

CATV Diplex Filter 5 - 204 / 258 - 1218 MHz

Rev. V1

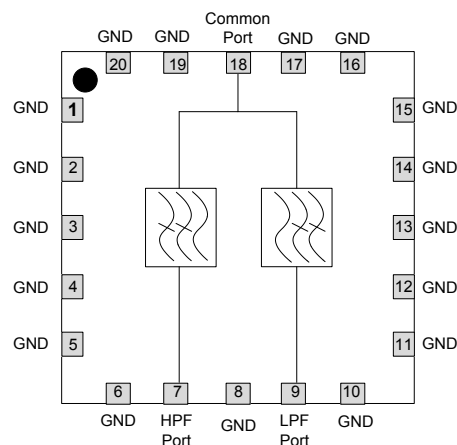
Features

- 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 Configuration³

| 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: $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$

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

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

PRELIMINARY: Data Sheets contain information regarding a product MACOM has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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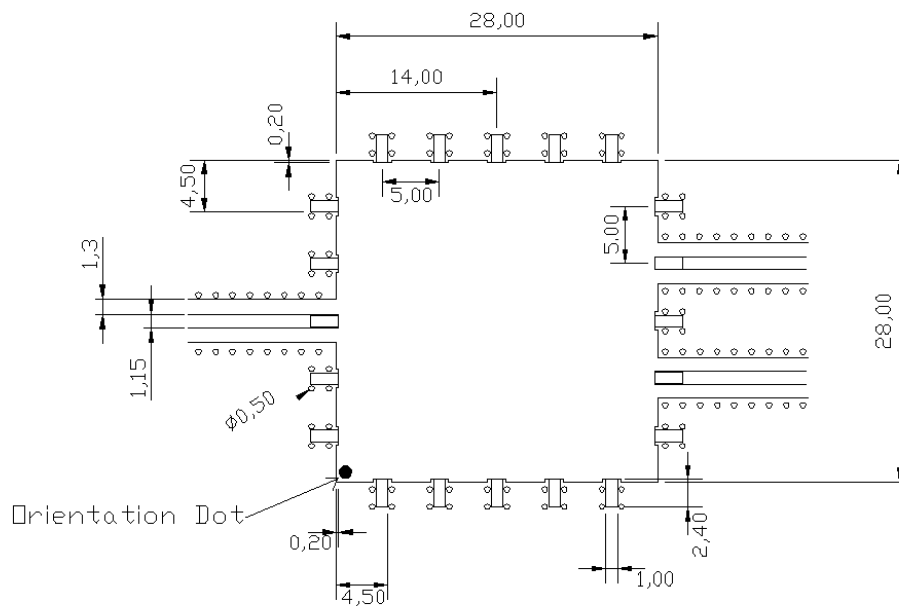
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Absolute Maximum Ratings^{4,5}

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

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.

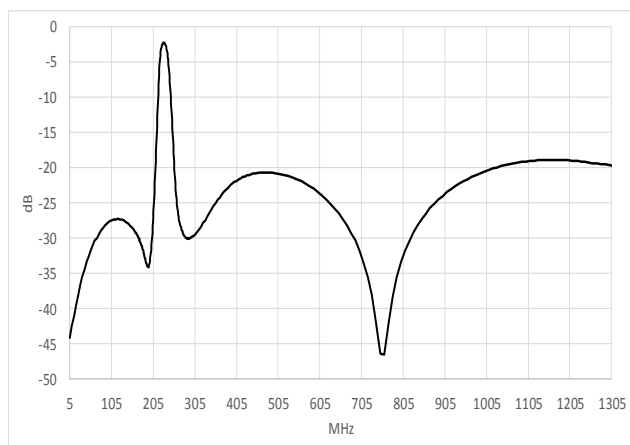
Recommended PCB Configuration


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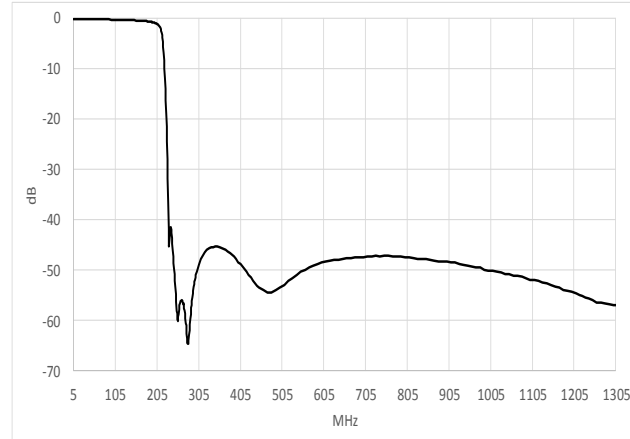
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Typical Performance Curves $T_A = 25^\circ\text{C}$, $Z_0 = 75\ \Omega$

