

Reflection-less Low Pass Filter 5 - 684 MHz

Rev. V2

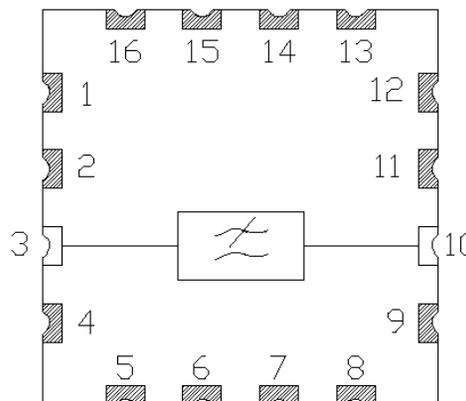
Features

- 75 Ω
- Surface Mount 18 mm device
- Low Insertion Loss to 684 MHz
- Matched to 1218 MHz
- RoHS Compliant and Pb free

Description

MAFL-011082 is a reflection less low pass filter with a pass band from 5 - 684 MHz with low insertion loss in the pass band and excellent matched return loss to 1218 MHz.

Functional Schematic



Ordering Information^{1,2}

| Part Number | Package |
|----------------|----------------|
| MAFL-011082 | 300 piece reel |
| MAFL-011082-TB | Sample Board |

1. Reference Application Note M513 for reel size information.
2. All sample boards include 5 loose parts.

Pin Configuration^{3,4}

| Pin # | Function |
|--|-------------|
| 1, 2, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16 | Ground |
| 3 | Input Port |
| 10 | Output Port |

3. MACOM recommends connecting unused package pins to ground.
4. The exposed pad centered on the package bottom must be connected to RF, DC and thermal ground.

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

| Parameter | Test Conditions Frequency (MHz) | Units | Min | Typical | Max |
|-------------------------------|---------------------------------|-------|----------|----------|-----|
| Insertion Loss | 5 - 684 | dB | — | 0.75 | 1.0 |
| Filter Rejection | 1000 1218 | dB | 22 35 | 24 45 | — |
| Filter Input Port Return Loss | 5 - 1218 | dB | 18 | 22 | — |

* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

Absolute Maximum Ratings^{5,6}

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

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

Handling Procedures

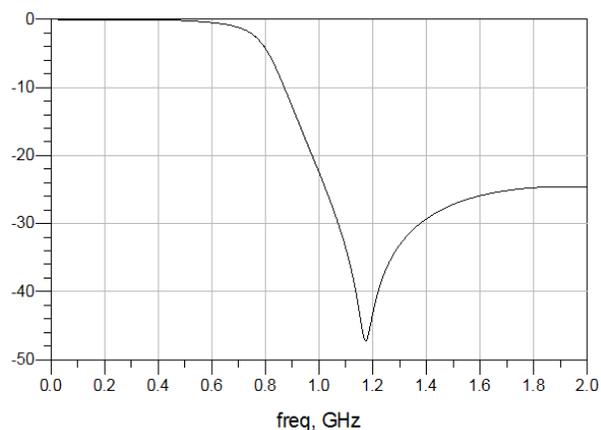
Please observe the following precautions to avoid damage:

Static Sensitivity

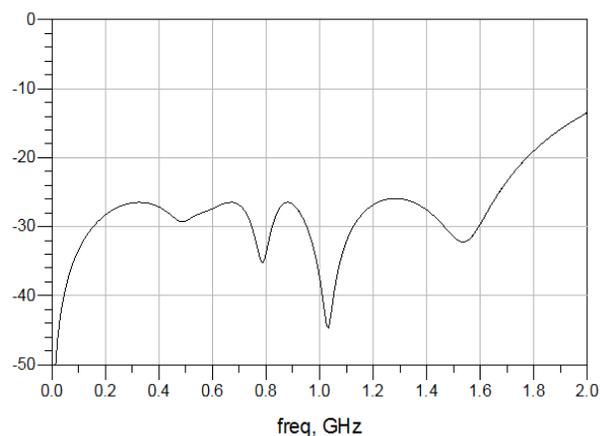
These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Typical Performance Curves

