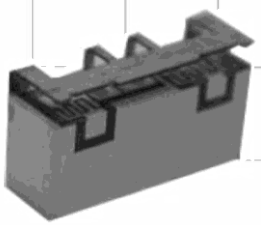
# UPB496A - PRELIMINARY

## 4940-4990MHz UPB Series TDD Bandpass Filter

### Features

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



Part Dimensions: 10.3 x 4.7 x 4.1 mm • < 0.55 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 0.25-0.5W 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 (5 MHz avg) | 4940-4990 | 1.4 dB | 1.7 dB max | 1.7 dB max |
| Passband Ripple | 4940-4990 | 0.4 dB | 0.7 dB max | 0.7 dB max |
| Passband Return Loss | 4940-4990 | 14 dB | 12 dB min | 12 dB min |
| Attenuation: | 1-4740 | | 30 dB min | 30 dB min |
| | 5150-7125 | | 30 dB min | 30 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 |

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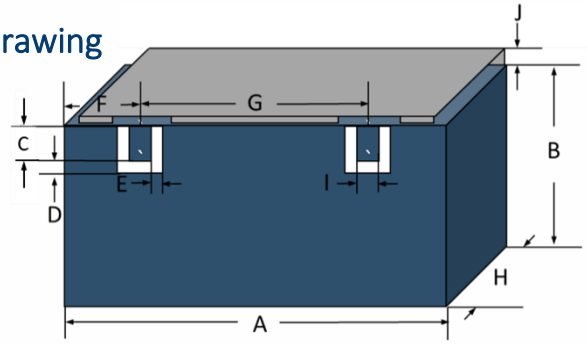
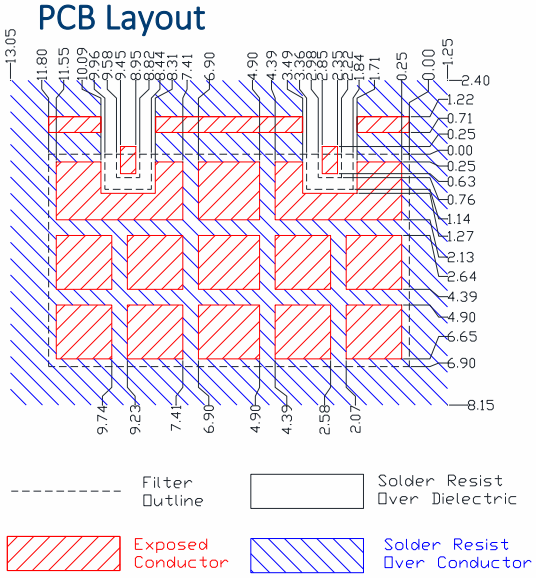
## Mechanical Drawing




| Dim. | Nominal (mm) | Tolerance (±mm or Max) |
|---|---|---|
| A | 10.20 | 0.13 |
| B | 3.20 | 0.30 |
| C | 0.76 | 0.13 |
| D | 0.38 | 0.13 |
| E | 0.38 | 0.13 |
| F | 1.80 | 0.13 |
| G | 6.60 | 0.13 |
| H | 3.80 | 0.30 |
| I | 0.76 | 0.13 |
| J | 0.90 | 0.30 |

## PCB Layout




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

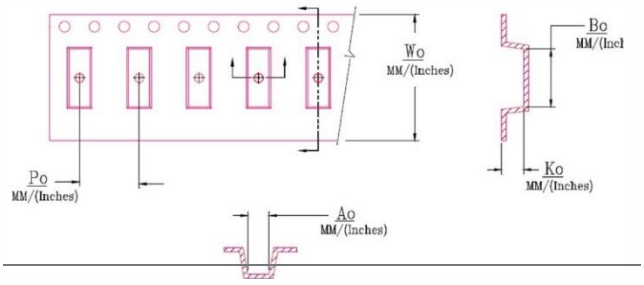
## Packaging and Marking

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

Product Marking

CTS
496
YWW

Customer Feed Direction → → →




| $W_o$ | $A_o$ | $B_o$ | $K_o$ | $P_o$ |
|---|---|---|---|---|
| 0.945 in 24.0 mm | 0.197 in 5.00 mm | 0.406 in 10.30 mm | 0.165 in 4.2 mm | 0.472 in 12.0 mm |

## Electrical Response