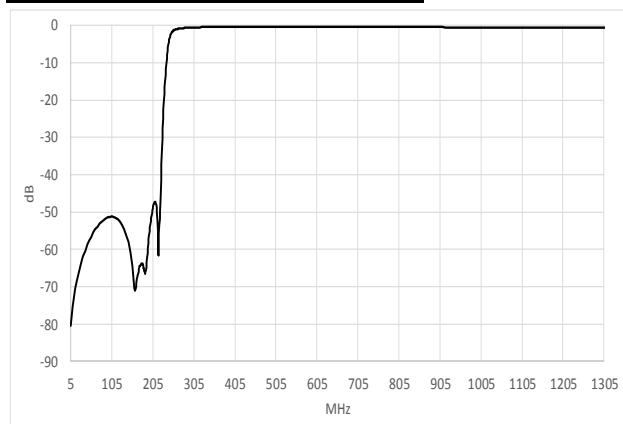
Input Port Return Loss



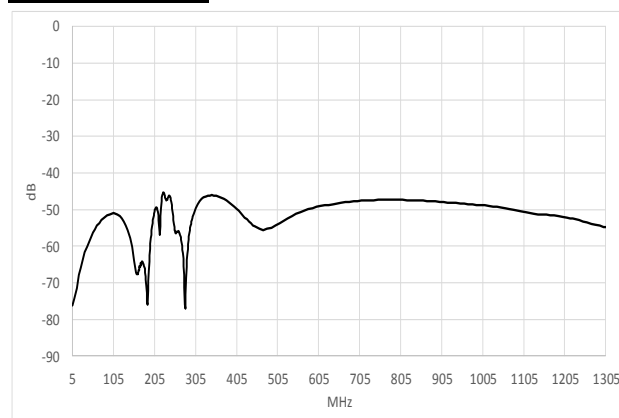
Low Pass Filter Performance



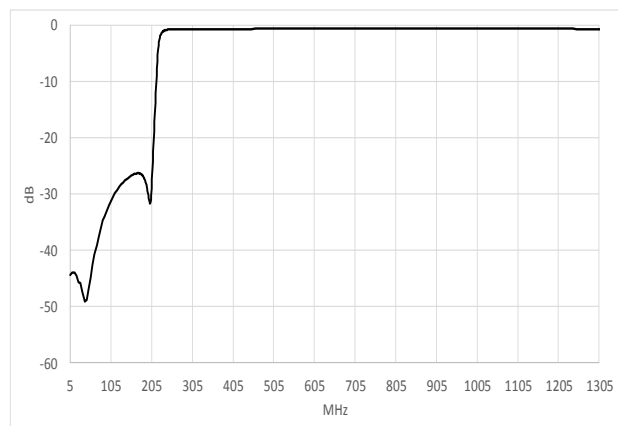
High Pass Filter Performance



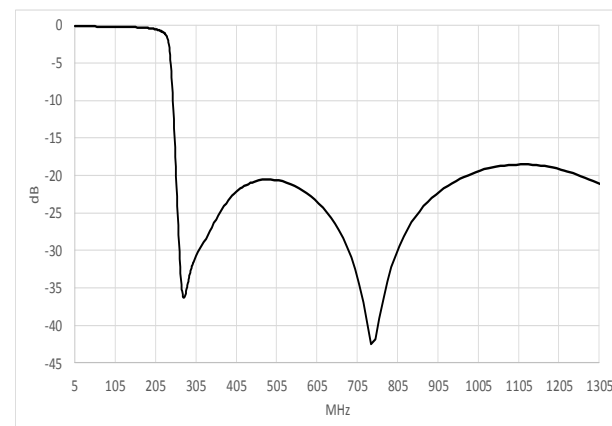
Filter Isolation



Low Pass port Return Loss



High Pass port Return Loss

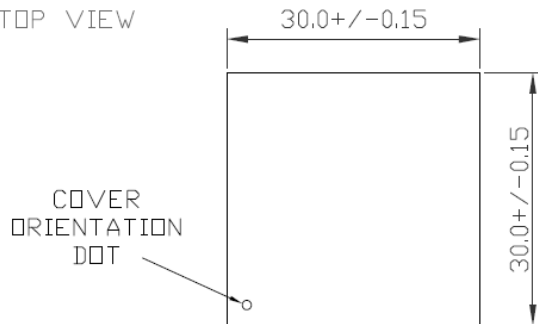


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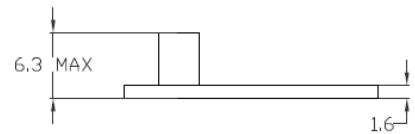
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Outline Drawing

