

CATV Diplex Filter 5 - 42 / 54 - 1218 MHz

Rev. V1

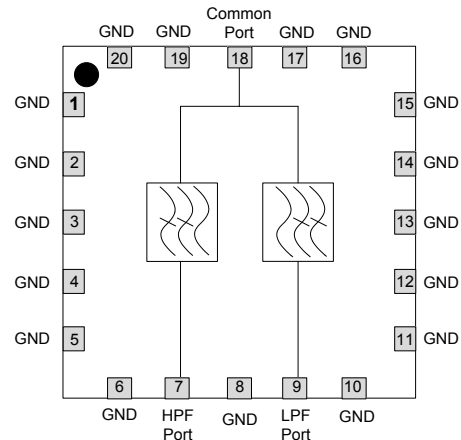
Features

- 75 Ω
- Surface Mount Technology
- RoHS* Compliant

Description

The MAFL-011078 is a surface mount diplex filter designed for the CATV applications, DTV, and DBS applications.

Functional Schematic



Ordering Information¹

Part Number	Package
MAFL-011078	200 piece reel
MAFL-011078-SB1	Sample Board

1. Reference Application Note M513 for reel size information.

Pin Configuration²

Pin #	Function
1 - 6, 8, 10-17, 19, 20	Ground
7	High Pass Port
9	Low Pass Port
18	Common Port

2. MACOM recommends connecting unused package pins to ground.

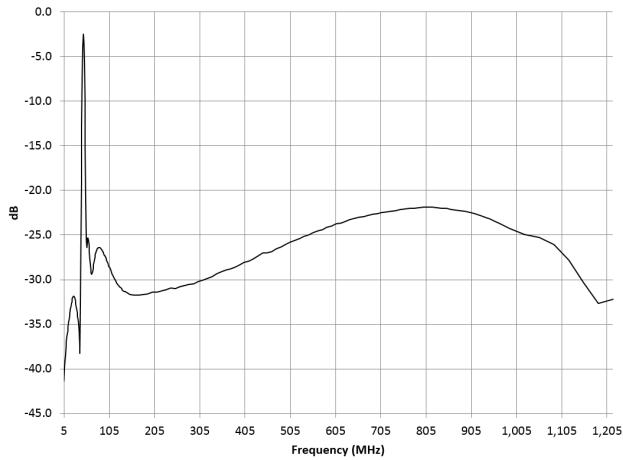
Electrical Specifications: +25°C, Z₀ = 75 Ω

Parameter	Frequency Test Conditions (MHz)	Units	Min.	Typ.	Max.
Insertion loss	5 - 42	dB	—	1.0	1.3
	54 - 1218			1.0	1.3
Filter Isolation	5 - 42	dB	45	50	—
	42 - 54		26	30	
	54 - 1218		45	50	
Filter Return Loss (all ports)	5 - 42	dB	22	24	—
	54 - 750		22	24	
	750 - 1218		20	24	
Group Delay	39 - 40.5	ns	—	10	—
	40.5 - 42			17	
	55.25 - 58.83			17	
	61.25 - 64.83			10	
	67.25 - 70.83			6	

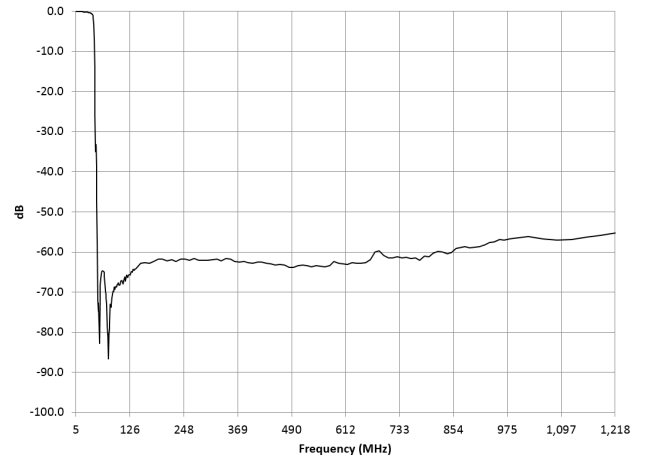
* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

