MAFL-011078



CATV Diplex Filter 5 - 42 / 54 - 1218 MHz

Rev. V1

Features

- 75 Ω
- Surface Mount Technology
- RoHS* Compliant

Description

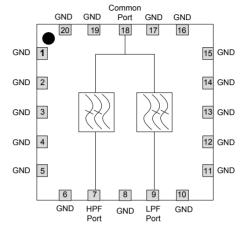
The MAFL-011078 is a surface mount diplex filter designed for the CATV applications, DTV, and DBS applications.

Ordering Information¹

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

^{1.} Reference Application Note M513 for reel size information.

Functional Schematic



Pin Configuration²

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

MACOM recommends connecting unused package pins to ground.

Electrical Specifications: +25°C, $Z_0 = 75 \Omega$

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

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



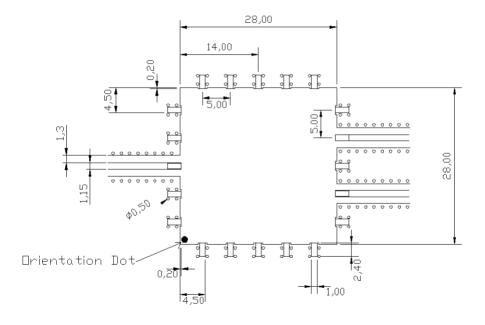
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Absolute Maximum Ratings^{3,4}

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

- 3. 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.

Recommended PCB Configuration



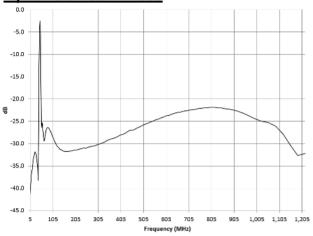
Dimensions in mm. Tolerance: $.x \pm 0.1$, $.xx \pm 0.05$

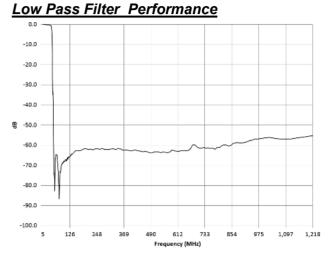


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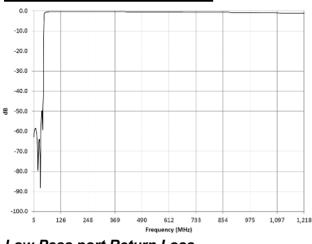
Typical Performance Curves

Input Port Return Loss

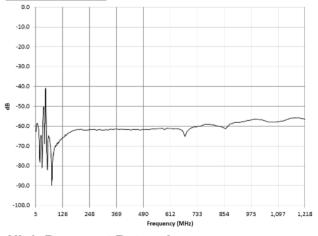




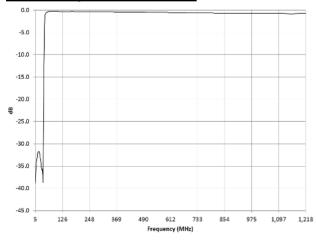
High Pass Filter Performance



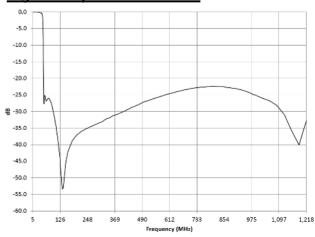
Filter Isolation



Low Pass port Return Loss



High Pass port Return Loss



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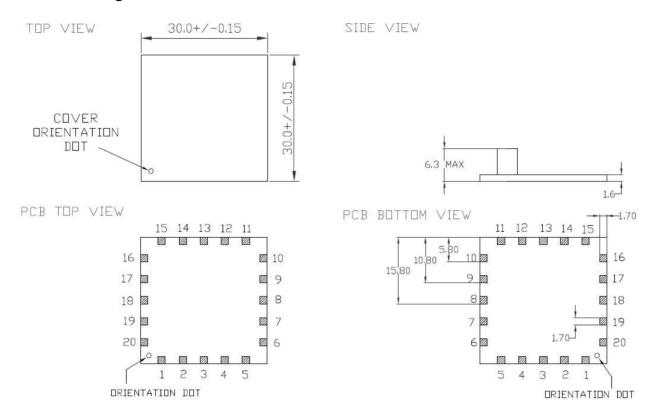
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Outline Drawing

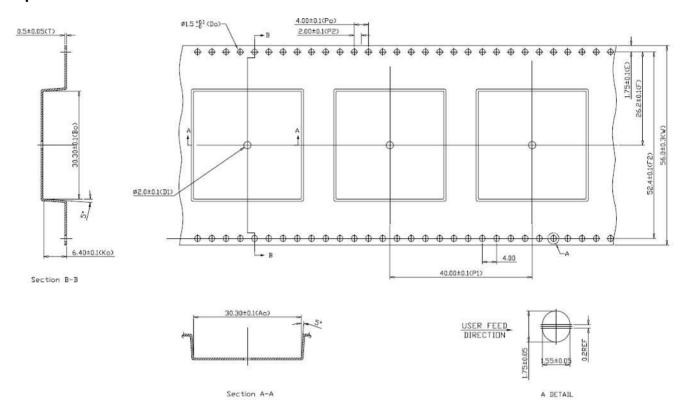


Dimensions in mm. Tolerance: $.x \pm 0.1$, $.xx \pm 0.05$



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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		
Во	mm	30.3		
Ko	mm	6.4		
Orientation	-	F30		
Reference Application Note ANI-019 for orientation				

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