

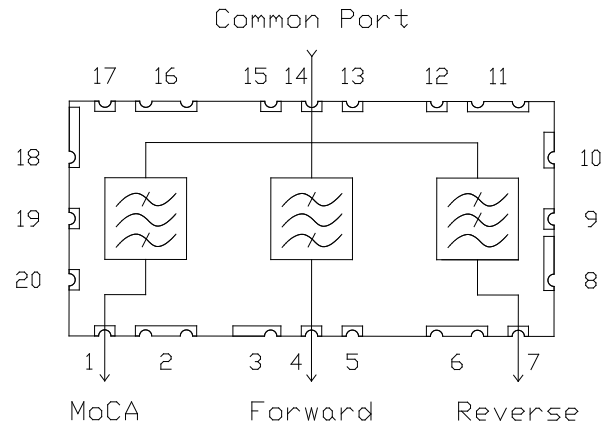
## Features

- 75 Ohm
- SMT unit
- RoHS\* Compliant

## Description

The MAFL-011018 is a low profile, surface mount filter with 3 transmission paths allowing full triplexer operation. The CATV reverse and forward bands are provided along with a further band meeting the MoCA specification. This filter is specifically designed for CATV and MoCA applications.

## Functional Schematic



## Ordering Information

| Part Number      | Package        |
|------------------|----------------|
| MAFL-011018      | 200 piece reel |
| MAFL-011018-Tray | 480 piece tray |

## Pin Configuration

| Pin Number              | Function     |
|-------------------------|--------------|
| 1                       | MoCA Port    |
| 4                       | Forward Port |
| 7                       | Reverse Port |
| 14                      | Common Port  |
| 2, 3, 5, 6, 8-13, 15-20 | Ground       |

\* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

**Electrical Specifications:  $T_A = +25^\circ\text{C}$ ,  $Z_0 = 75 \Omega$**

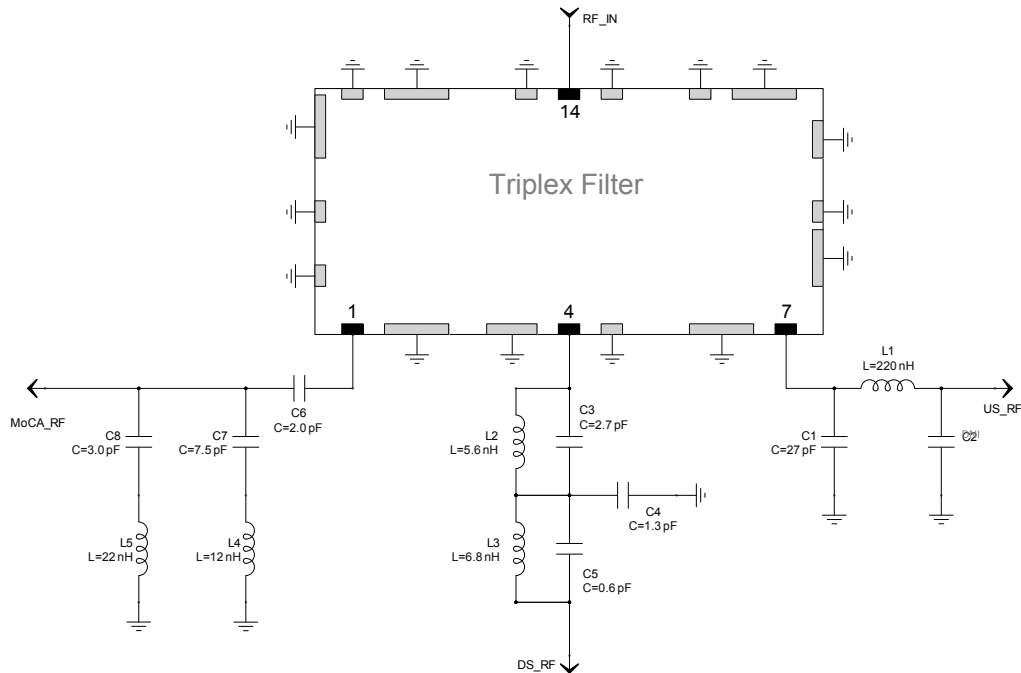
| Parameter                      | Test Frequency (MHz)                                 | Units | Min.                 | Typ.                 | Max.                 |
|--------------------------------|--|-------|----------------------|----------------------|----------------------|
| Reverse Path Insertion Loss    | 5 - 42   | dB    | —                    | 1.2                  | 1.5                  |
| Reverse Path Rejection         | 54 - 126<br>126 - 1002<br>1125 - 1675<br>1675 - 3000 | dB    | 62<br>64<br>60<br>30 | 65<br>70<br>64<br>50 | —                    |
| Forward Path Insertion Loss    | 54 - 88<br>88 - 860<br>860 - 1002                    | dB    | —                    | 1.50<br>0.75<br>2.75 | 2.00<br>1.50<br>2.75 |
| Forward Path Rejection         | 5 - 42<br>1125 - 1675<br>1675 - 3000                 | dB    | 50<br>43<br>20       | 52<br>45<br>30       | —                    |
| MoCA Path Insertion Loss       | 1125 - 1150<br>1150 - 1650<br>1650 - 1675            | dB    | —                    | 2.8<br>2.5<br>2.5    | 3.0<br>2.7<br>3.0    |
| MoCA Path Rejection            | 5 - 1002<br>2300 - 3000                              | dB    | 49<br>25             | 55<br>35             | —                    |
| Input Return Loss              | 5 - 42<br>54 - 860<br>860 - 1002<br>1125 - 1675      | dB    | 16<br>16<br>12<br>12 | 18<br>18<br>16<br>16 | —                    |
| Isolation - Forward to Reverse | 5 - 38<br>38 - 42<br>54 - 1002                       | dB    | 55<br>50<br>60       | 58<br>52<br>65       | —                    |
| Isolation Forward to MoCA      | 5 - 42<br>54 - 126<br>126 - 1002<br>1125 - 1675      | dB    | 49<br>49<br>49<br>43 | 70<br>70<br>53<br>50 | —                    |

