# MAFL-011081

## CATV Diplex Filter
## 5 - 204 / 258 - 1218 MHz

Rev. V1

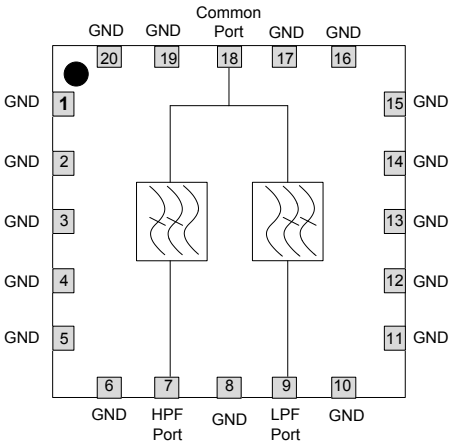
### Features

- 75 Ω
- Surface MT 30x30 mm device
- RoHS Compliant and Pb free

### Description

MAFL-011081 is a surface mount diplex filter unit designed for CATV applications, DVT and DBS applications.

### Functional Schematic




### Ordering Information[1,2]

| Part # | Package |
|---|---|
| MAFL-011081 | bulk |
| MAFL-011081-SB1 | Sample Board |

1. Reference Application Note M513 for reel size information.
2. All sample boards include x loose parts.

### Pin Configuration[3]

| Pin # | Function |
|---|---|
| 1 - 6, 8, 10-17, 19, 20 | Ground |
| 7 | High Pass Port |
| 9 | Low Pass Port |
| 18 | Common Port |

3. MACOM recommends connecting unused package pins to ground.

### Electrical Specifications: $T_A$ = 25°C, $Z_0$ = 75 Ω

| Parameter | Test Conditions Frequency (MHz) | Units | Min. | Typ. | Max. |
|---|---|---|---|---|---|
| Insertion Loss | 5 - 204<br>258 - 1218 | dB | — | 0.5<br>0.5 | 1.6<br>1.6 |
| Filter Rejection | 5 - 204<br>258 - 1218 | dB | 43<br>43 | 50<br>50 | — |
| Filter Return Loss (all ports) | 5 - 204<br>258 - 1218 | dB | 17<br>16 | 19<br>18 | — |

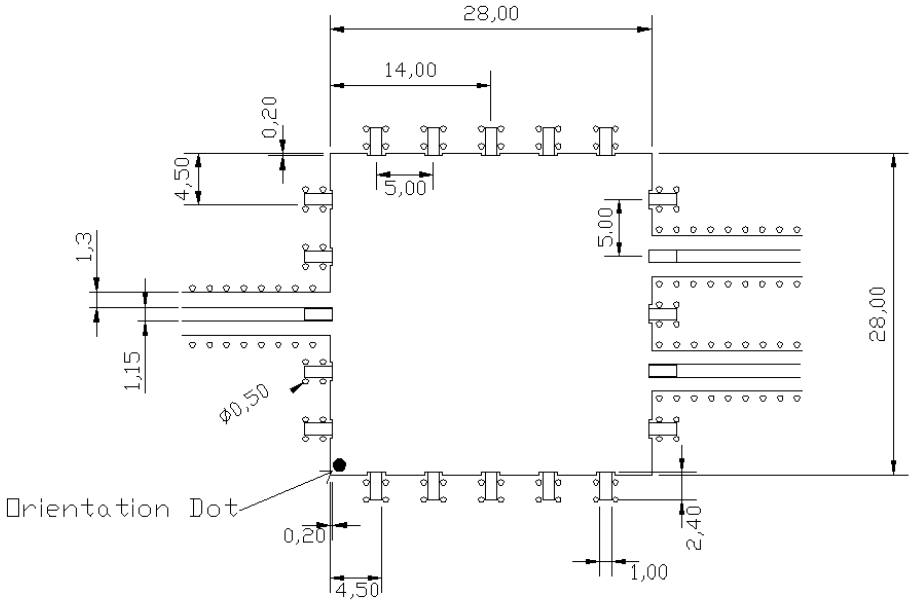
* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

## Absolute Maximum Ratings[4,5]

| Parameter | Value |
|---|---|
| RF Power | 250 mW |
| DC Current | 30 mA |
| Operating Temperature | -40ºC to +85ºC |
| Storage Temperature | -40ºC to +85ºC |

4. Exceeding any one or combination of these limits may cause permanent damage to this device.
5. MACOM does not recommend sustained operation near these survivability limits.

