

CATV Diplex Filter 5 - 85 / 102 - 1218 MHz

Rev. V2

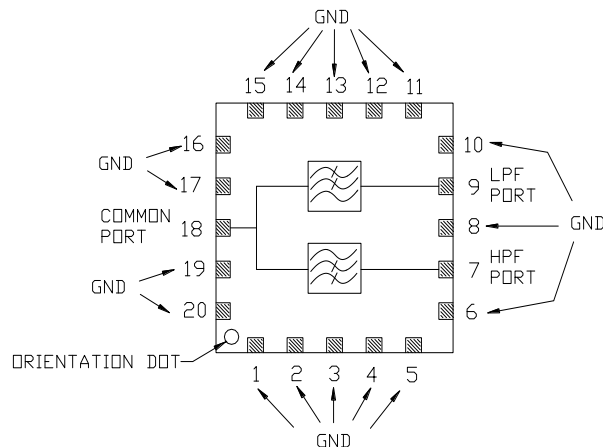
Features

- 75 Ω
- 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^{1,2}

Part Number	Package
MAFL-011077-PPR	200 piece reel
MAFL-011077-SMBPPR	Sample Board

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

Pin Configuration³

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, Z₀ = 75 Ω

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Insertion loss	5 - 85 MHz	dB	—	1.0	1.24
	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, compliant to current RoHS EU directive.

Absolute Maximum Ratings^{4,5}

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.

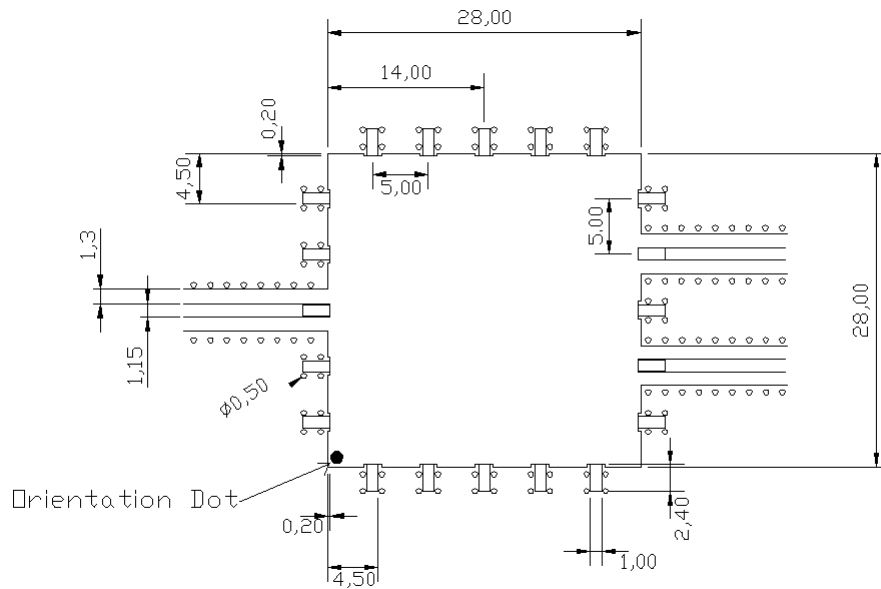
Handling Procedures

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.