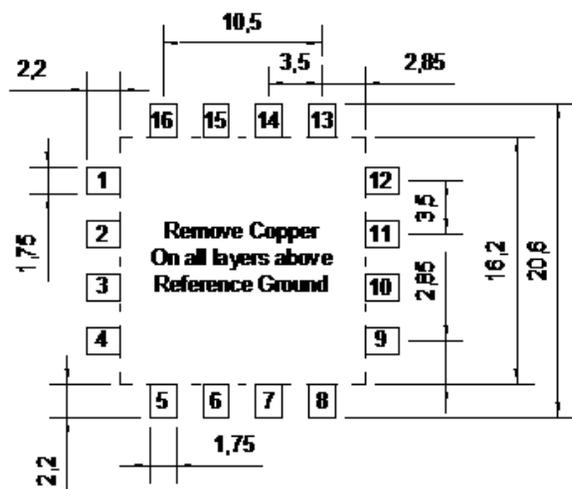
Low Pass Filter



Input Port Return Loss

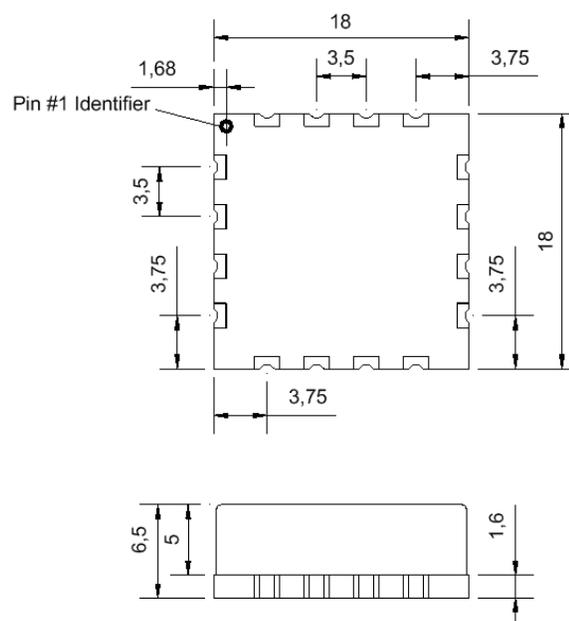


Recommended PCB Configuration

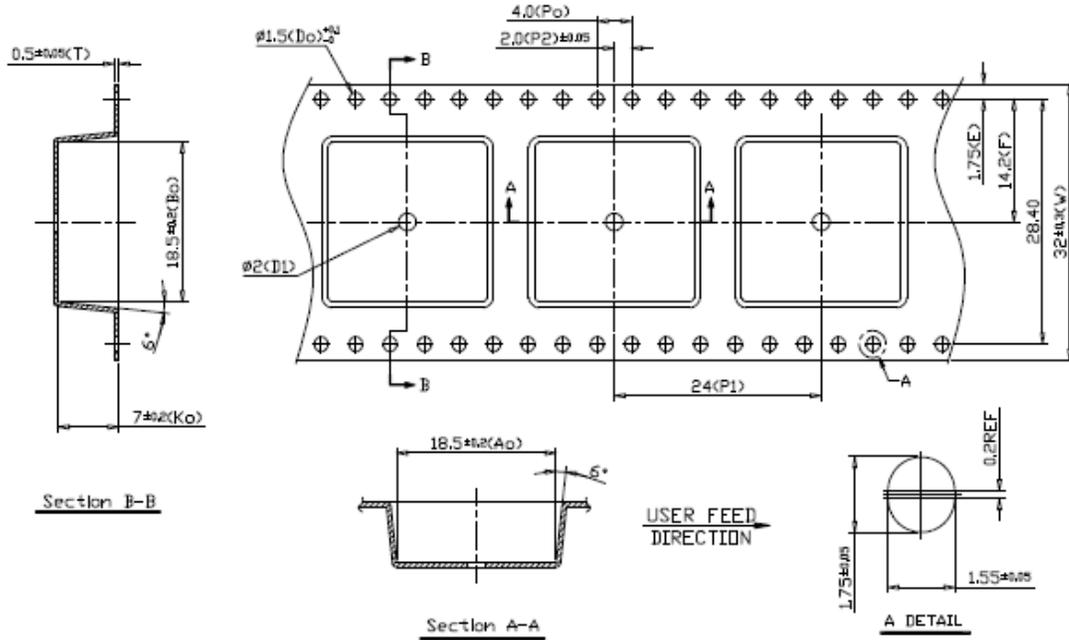


Dimensions in mm. Tolerance: .x ± 0.1, .xx ± 0.05

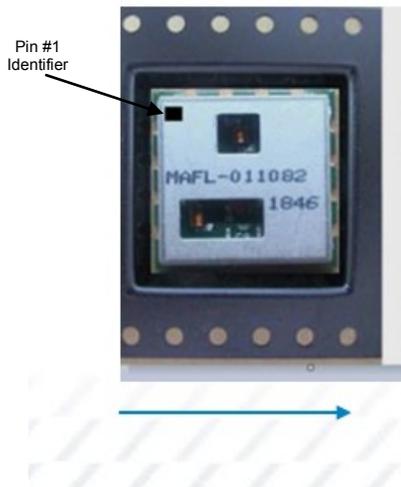
Filter Outline Drawing



Tape & Reel Information



Orientation



Dimensions

| Parameter | Units | Value |
|--|-------|-------|
| Qty per reel | — | 300 |
| Reel Size | mm | 330 |
| Tape Width | mm | 32.00 |
| Pitch | mm | 24.00 |
| Ao | mm | 18.5 |
| Bo | mm | 18.5 |
| Ko | mm | 7.0 |
| Orientation | — | F30 |
| Reference Application Note ANI-019 for orientation | | |

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