

# MAFL-011003



**MoCA Band Pass Filter**  
500 - 3000 MHz

Rev. V2

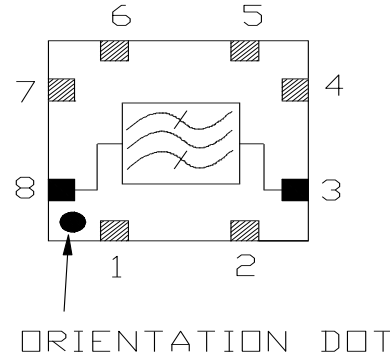
## Features

- Surface Mount
- 75 Ohm
- RoHS\* Compliant
- Pb Free
- MoCA Application

## Description

M/A-COM Technology Solutions' MAFL-011003 is a surface mount Band Pass Filter unit designed for MoCA applications.

## Functional Schematic



**Electrical Specifications:  $Z_0 = 75\Omega$ ,  $T_A = 25^\circ\text{C}$ ,  $P_{in} = 0\text{dBm}$**

| Parameter  | Units | Min   | Typ  | Max |
|--|-------|-------|------|-----|
| <b>Common to MoCA / MoCA to Common Rejection</b> |       |       |      |     |
| 500 - 565 MHz                                    | dB    | -35   | -37  | -   |
| 565 - 575 MHz                                    | dB    | -28.5 | -30  | -   |
| 950 - 960 MHz                                    | dB    | -32   | 34   | -   |
| 960 - 3000 MHz                                   | dB    | -37   | 40   | -   |
| <b>Insertion Loss</b>                            |       |       |      |     |
| 650 - 875 MHz                                    | dB    | -     | -1.5 | -3  |
| <b>Common Port Return Loss</b>                   |       |       |      |     |
| 650 - 875 MHz                                    | dB    | -9.5  | -10  | -   |
| <b>Output Return Loss</b>                        |       |       |      |     |
| 650 - 875 MHz                                    | dB    | -9.5  | -10  | -   |

| Parameter                         | Units | Target Max |
|-----------------------------------|-------|------------|
| <b>Pass Band Flatness</b>         |       |            |
| Any 50MHz band from 675 - 850 MHz | dB    | 0.5 P-P    |
| 650-700 MHz                       | dB    | 1.5 P-P    |
| 825-875 MHz                       | dB    | 1.5 P-P    |

## Recommended Maximum Ratings

| Parameter             | Value            |
|-----------------------|------------------|
| Storage Temperature   | -40C to +85°C    |
| Operating Temperature | -40C to +85°C    |
| DC Current            | 30mA             |
| RF Power              | +23.9dBm (250mW) |
| Transient Voltage     | 200V             |

- Full temperature plots are available on request.

\* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC

## Pin Configuration

| Function            | Pin Number   |
|---------------------|--------------|
| Common Port (Input) | 8            |
| MoCA Port (Output)  | 3            |
| Ground              | 1 - 2, 4 - 7 |
| Not connected       | -            |

