

## CATV Diplex Filter 5 - 85 / 102 - 1218 MHz

Rev. V1

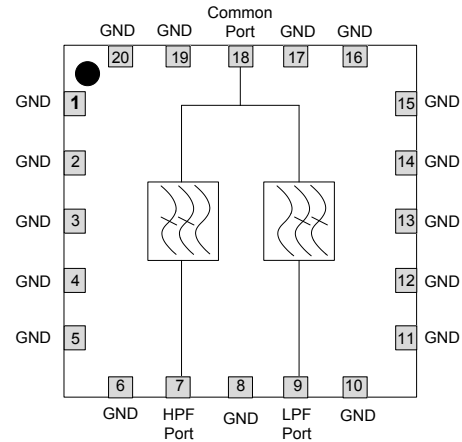
### Features

- 75  $\Omega$
- Surface Mount Technology
- RoHS\* Compliant

### Description

The MAFL-011077 is a surface mount diplex filter designed for the CATV applications, DTV, and DBS applications.

### Functional Schematic



### Ordering Information<sup>1,2</sup>

Part Number	Package
MAFL-011077	200 piece reel
MAFL-011077-SMB	Sample Board

1. Reference Application Note M513 for reel size information.
2. All sample boards include 3 loose parts.

### Pin Configuration<sup>3</sup>

Pin Number	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: +25°C, Z<sub>0</sub> = 75 $\Omega$

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Insertion loss	5 - 85 MHz	dB	—	1.0	1.2
	102 - 105 MHz			1.4	1.6
	105 - 1218 MHz			1.0	1.2
Filter Isolation	5 - 85 MHz	dB	48	55	—
	85 - 102 MHz		26	28	
	102 - 1002 MHz		43	50	
	1002 - 1218 MHz		43	50	
Filter Return Loss (all ports)	5 - 85 MHz	dB	22	24	—
	102 - 750 MHz		22	24	
	750 - 1218 MHz		21	24	
Group Delay	83.5 - 85.0 MHz	ns	—	8	—
	82.0 - 83.5 MHz			6	
	109.275 - 112.855 MHz			10	
	115.275 - 118.855 MHz			8	
	121.2625 - 124.843 MHz			6	

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

## Absolute Maximum Ratings<sup>4,5</sup>

Parameter	Absolute Maximum
RF Power	1000 mW
DC Current	30 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-20°C to +125°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.

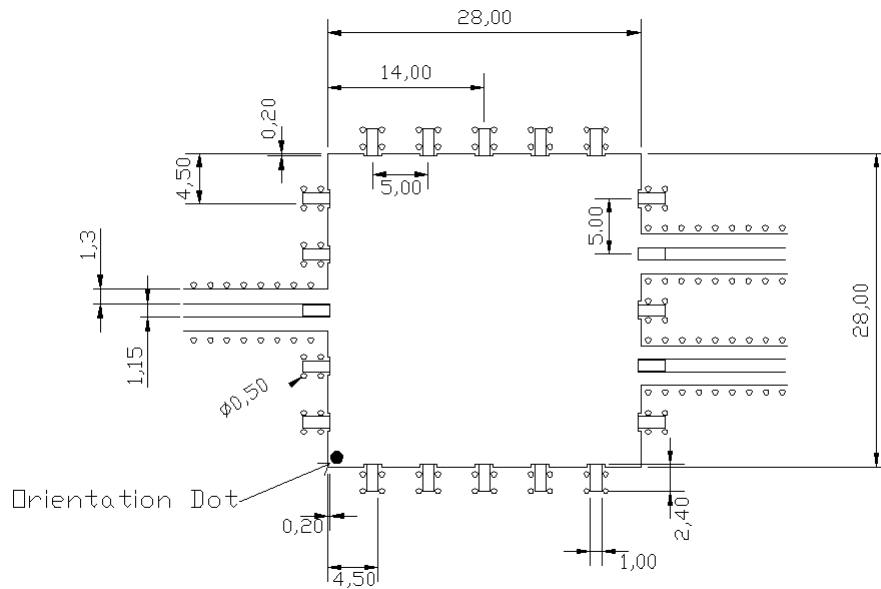
## Handling Procedures

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.