## Recommended PCB Configuration



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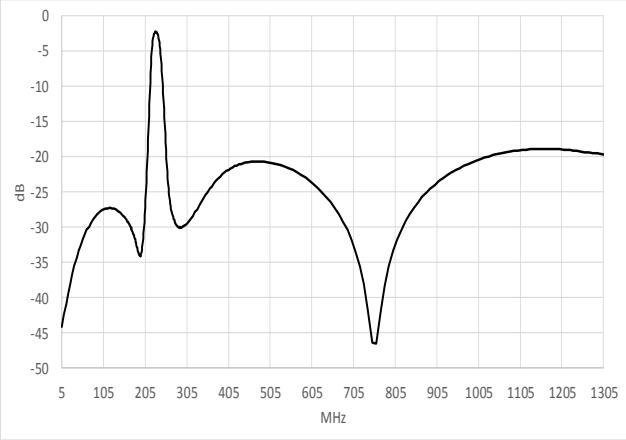
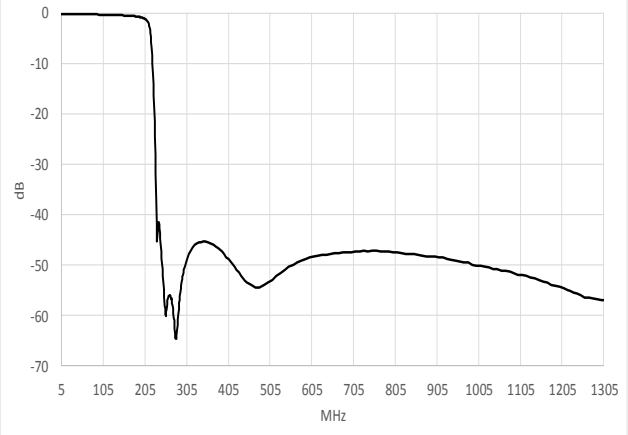
### Typical Performance Curves $T_A$ = 25°C, $Z_0$ = 75 Ω