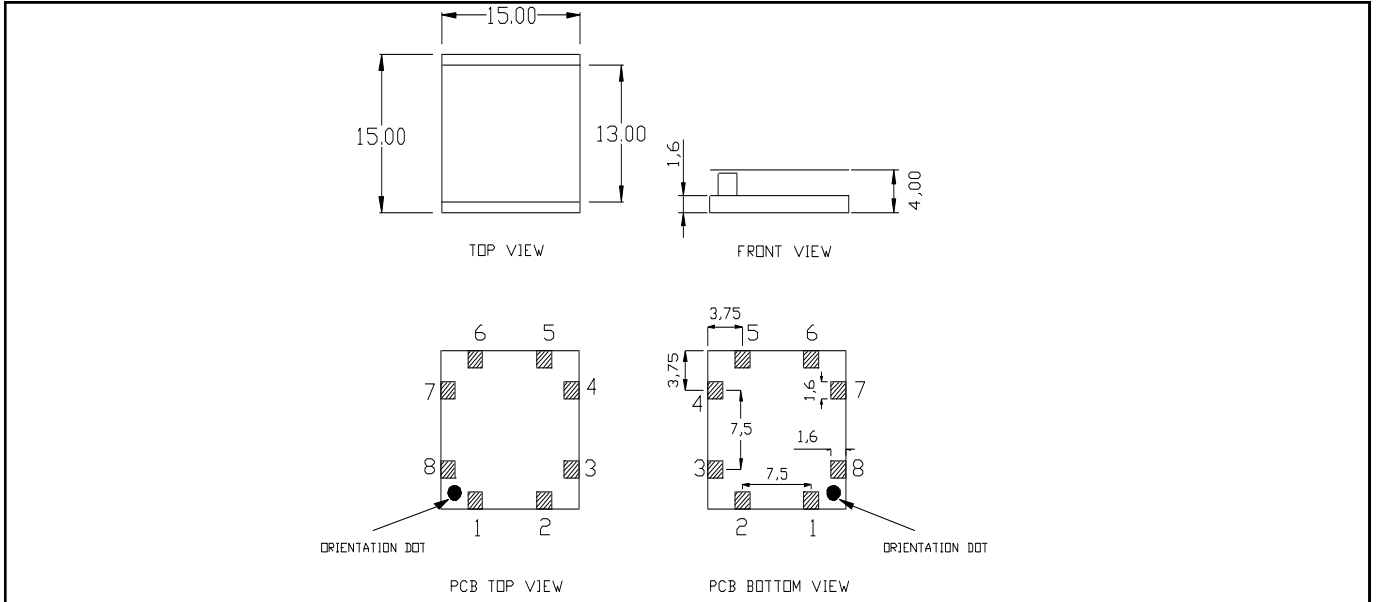
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 Visit [www.macomtech.com](http://www.macomtech.com) for additional data sheets and product information.

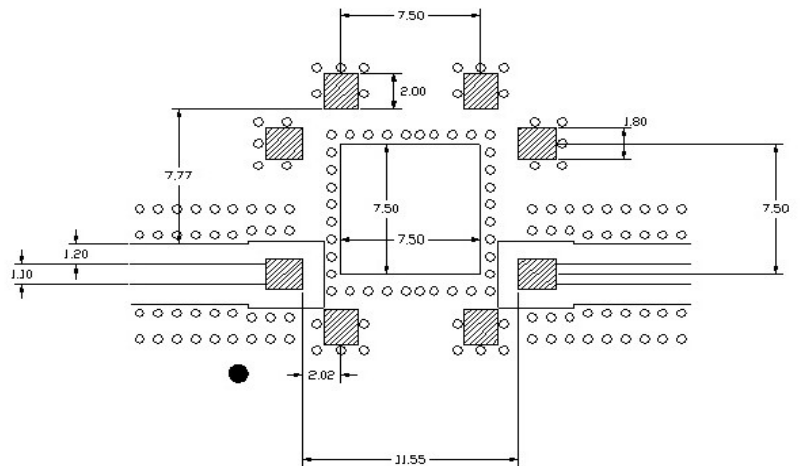
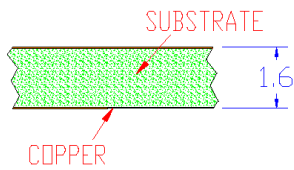
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**Outline Drawing:**

