

# Horizontal Plug-in Diplex Filter

## 5 - 204 / 258 - 1800 MHz



MAFL-011161

Rev. V1

### Features

- Plug in Design
- Low Insertion Loss
- Excellent Cross over Isolation
- Excellent Return loss
- RoHS\* Compliant
- Lead Free

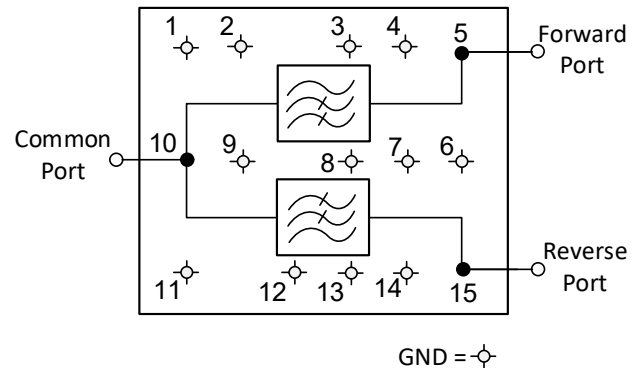
### Applications

- CATV Infrastructure Market

### Description

The MAFL-011161 is a high performance horizontal plug-in diplex filter designed specifically for the CATV infrastructure market.

### Functional Schematic



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

Pin #	Function
1,2,3,4,6,7,8,9,11,12,13,14	Ground
5	Forward Path Port
15	Reverse Path Port
10	Common Port

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

Part Number	Package
MAFL-011161	200 pcs per box

1. Reference Application Note M513 for reel size information.
2. All sample boards include 5 loose parts.

3. MACOM recommends connecting unused package pins to ground.

\* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

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### Target Electrical Specifications: $T_A = 25^\circ\text{C}$ , $Z_0 = 75 \Omega$

Parameter	Parameter	Units	Min.	Typ.	Max.
Insertion loss	204 MHz	dB	—	1.15	1.25
	2 - 180 MHz			0.65	0.80
	258 MHz			1.15	1.25
	300 - 1800 MHz			0.65	0.80
Isolation	5 - 204 MHz	dB	—	48	47
	204 - 258 MHz			40	38
	258 - 1800 MHz			47	46
Return Loss Common Port	5 - 204 MHz	dB	20	22	—
	258 - 1800 MHz		20	22	
Group Delay	Forward Path	ns	—		
	201.0 - 202.5 MHz			2	
	202.5 - 204.0 MHz			3	
	Reverse Path				
	259.2625 - 262.85 MHz			3	
	265.2625 - 268.85 MHz			2	

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

Parameter	Absolute maximum
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°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

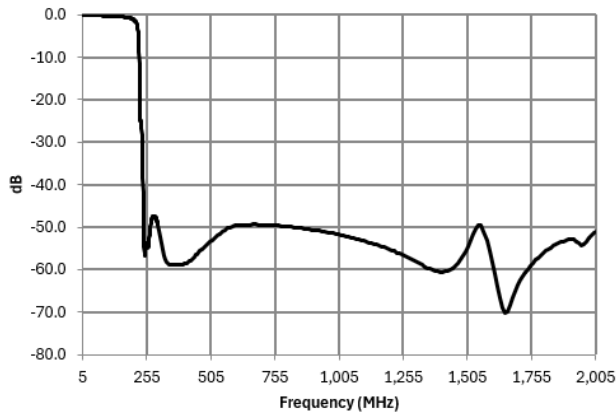
Please observe the following precautions to avoid damage:

### Static Sensitivity

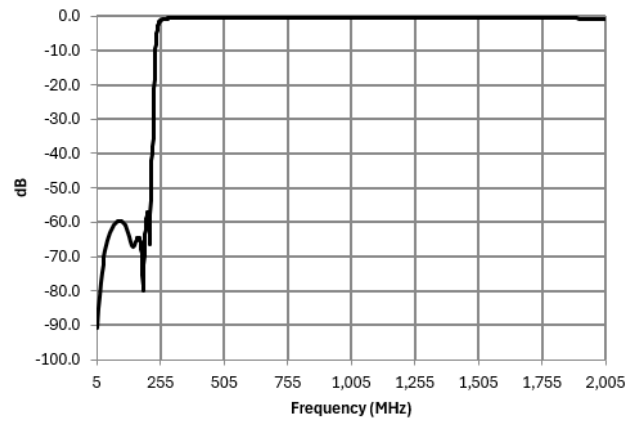
These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