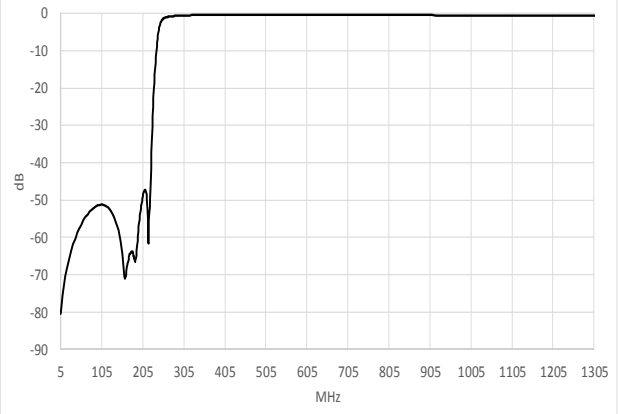
***Input Port Return Loss***



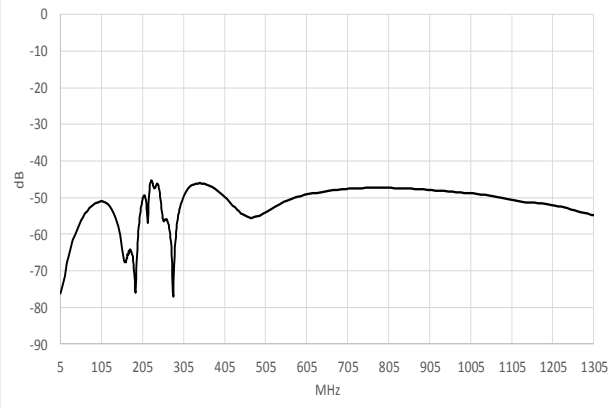

***Low Pass Filter Performance***



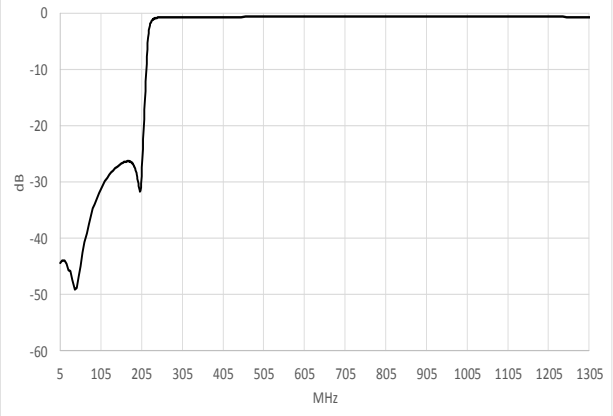

***High Pass Filter Performance***



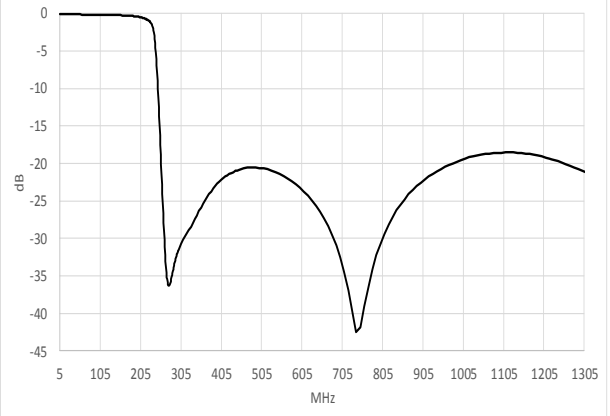

***Filter Isolation***



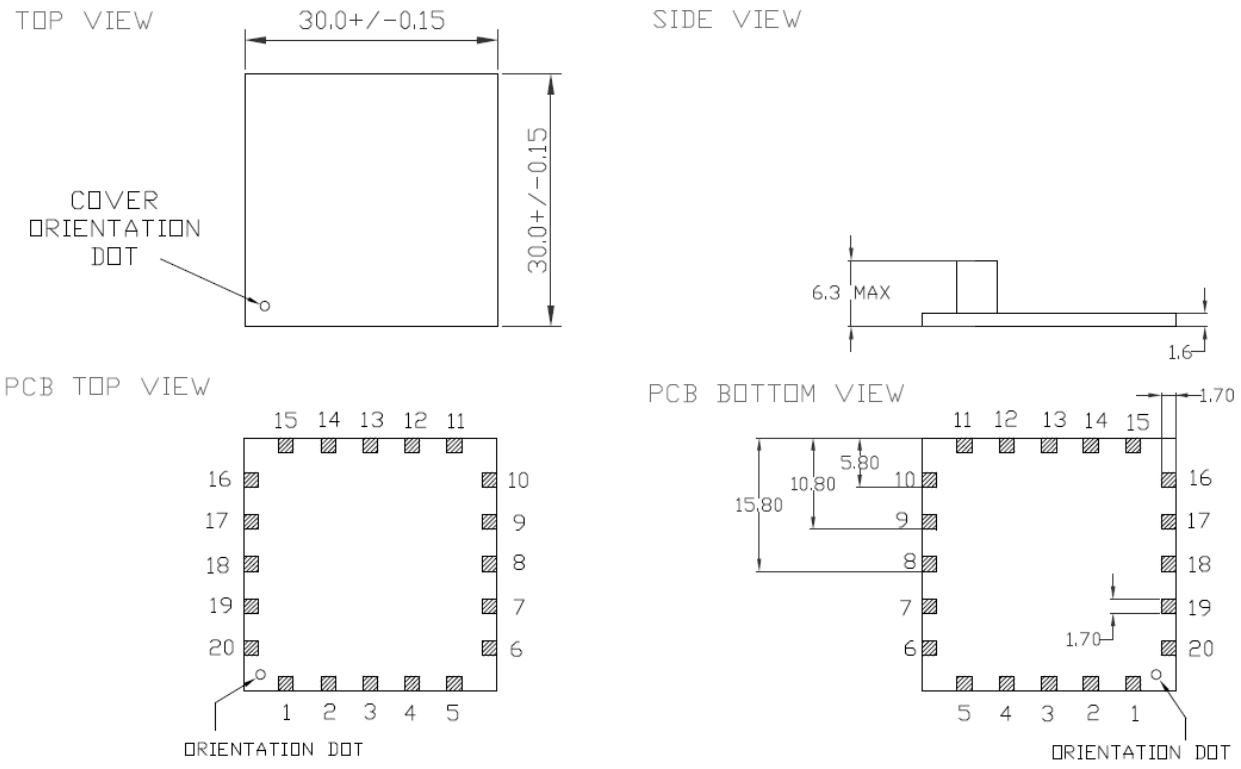

***Low Pass port Return Loss***




***High Pass port Return Loss***

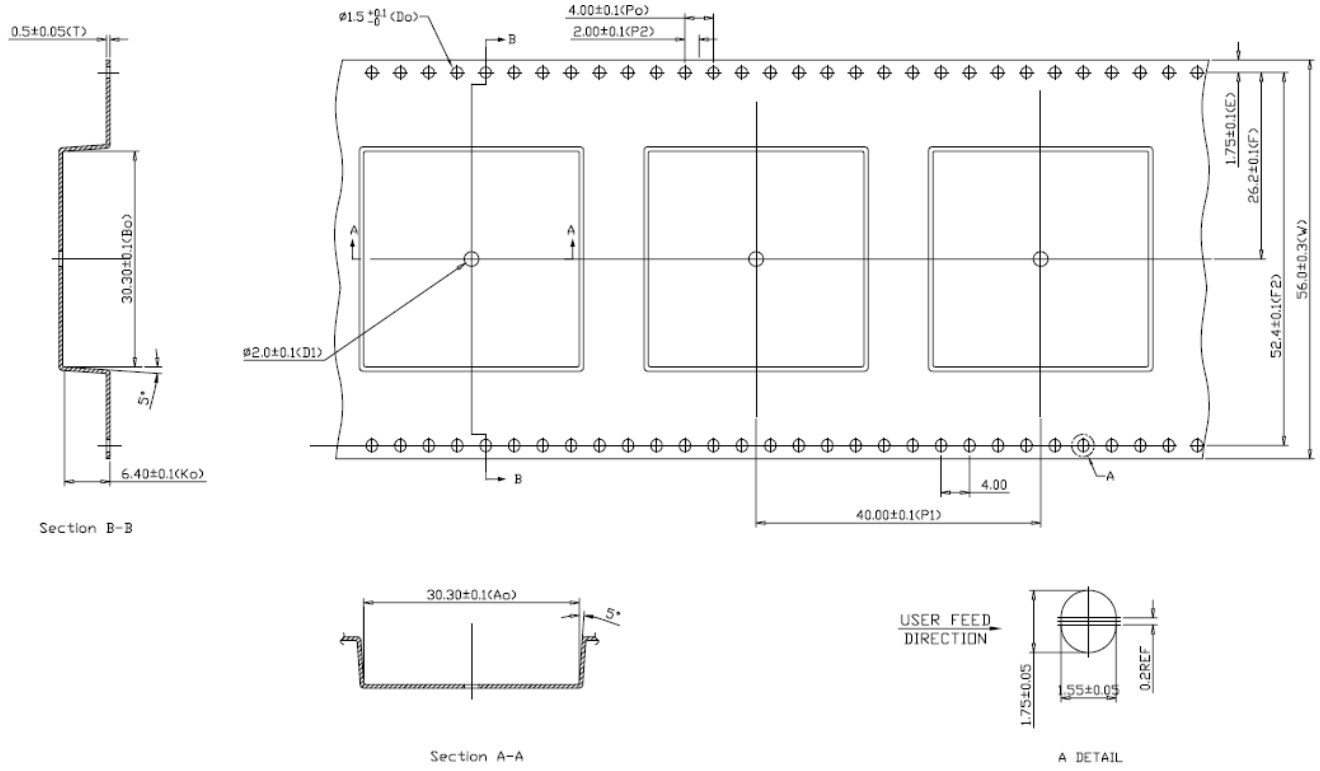


### Outline Drawing




Dimensions in mm. Tolerance: .x ± 0.1, .xx ± 0.05

## Tape & Reel Information




## Dimensions

| Parameter | Units | Value |
|---|---|---|
| Qty per reel | — | 200 |
| Reel Size | mm | 330 |
| Tape Width | mm | 56.00 |
| Pitch | mm | 40.00 |
| Ao | mm | 30.3 |
| Bo | mm | 30.3 |
| Ko | mm | 6.4 |
| Orientation | — | F30 |
| Reference Application Note ANI-019 for orientation | | |