**Recommended Maximum Ratings**

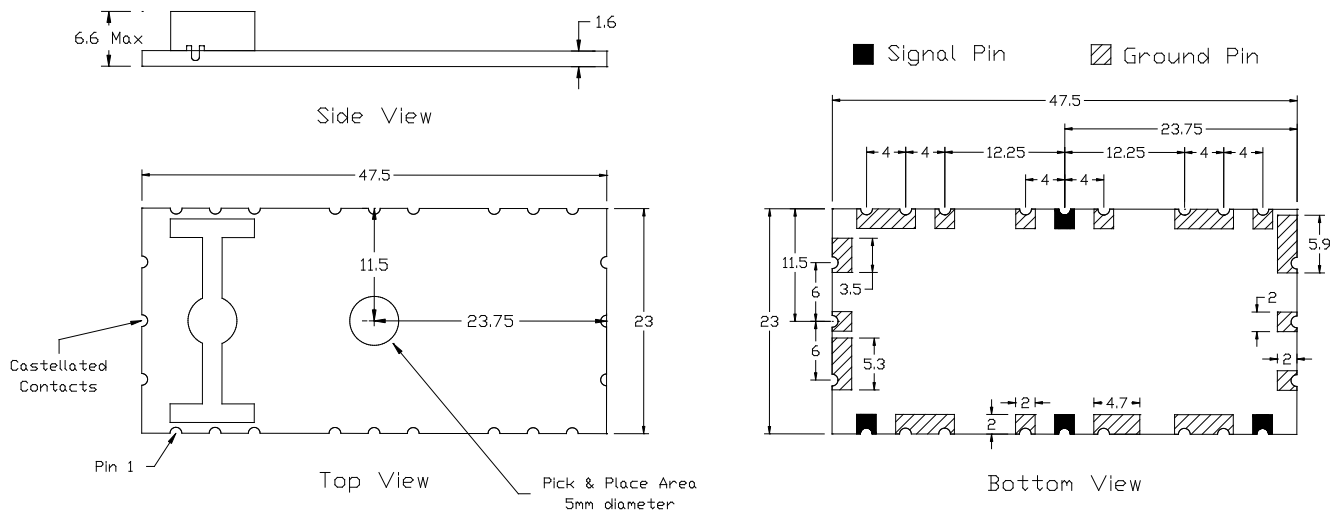
| Parameter             | Absolute maximum |
|-----------------------|------------------|
| RF Power              | 250 mW           |
| DC Current            | 30 mA            |
| Operating temperature | -40°C to +85°C   |
| Storage temperature   | -40°C to +85°C   |



