

MMB385A - Preliminary

3.8-3.9GHz MMB Series TDD BPF

Features

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

Applications

- Wireless Infrastructure applications
- High-performance carrier-grade TDD Pico-cells.



Part Dimensions: 40.0 × <6.4 × 9.3 mm • <6.3 g
Materials: Ag plated ceramic block with tin plated brass shield

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

| 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 | - | - | - | 8.0 Watt max |
| Peak Input Power | - | - | - | 80 Watt max |

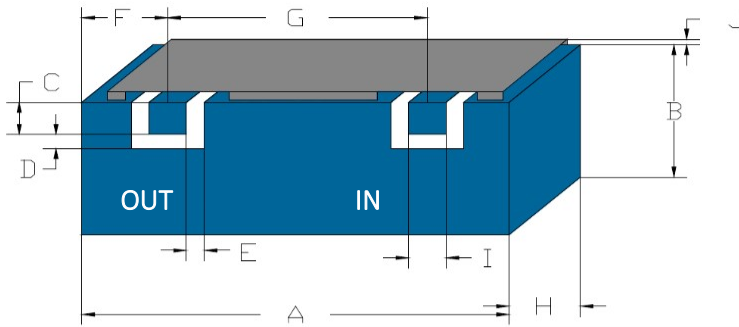
Input-Output Response

| | | | | |
|---------------------------------------|-----------|--------|------------|------------|
| Passband Insertion Loss (100 MHz avg) | 3800-3900 | 1.7 dB | 2.0 dB max | 2.0 dB max |
| Passband Ripple (over 100 MHz) | 3800-3900 | 1.5 dB | 1.7 dB max | 1.8 dB max |
| Passband Return Loss | 3800-3900 | 14 dB | 13 dB min | 12 dB min |
| Attenuation: | 1-2690 | 65 dB | 60 dB min | 60 dB min |
| | 2691-3600 | 45 dB | 40 dB min | 40 dB min |
| | 3601-3780 | 23 dB | 21 dB min | 20 dB min |
| | 3920-4099 | 23 dB | 21 dB min | 20 dB min |
| | 4100-5149 | 45 dB | 40 dB min | 40 dB min |
| | 5150-5925 | 45 dB | 40 dB min | 40 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.

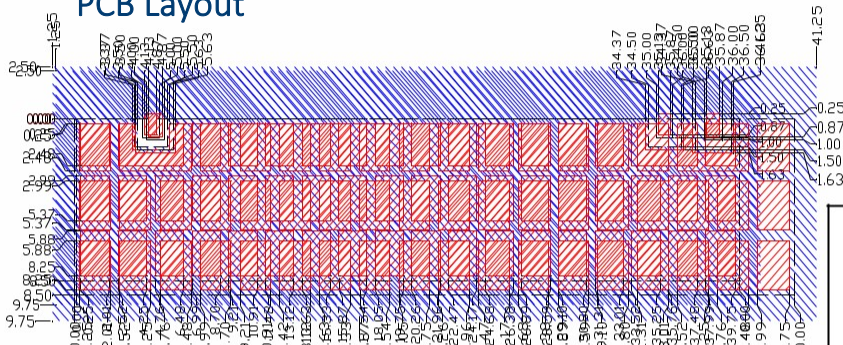
| Specification Allowance | |
|-------------------------|--------|
| Insertion Loss | 0.1 dB |
| Return Loss | 1.0 dB |
| Attenuation | 1.0 dB |

Mechanical Drawing



| Dim. | Nominal (mm) | Tolerance (±mm or Max) |
|------|--------------|------------------------|
| A | 40.0 | max |
| B | <4.8 | max |
| C | 1.0 | 0.13 |
| D | 0.5 | 0.13 |
| E | 0.5 | 0.13 |
| F | 4.5 | 0.25 |
| G | 31.0 | 0.13 |
| H | 9.3 | max |
| I | 1.0 | 0.13 |
| J | 1.4 | 0.2 |

PCB Layout

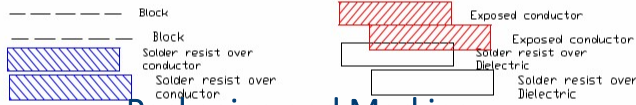


Combined 40mm & 50mm universal footprint PCB layout is also available.

IMPORTANT: Please assure ≥ 30 mils (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: 6 mils of SAC305 with reflow including 120s of soak at 217°C, and up to 30 sec peak at 241°C.

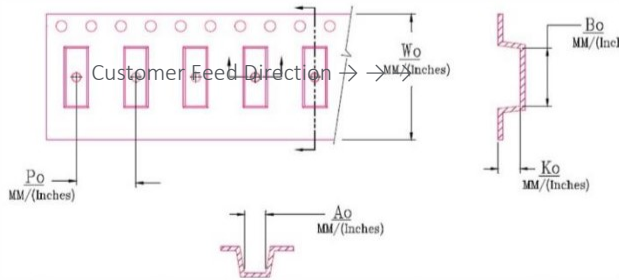


Packaging and Marking

| Dimension | Units | Spec. |
|---------------|-------|-------|
| Reel Diameter | mm | 330 |
| Reel Weight | kg | |
| Reel Quantity | ea. | 250 |

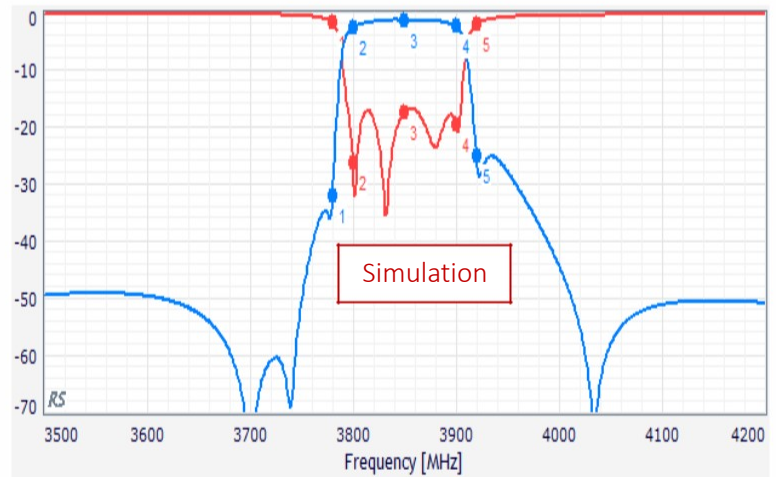
Product Marking

CTS
385
YWW



| Wo | Ao | Bo | Ko | Po |
|---------------------|--------------------|---------------------|--------------------|---------------------|
| 2.205 in 56.0 mm | 0.256 in 6.5 mm | 1.587 in 40.3 mm | 0.378 in 9.6 mm | 0.630 in 16.0 mm |

Electrical Response



| Marker | 1 | 2 | 3 | 4 | 5 |
|------------|-------|-------|-------|-------|-------|
| Freq[MHz] | 3780 | 3800 | 3850 | 3900 | 3920 |
| S11[dB](1) | -1.63 | -26.3 | -17.3 | -19.7 | -1.86 |
| S21[dB](1) | -32.1 | -2.49 | -1.23 | -2.38 | -25 |