and the primary ground plane.

Recommended solder: 4-6 mils of SAC305 with reflow including 120s of soak at 217°C, and up to 30 sec peak at 241°C.

NOTE: A 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 this smaller space can be allocated on the layout.

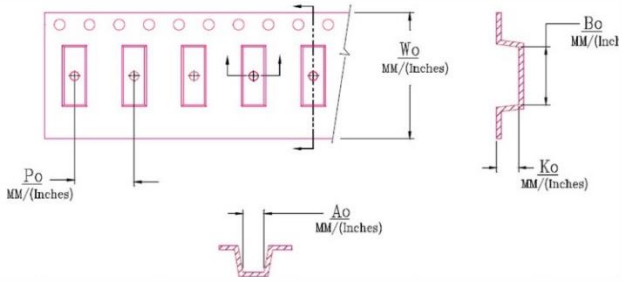
## Packaging and Marking

| Dimension | Units | Spec. |
|---|---|---|
| Reel Diameter | mm | 330 |
| Reel Weight | kg | 5.5 |
| Reel Quantity | ea. | 500 |

Product Marking

CTS
345
YWW

Customer Feed Direction → → →




| $W_o$ | $A_o$ | $B_o$ | $K_o$ | $P_o$ |
|---|---|---|---|---|
| 0.945 in | 0.276 in | 0.366 in | 0.132 in | 0.315 in |
| 24.0 mm | 7.00 mm | 9.30 mm | 3.35 mm | 8.0 mm |

## Electrical Response