## Application Schematic



## Outline Dimensions



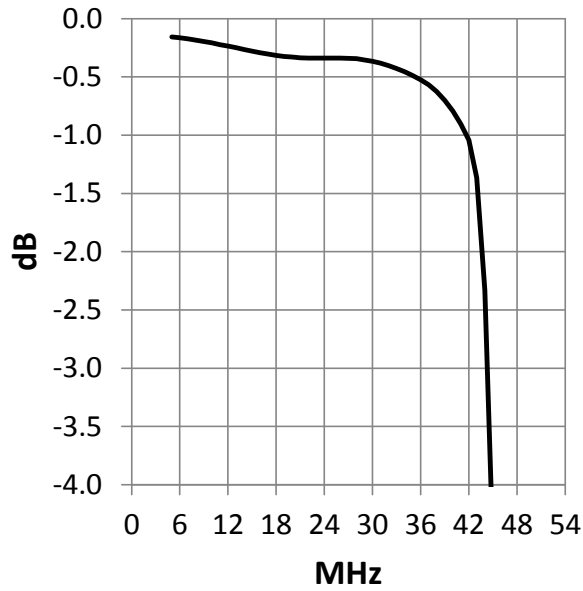
Dimensions are in millimetres.

Tolerance:  $.x \pm 0.1$  mm, except where specified.

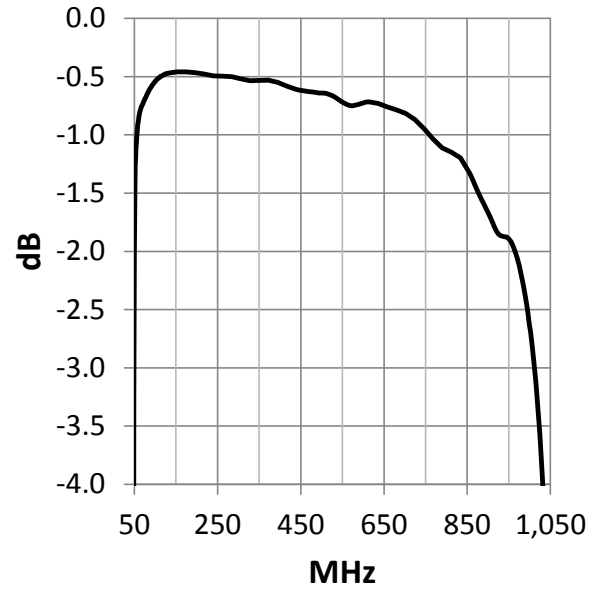
The maximum allowable coplanarity measurement between PCB and customer board surface is 0.15mm.

