# MTB1060A

## 10.2-11.0 GHz Bandpass Filter

### Features

- Low Loss with High Rejection
- Low ripple

### Applications

- Wireless Infrastructure applications

Part Dimensions: 9.0 × 2.5 × 3.1 mm • 0.15 g
Materials: Ag plated ceramic block with tin plated brass shield

### Description

Surface mount ceramic bandpass filter. Superior rejection, insertion loss, reliability, as well as both peak and average power handling compared other bandpass filter technologies.

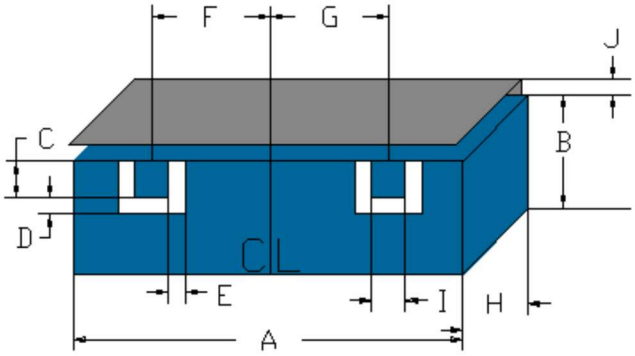
### Electrical Specifications

| Parameter | Frequency (GHz) | 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 (single point) | 10.20 - 11.00 | 1.7 dB | 2.2 dB min | 2.5 dB min |
| Passband Ripple (any 10MHz) | 10.20 - 11.00 | 0.2 dB | 0.3 dB min | 0.3 dB min |
| Passband Return Loss | 10.20 - 11.00 | 14 dB | 11 dB min | 11 dB min |
| Phase Variation: (from nominal value) | 10200 | -82.7° | +/- 10° | +/- 10° |
| | 10600 | 153.1° | +/- 10° | +/- 10° |
| | 11000 | 26.1° | +/- 10° | +/- 10° |
| Attenuation: | 1 - 4000 | | 50 dB min | 50 dB min |
| | 6000 | | 50 dB min | 50 dB min |
| | 8000 | | 40 dB min | 40 dB min |
| | 9000 | | 30 dB min | 30 dB min |
| | 9350 | | 30 dB min | 30 dB min |
| | 9600 | | 15 dB min | 15 dB min |
| | | | | |
| | 11850 | | 15 dB min | 15 dB min |
| | 12100 | | 20 dB min | 20 dB min |
| | 12500 | | 30 dB min | 30 dB min |
| | 13000 | | 40 dB min | 40 dB min |
| | 17000 | | 20 dB min | 20 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.

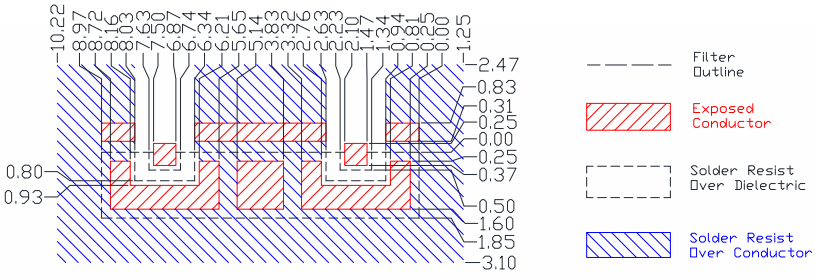
| Specification Allowance | |
|---|---|
| Insertion Loss | 0.1 dB |
| Return Loss | 1.0 dB |
| Attenuation | 1.0 dB |

## Mechanical Drawing




| Dim. | Nominal (mm) | Tolerance (±mm or Max) |
|---|---|---|
| A | 8.97 | max |
| B | 1.50 | max |
| C | 0.50 | 0.13 |
| D | 0.30 | 0.13 |
| E | 0.40 | 0.13 |
| F | 2.70 | 0.13 |
| G | 2.70 | 0.13 |
| H | 3.10 | max |
| I | 0.89 | 0.13 |
| J | 0.63 | 0.20 |

## PCB Layout

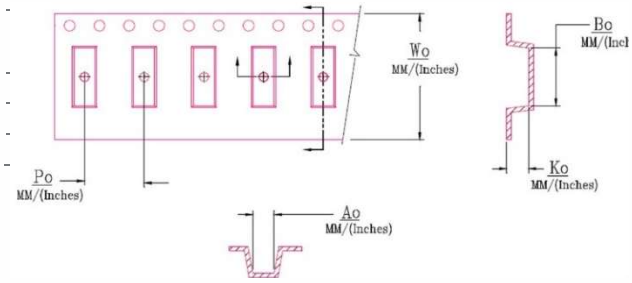



IMPORTANT: Please assure >=30mils (0.75mm) thickness of dielectric beneath the I/O Pads and the surrounding clearance zone down to the ground plane.

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 incl. 120s of soak at 217°C, and up to 30 sec peak at 241°C.

## Packaging and Marking




| $W_o$ | $A_o$ | $B_o$ | $K_o$ | $P_o$ |
|---|---|---|---|---|
| 0.945 in<br>24.0 mm | 0.098 in<br>2.50 mm | 0.366 in<br>9.30 mm | 0.132 in<br>3.35 mm | 0.315 in<br>8.0 mm |

## Electrical Response