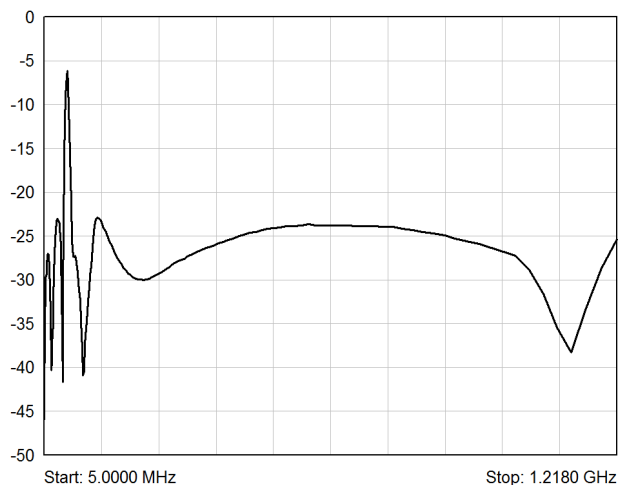
Recommended PCB Configuration



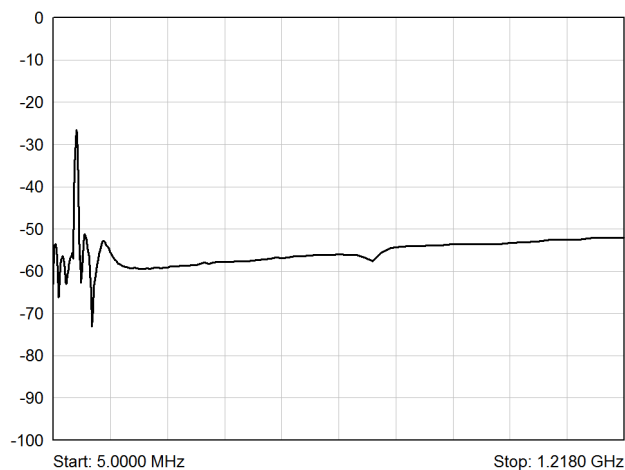
Dimensions in mm. Tolerance: .x ± 0.1, .xx ± 0.05