## Typical Performance Curves

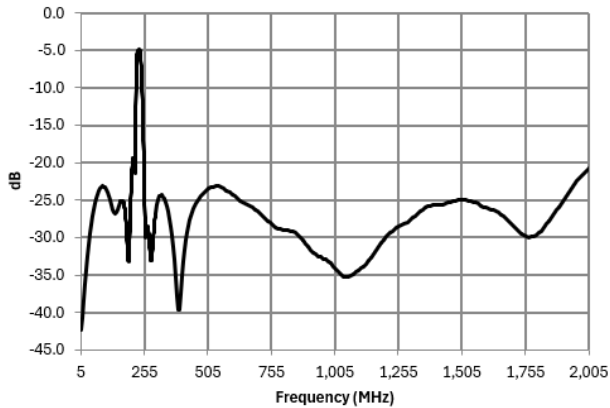
**Low Pass Filter**



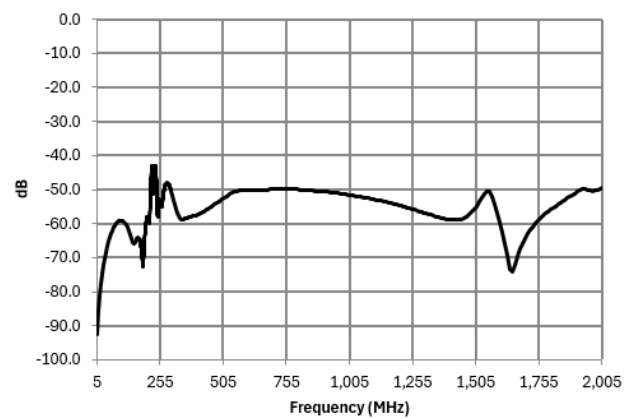
**High Pass Filter**



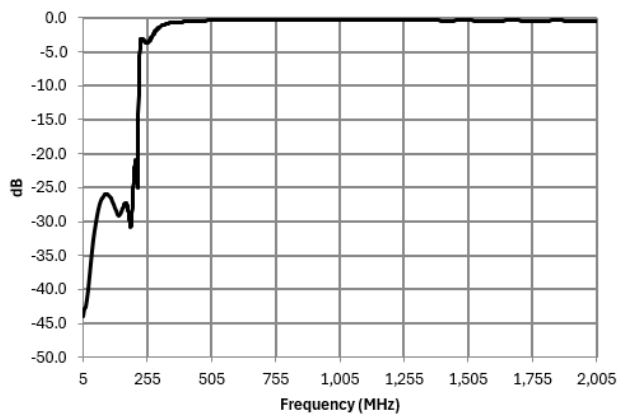
**Input Return Loss**



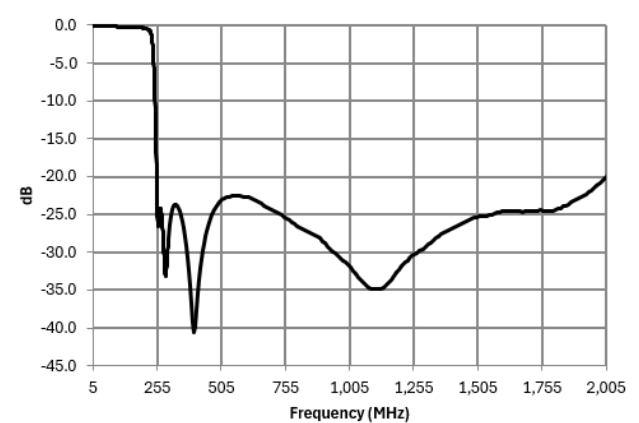
**Isolation**



**Low Pass Filter Port Return Loss**



**High Pass