## Typical Performance Curves

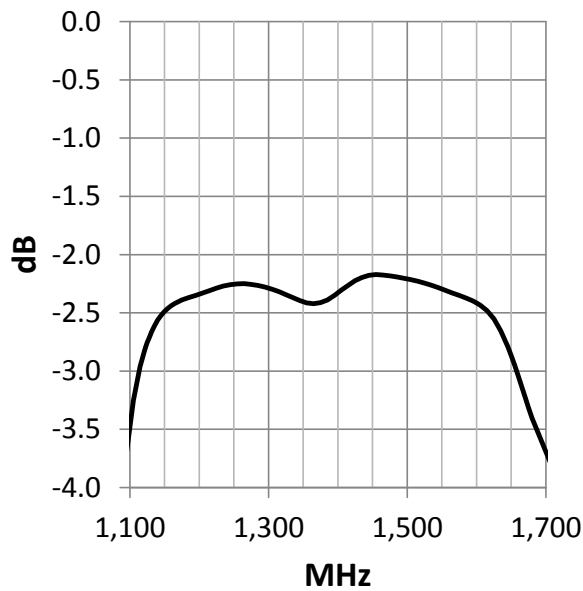
*Reverse Insertion Loss*



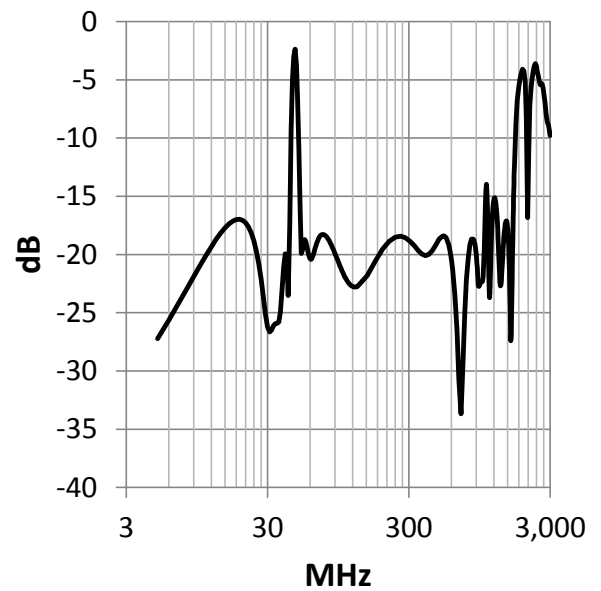
*Forward Insertion Loss*



*MoCA Insertion Loss*

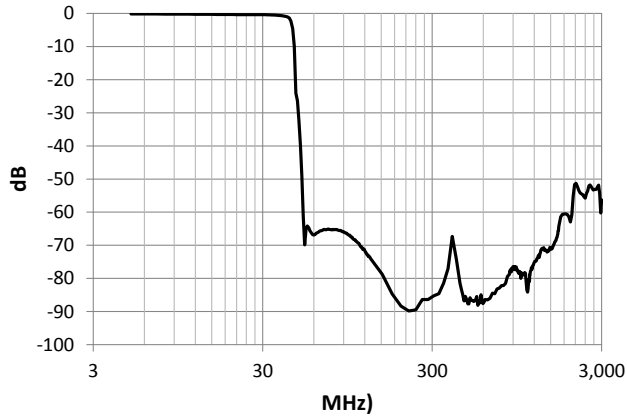


*Common Port Return Loss*

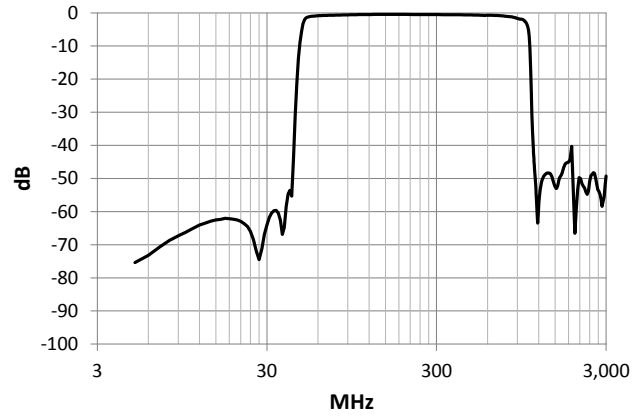


## Typical Performance Curves

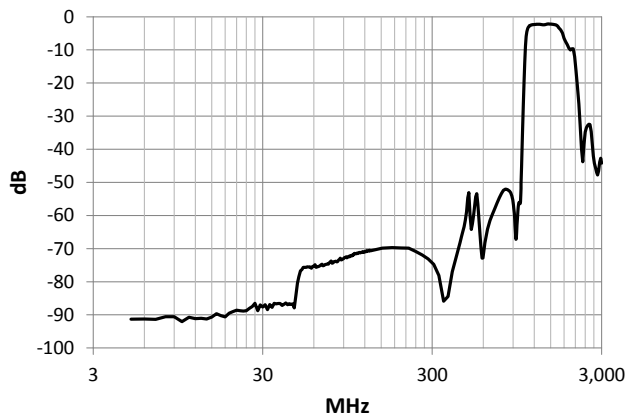
**Reverse Path**



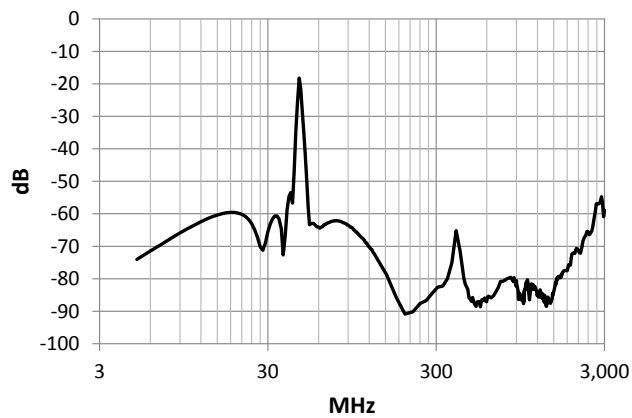
**Forward Path**



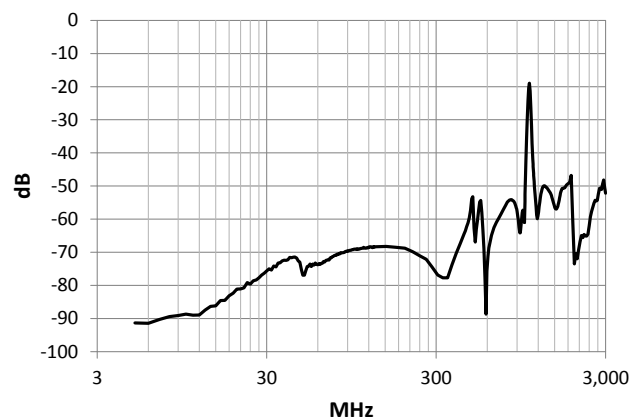
**MoCA Path**



**Reverse to Forward Isolation**

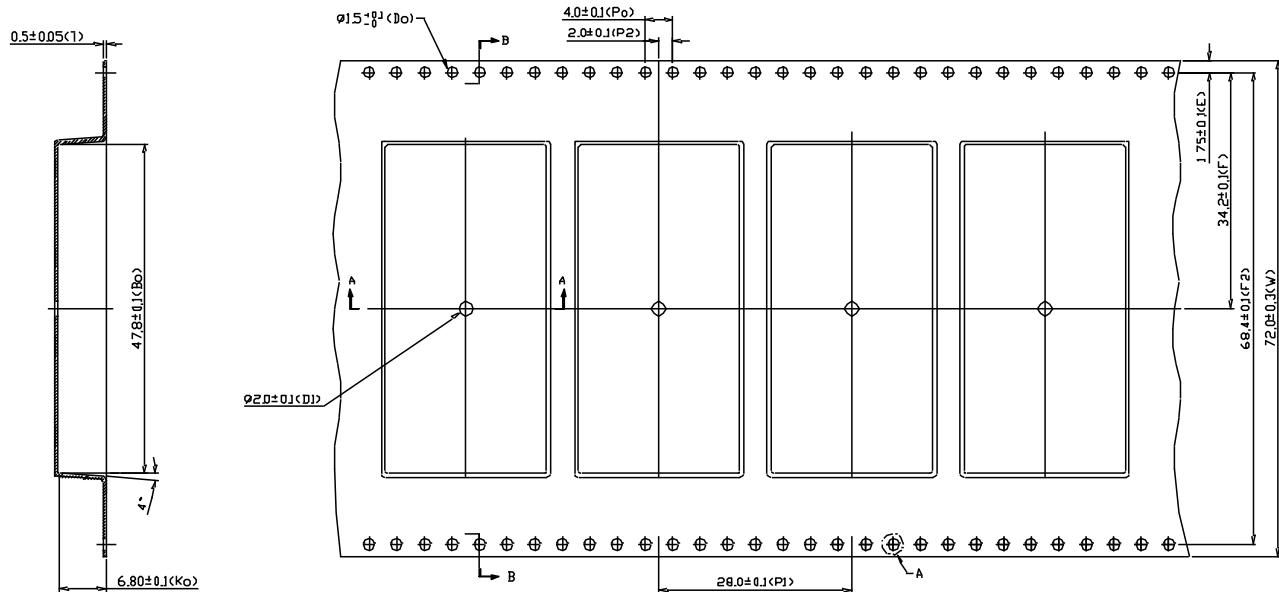


**Forward to MoCA Isolation**

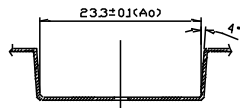


## Tape & Reel Information

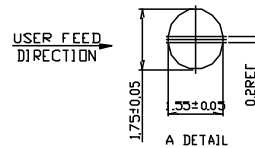