Typical Performance Curves

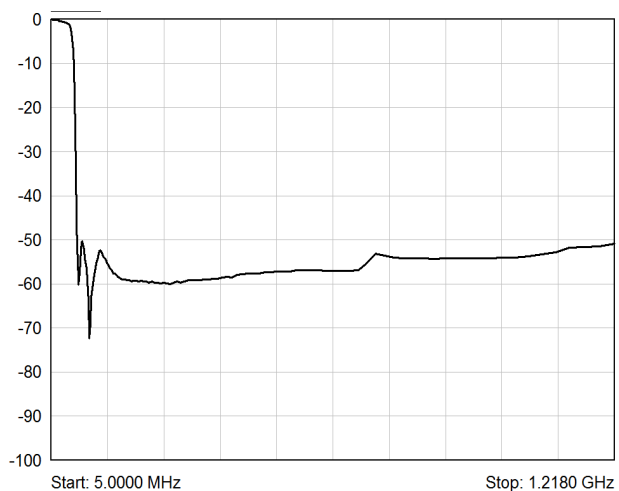
Return Loss



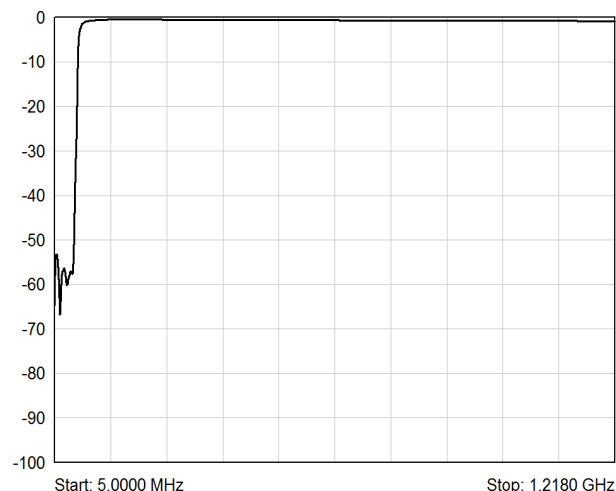
Isolation



Low Pass Filter

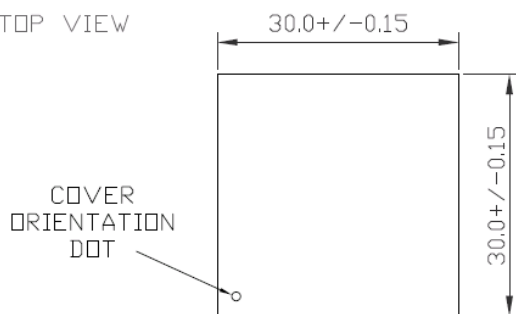


High Pass Filter

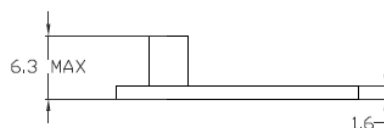


Outline Drawing

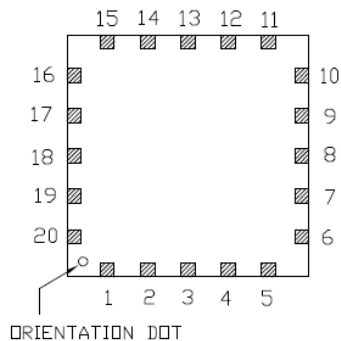
TOP VIEW



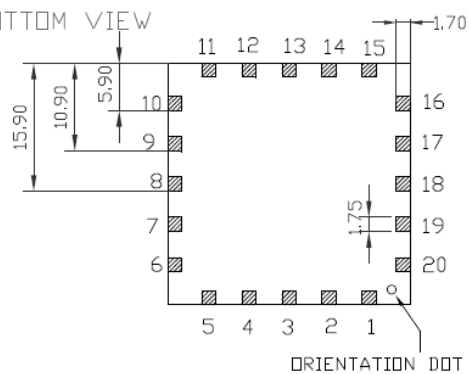
SIDE VIEW



PCB TOP VIEW

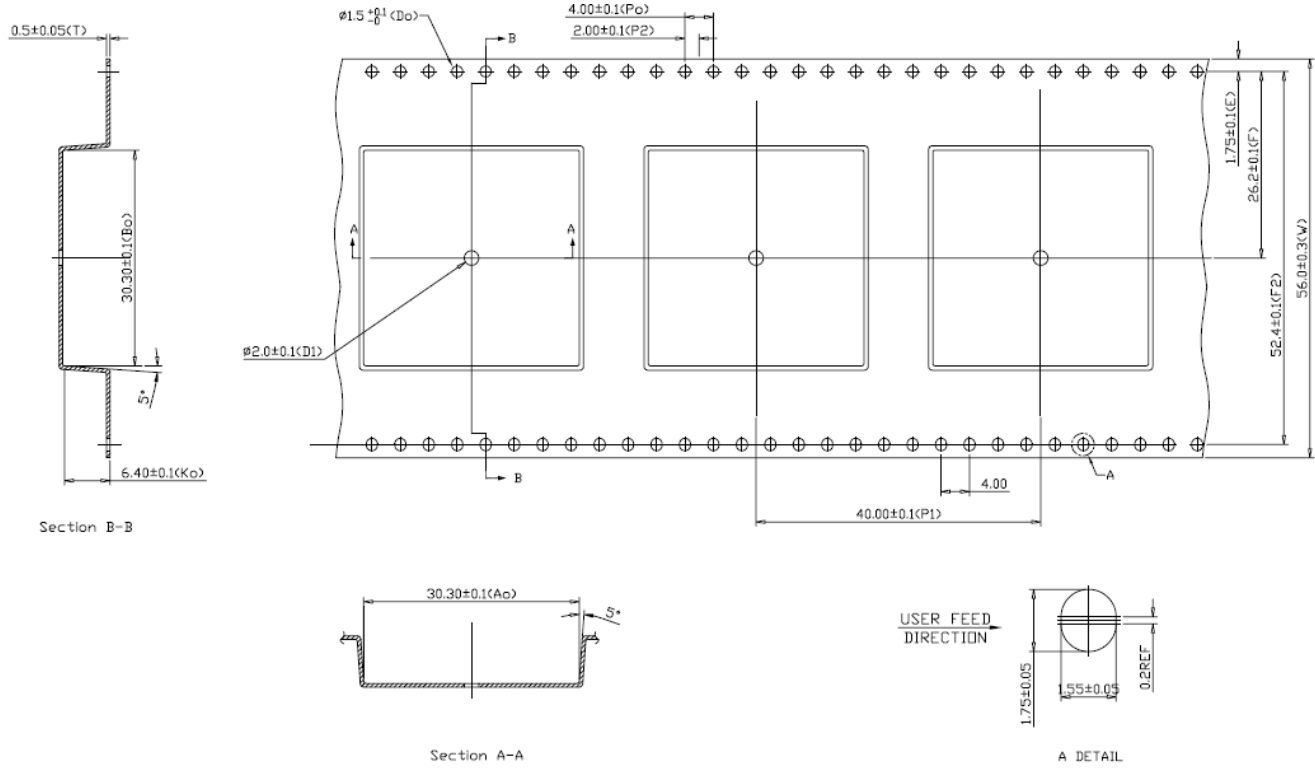


PCB BOTTOM VIEW



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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