Filter Port Return Loss**



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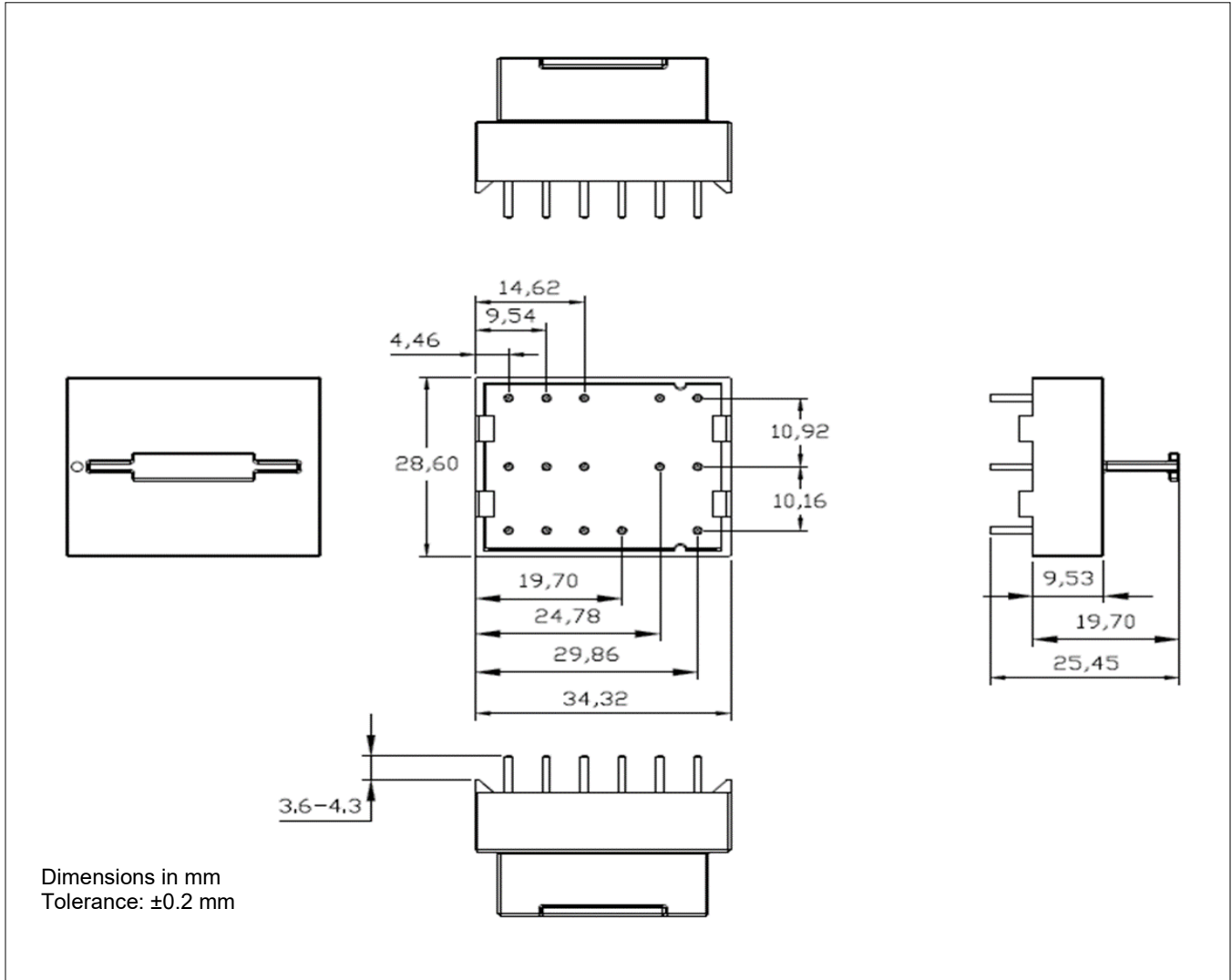
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### Outline Drawing



### Revision

Rev	Date	Change Description
V1	2024-September-20	Production Release

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