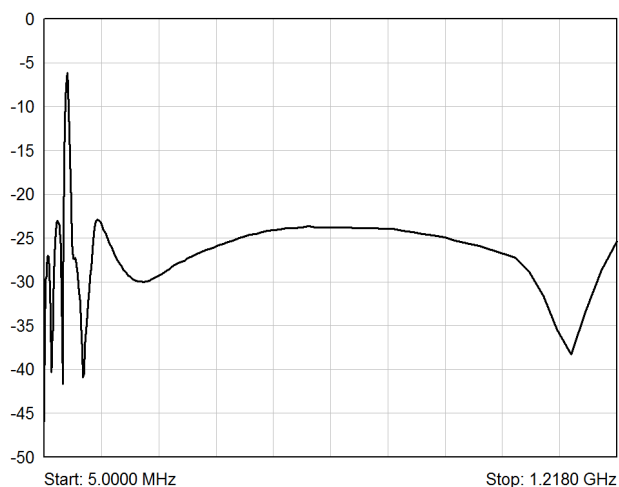
## Recommended PCB Configuration



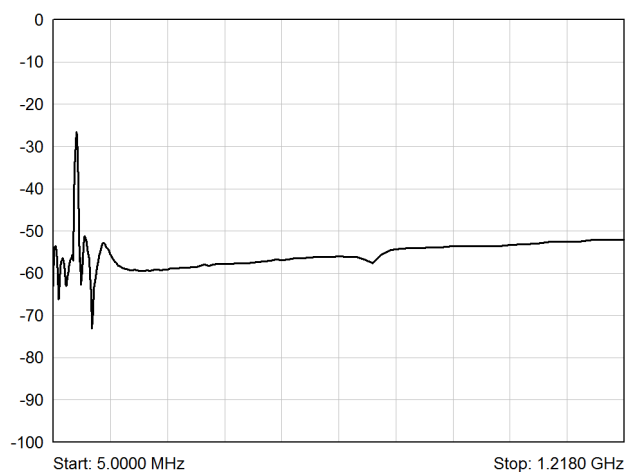
Dimensions in mm. Tolerance: .x ± 0.1, .xx ± 0.05