Typical Performance Curves

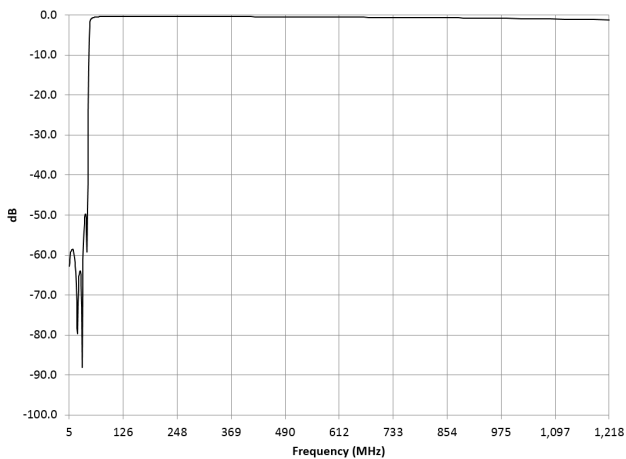
Input Port Return Loss



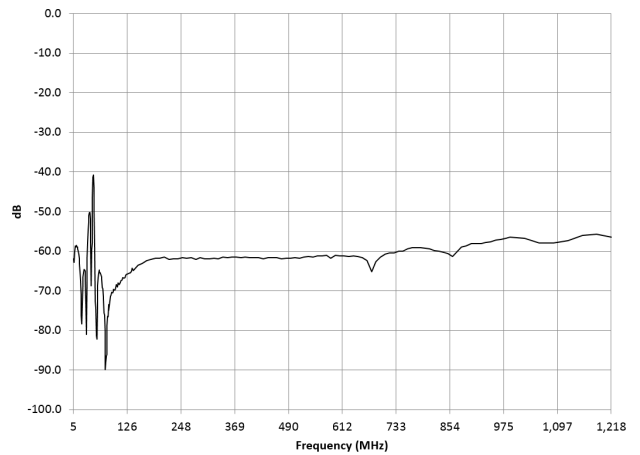
Low Pass Filter Performance



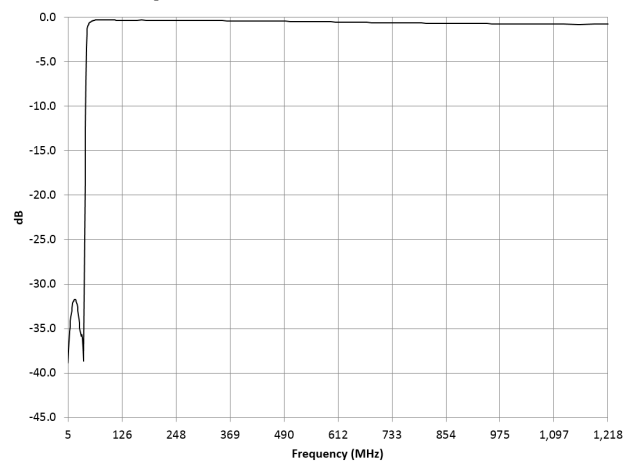
High Pass Filter Performance



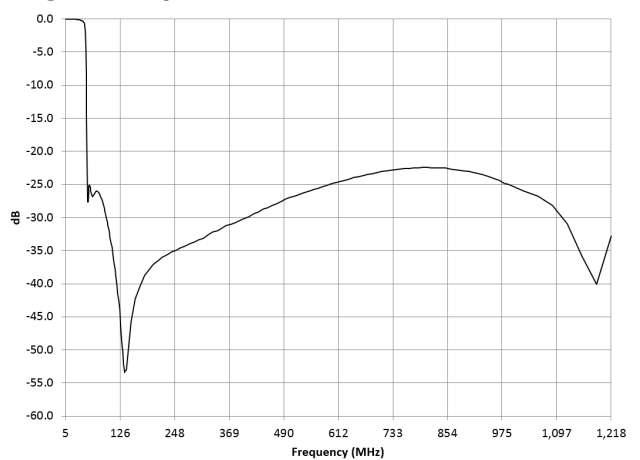
Filter Isolation



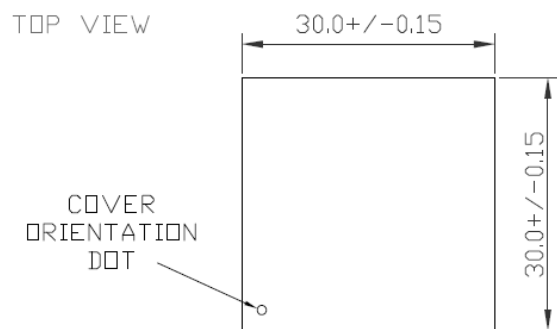