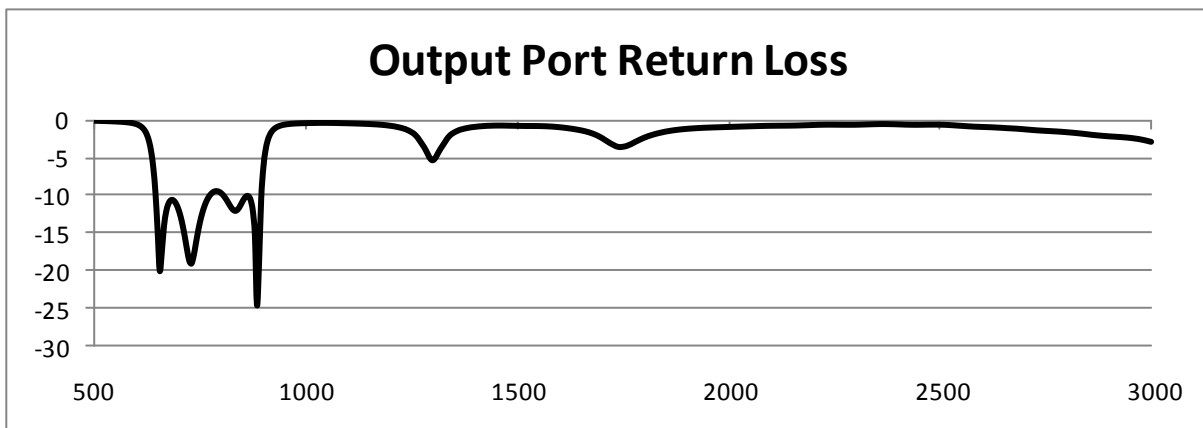
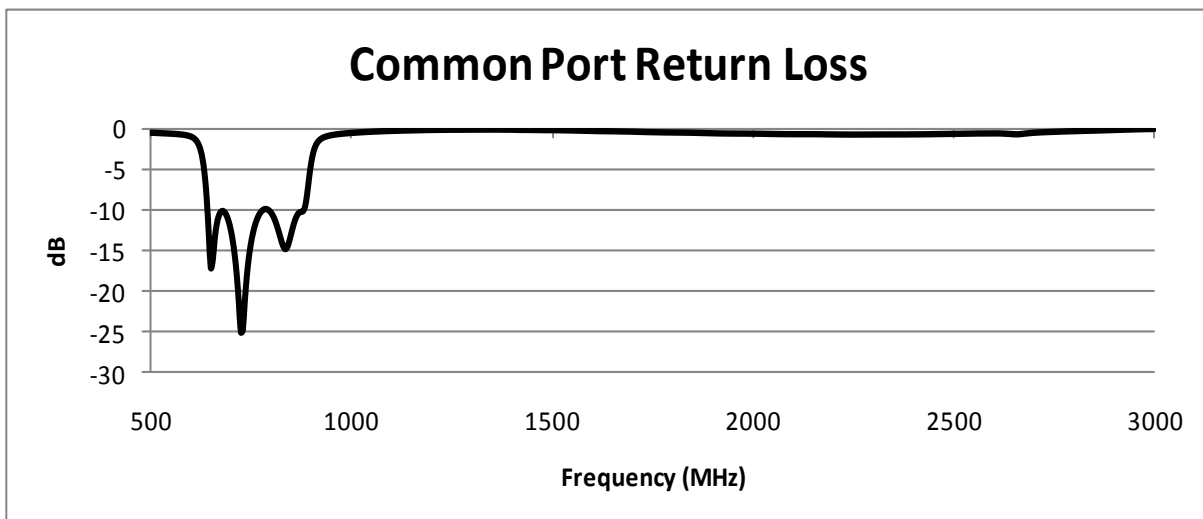
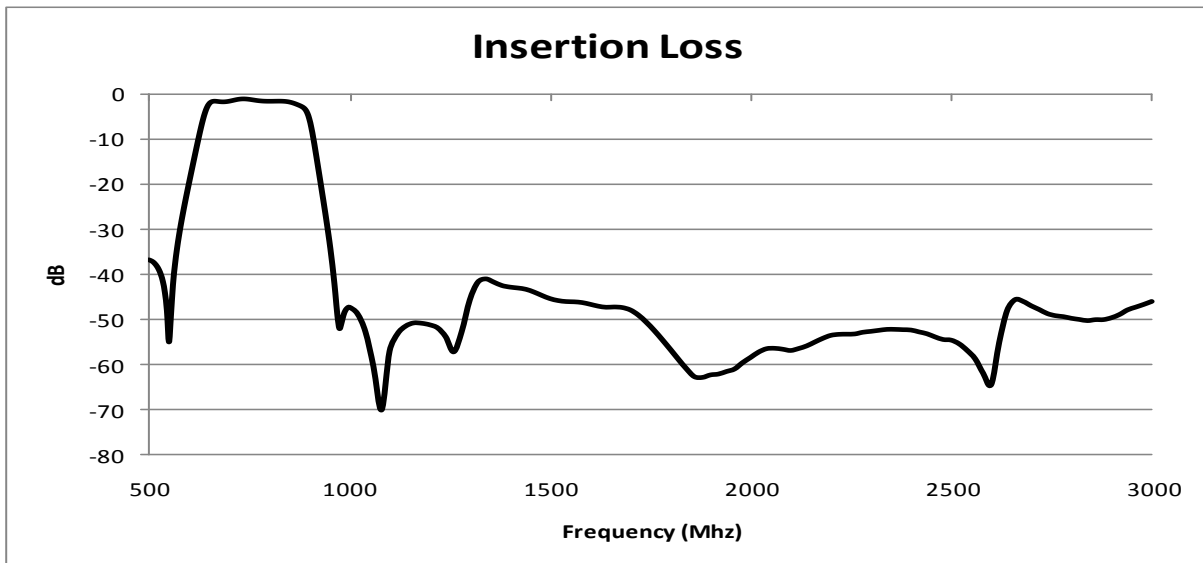


