

CATV Diplex Filter 5 - 85 / 102 - 1218 MHz

Rev. V2

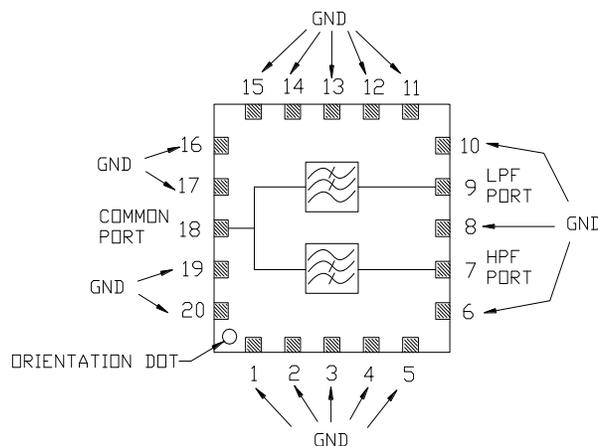
Features

- 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.

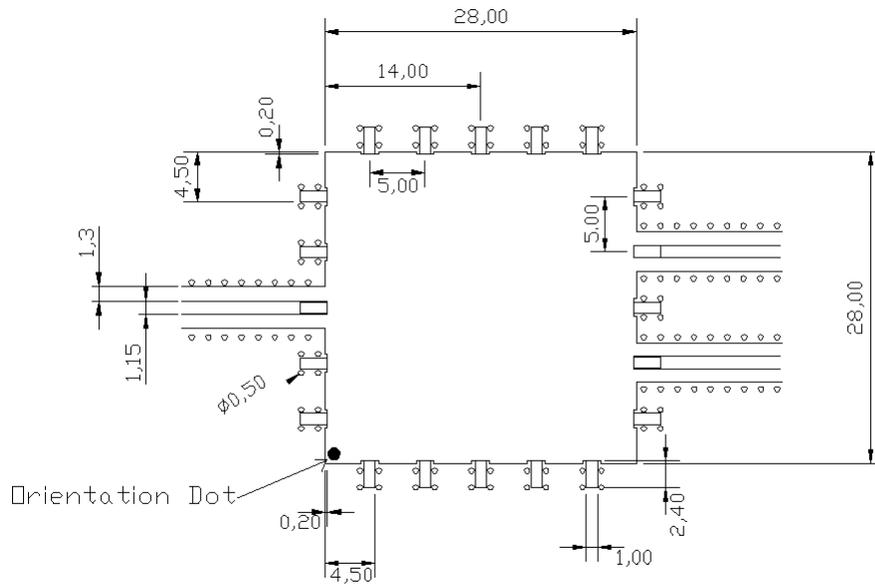
Handling Procedures

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.

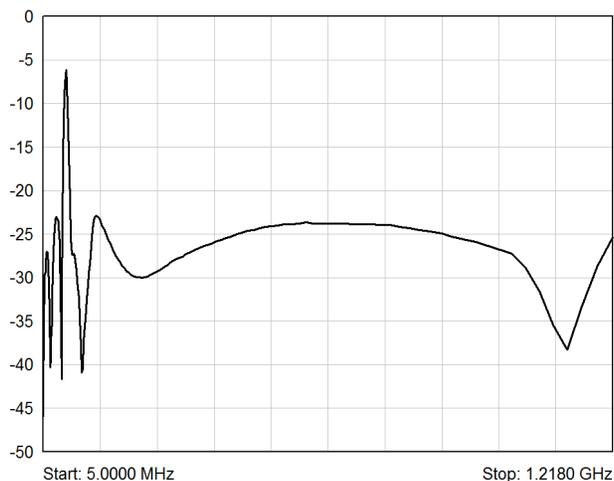
Recommended PCB Configuration



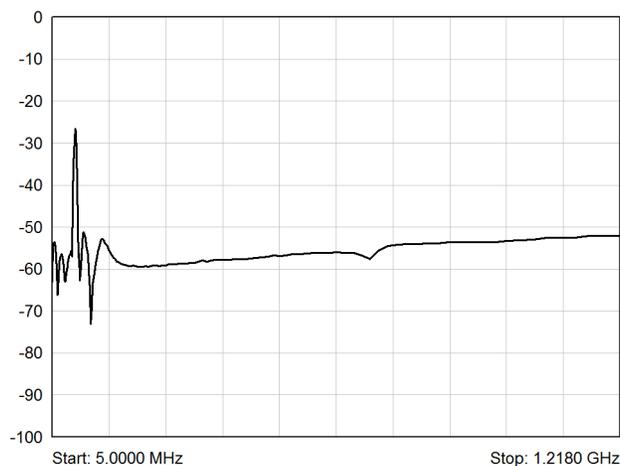
Dimensions in mm. Tolerance: .x ± 0.1, .xx ± 0.05