| Parameter  | Units | Value |
|--|-------|-------|
| Qty per reel                                       | -     | 200   |
| Reel Size  | mm    | 330   |
| Tape Width   | mm    | 72.0  |
| Pitch  | mm    | 28.0  |
| Ao   | mm    | 23.3  |
| Bo   | mm    | 47.8  |
| Ko   | mm    | 6.8   |
| Orientation  | -     | F54   |
| Reference Application Note ANI-019 for orientation |       |       |



Section B-B



Section A-A



Dimensions are in millimetres.

Tolerance: .x ± 0.1 mm, except where specified.

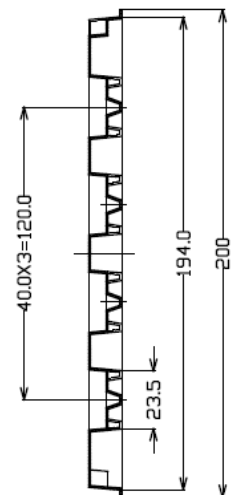
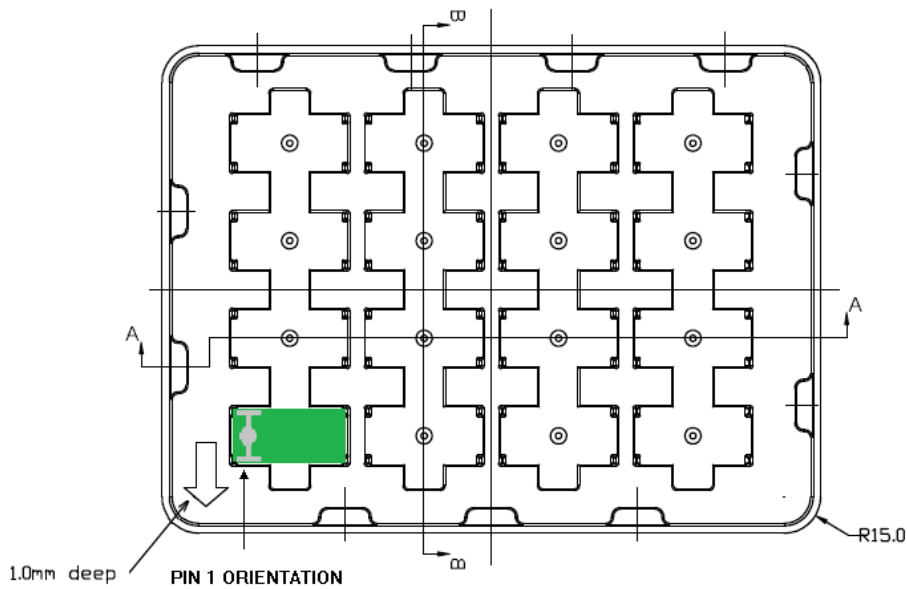
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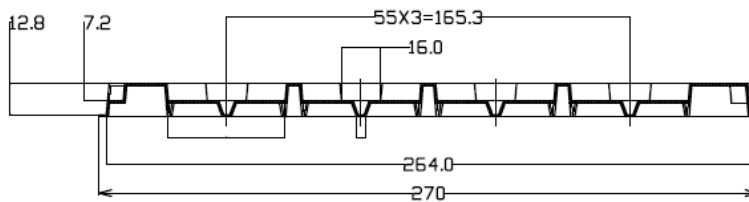
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<https://www.macom.com/support>

## Tray Information

| Parameter   | Units | Value     |
|---|-------|-----------|
| Min Order Qty   | -     | 480       |
| Tray Length   | mm    | 270       |
| Tray Width  | mm    | 200       |
| Height  | mm    | 20.8      |
| Ao  | mm    | 35        |
| Bo  | mm    | 50        |
| Ko  | mm    | 14.4      |
| Orientation   | -     | See below |
| Consecutive trays will be stacked alternately at 180° |       |           |



Section B-B



Section A-A

Dimensions are in millimetres.

Tolerance:  $.x \pm 0.1$  mm, except where specified.



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