Low Pass port Return Loss



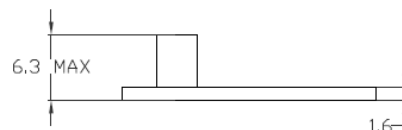
High Pass port Return Loss



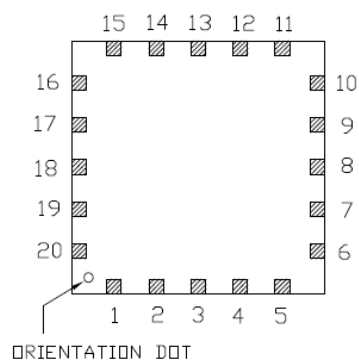
Outline Drawing



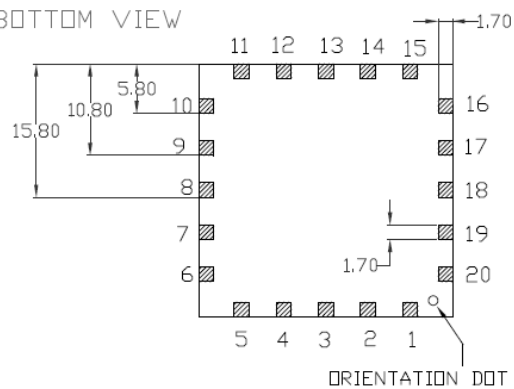
SIDE VIEW



PCB TOP VIEW

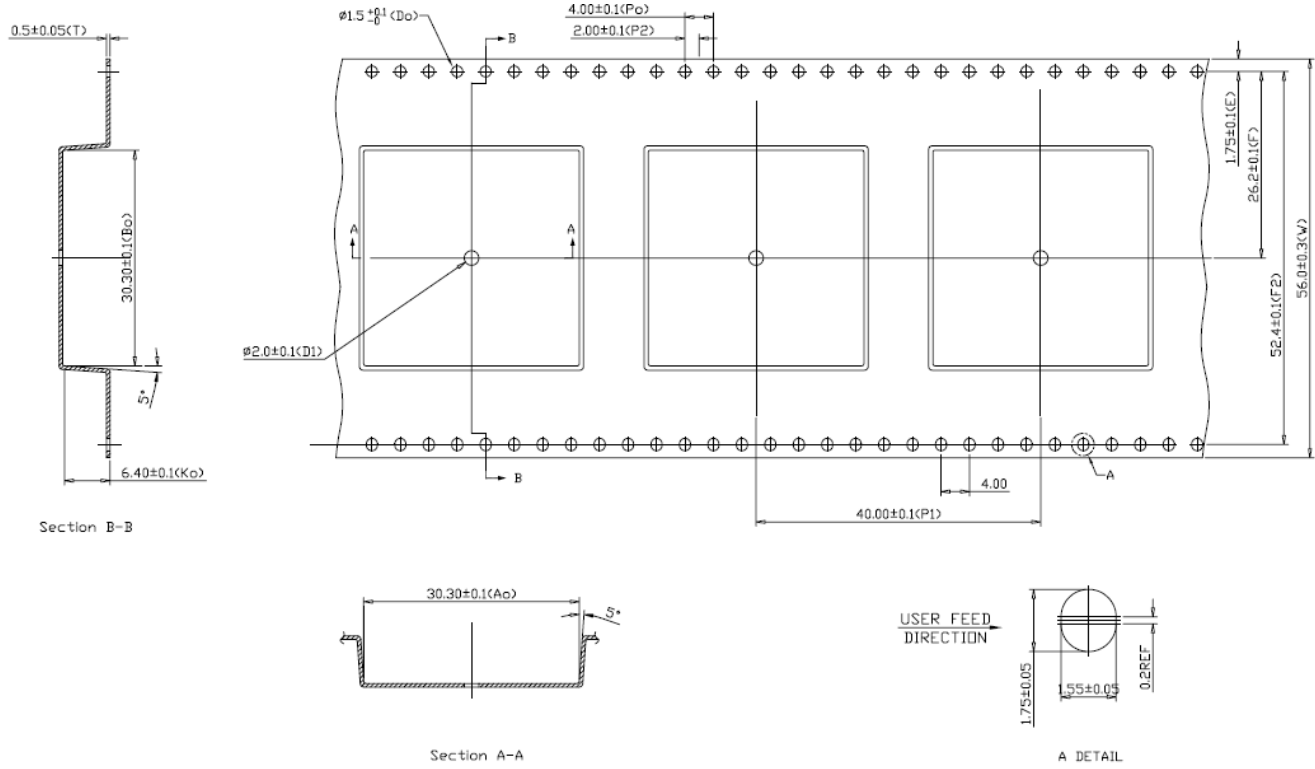


PCB BOTTOM VIEW



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.