Typical Performance Curves

Return Loss



Isolation



Low Pass Filter

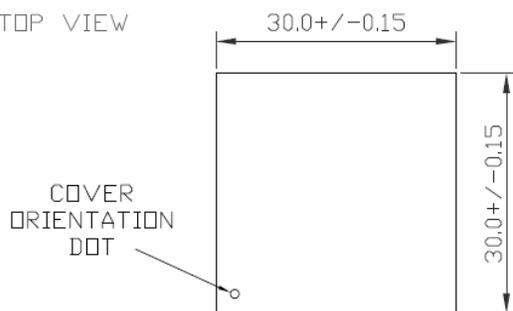


High Pass Filter

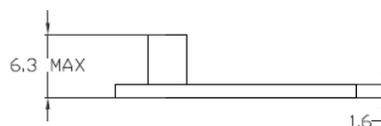


Outline Drawing

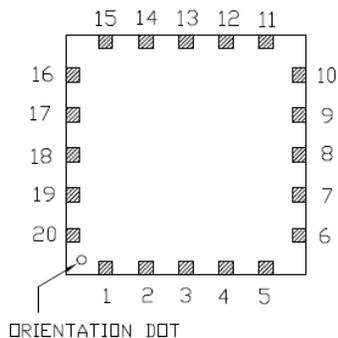
TOP VIEW



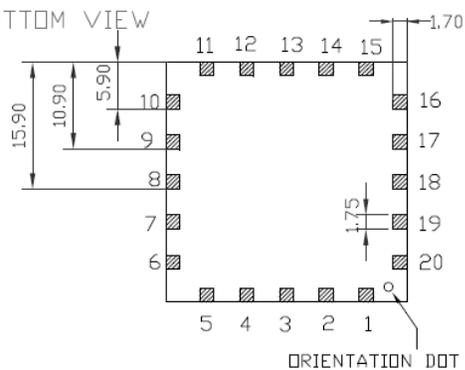
SIDE VIEW



PCB TOP VIEW

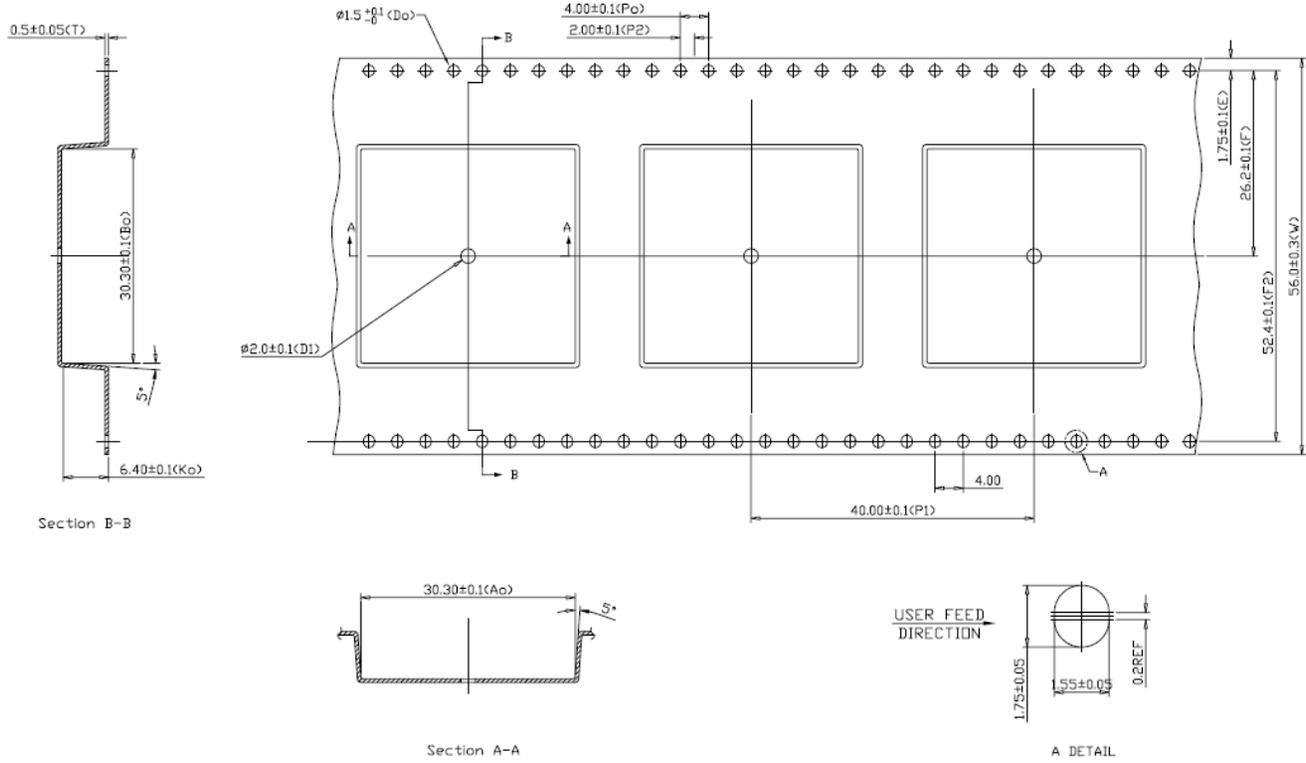


PCB BOTTOM VIEW



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		

MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.