## Typical Performance Curves

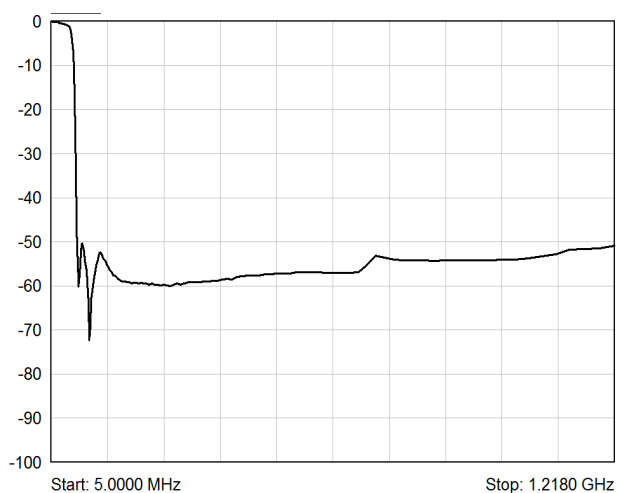
**Return Loss**



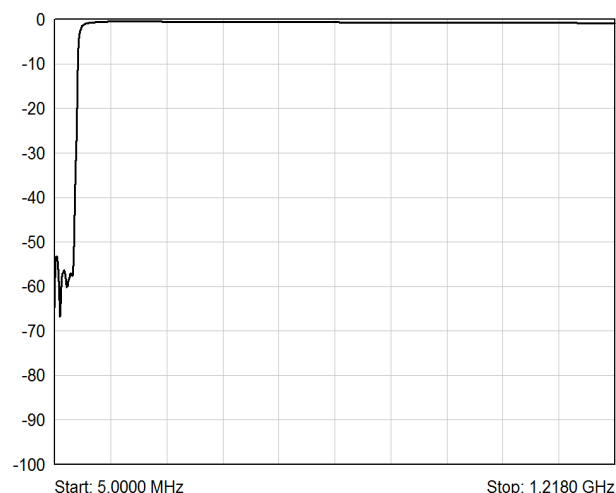
**Isolation**



**Low Pass Filter**

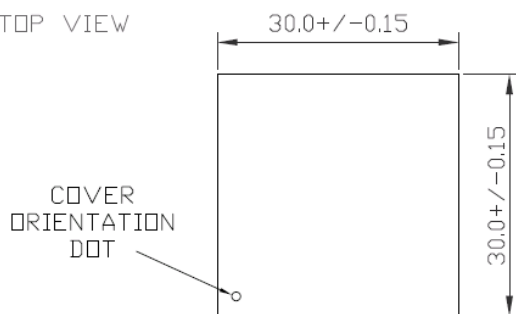


**High Pass Filter**

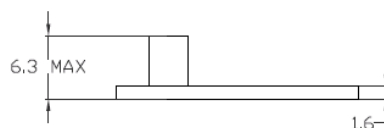


## Outline Drawing

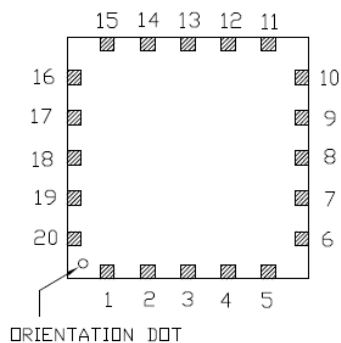
TOP VIEW



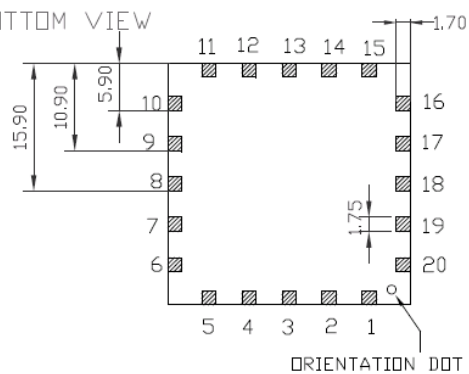
SIDE VIEW



PCB TOP VIEW

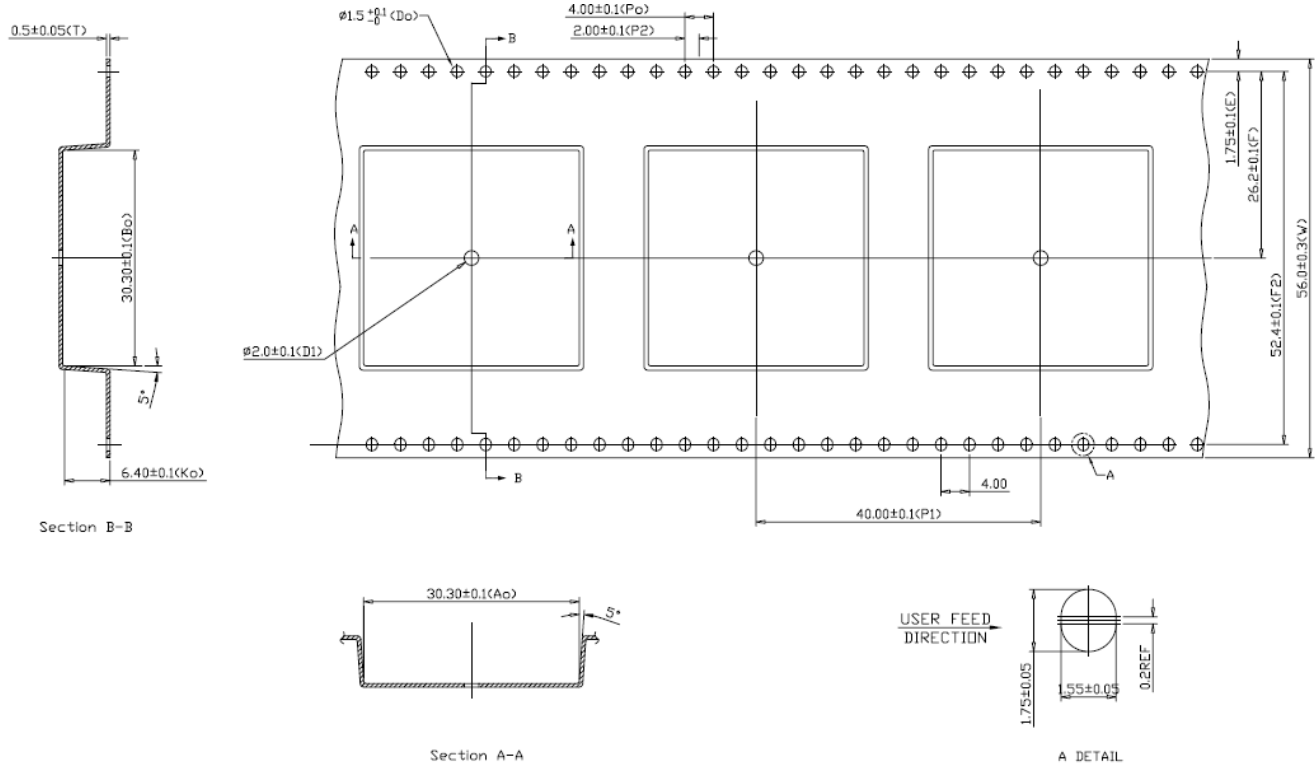


PCB BOTTOM VIEW



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

## Tape & Reel Orientation



## Tape & Reel Information

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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