**Recommended PCB layout & Configuration**

- Track dimension = 1.1 mm
- Gap dimension = 1.2 mm
- It is not recommended to run tracks under the filter unless they are greater than 1.6 mm below the base.
- Ground should be 1.6 mm below the base of the filter
- Area directly under the filter should be free from copper
- RF shield should be kept a minimum of 6 mm above the filter



1. Dimensions in mm.
2. Tolerance:  $\pm 0.1$  mm unless otherwise noted.
3. Model number and lot code printed on reel.
4. Plating finish: ENIG on both sides, 0.05 to 0.1  $\mu$ m gold over 3 to 6  $\mu$ m nickel



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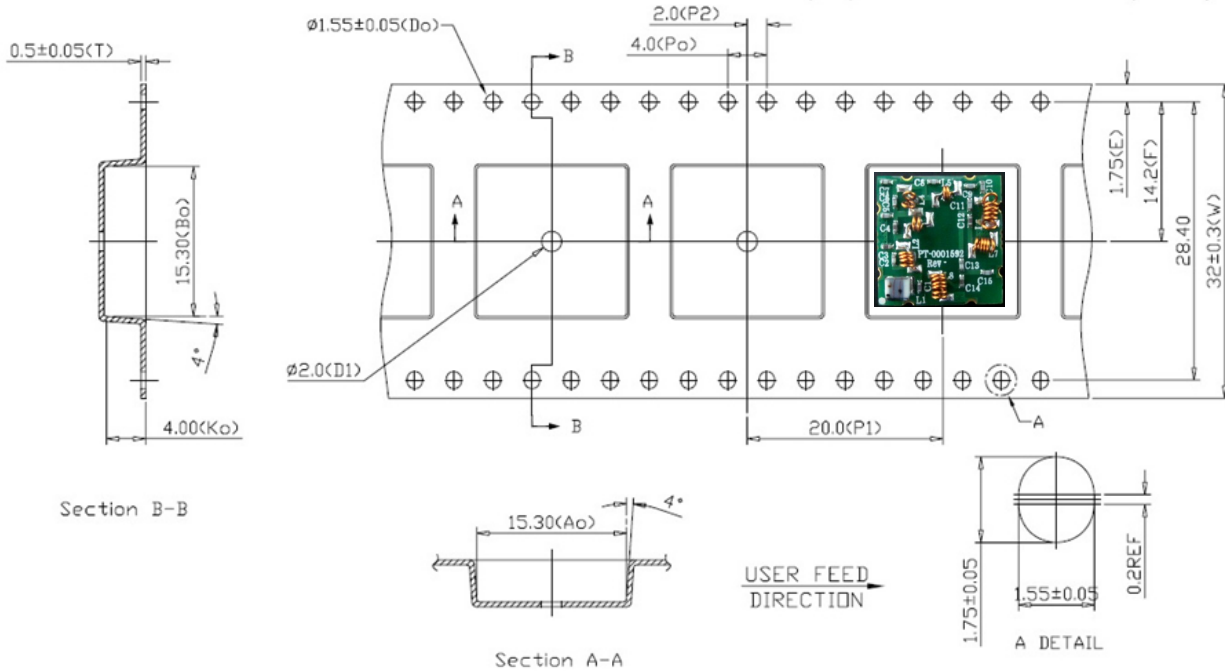
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## Tape & Reel Information

| Parameter    | Units | Value |
|--------------|-------|-------|
| Qty per reel | -     | 500   |
| Reel size    | mm    | 330   |

## Ordering Information

| Part Number    | Description               |
|----------------|---------------------------|
| MAFL-011003    | Tape & Reel               |
| MAFL-011003-TB | Customer Evaluation Board |



## Recommended Pick up location

The pickup location must be offset from the centre of the part by 1mm in 1 axis due to the location of the surface mount components.