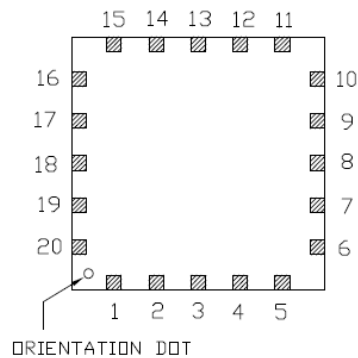
TOP VIEW



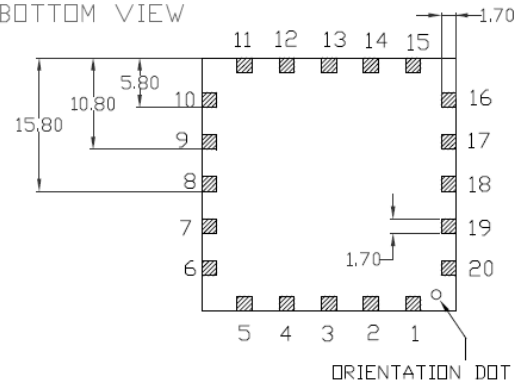
SIDE VIEW



PCB TOP VIEW



PCB BOTTOM VIEW

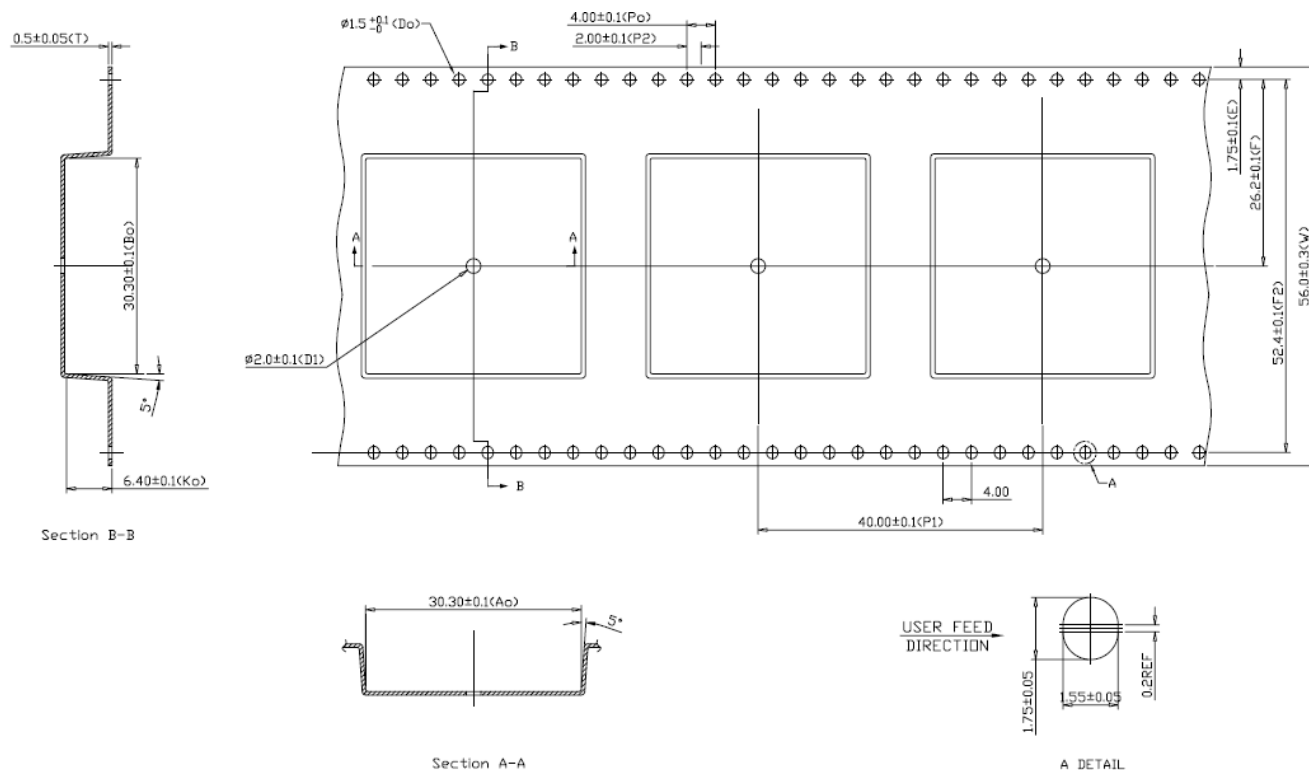


Dimensions in mm. Tolerance: .x ± 0.1, .xx ± 0.05

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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 | | |

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