

# Vertical Plug-in Diplex Filter

## 5 - 42 / 54 - 1218 MHz



MAFL-011059

Rev. V3

### Features

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

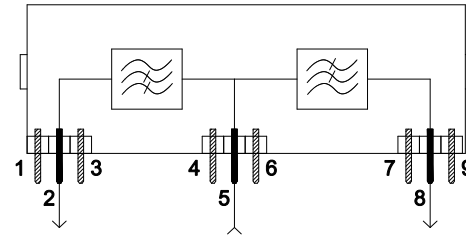
### Applications

- CATV Infrastructure

### Description

MAFL-011059 is a high performance vertical plug-in diplex filter.

### Functional Schematic



### Pin Configuration

Pin #	Function
1,3,4,6,7,9	Ground
2	Forward Path Port
5	Common Port
8	Reverse Path Port

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

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Insertion Loss	Reverse Path 5 - 42 MHz	dB	—	1.0	1.2
	Forward Path 54 - 1218 MHz			1.0	1.2
Isolation	5 - 42 MHz	dB	48	51	—
	43 - 53 MHz		37	39	
	54 - 600 MHz		48	51	
	600 - 1000 MHz		45	49	
	1000 - 1218 MHz		40	45	
Return Loss	Common Port 5 - 42 MHz	dB	20	22	—
	54 - 1218 MHz		20	22	
Group Delay	Reverse Path 39.0 - 40.5 MHz	ns	—	10	—
	40.5 - 42.0 MHz			16	
	Forward Path 55.25 - 58.83 MHz			16	
	61.25 - 64.83 MHz			10	
	67.25 - 70.83 MHz		6		

### Ordering Information

Part Number	Package
MAFL-011059	480

### Recommended Maximum Ratings<sup>1,2</sup>

Parameter	Absolute Maximum
RF Power	250 mW
DC Current	30 mA
Operating & Storage Temperature	-40°C to +85°C

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

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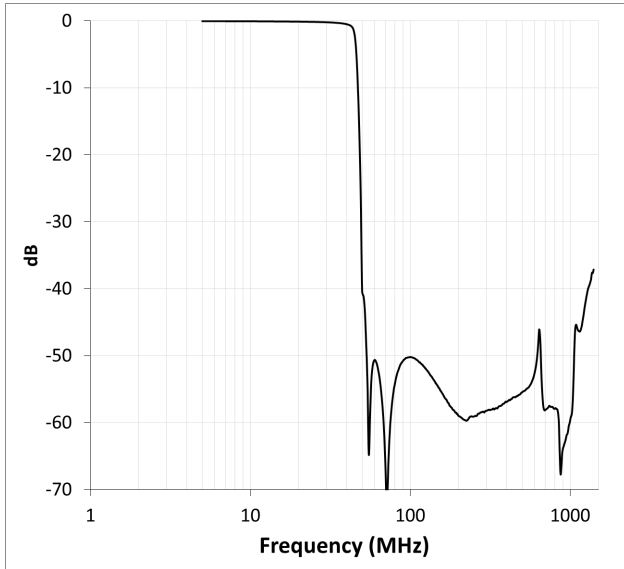


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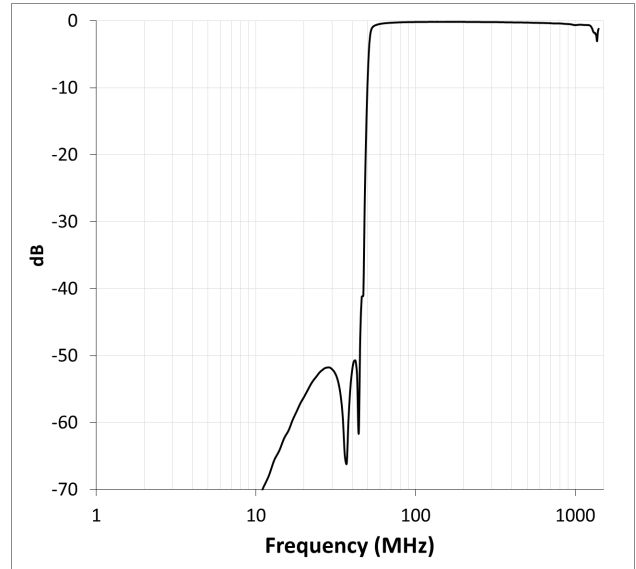
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### Typical Performance Curves:

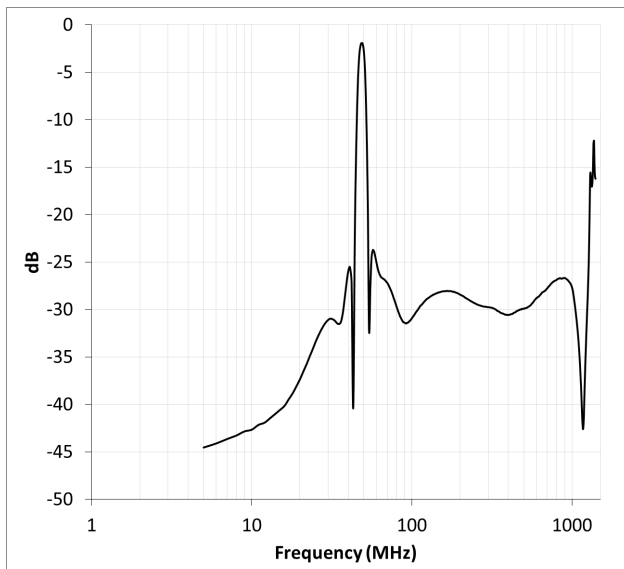
#### Low Pass Filter



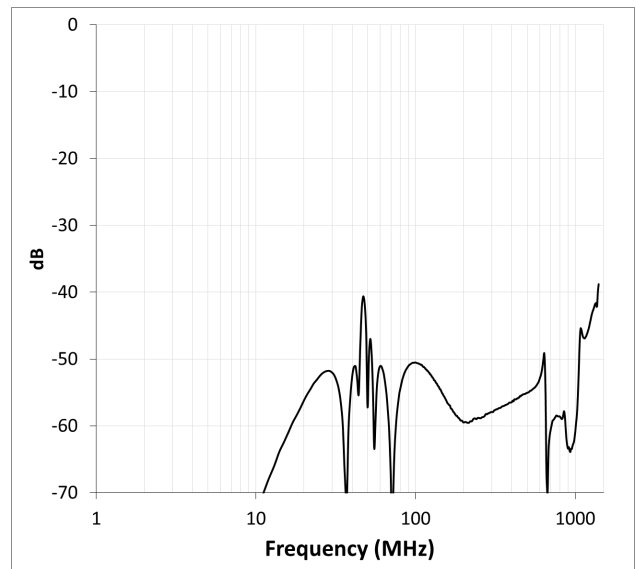
#### High Pass Filter



#### Common Port Return Loss



#### Isolation



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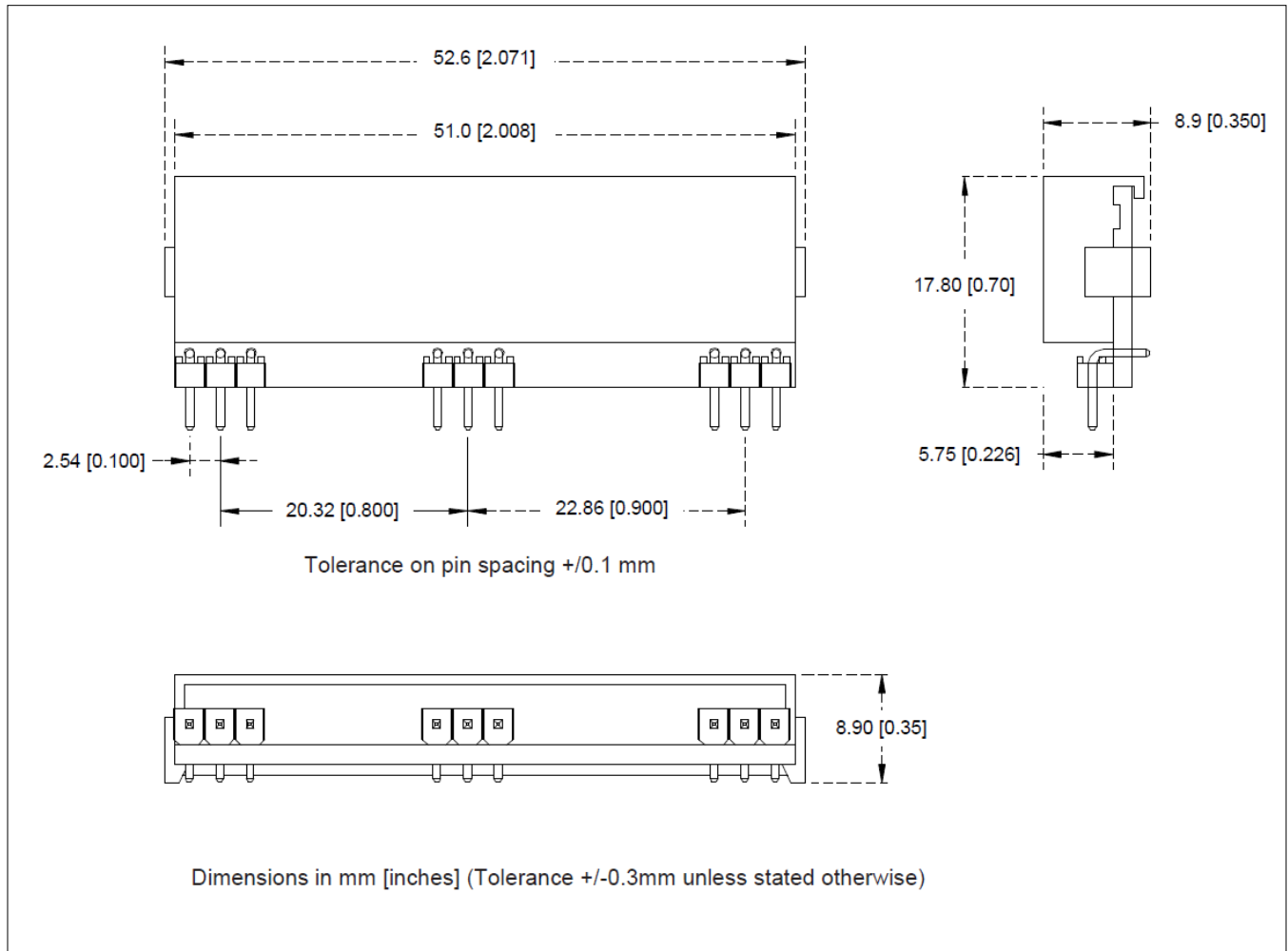
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### Outline Drawing



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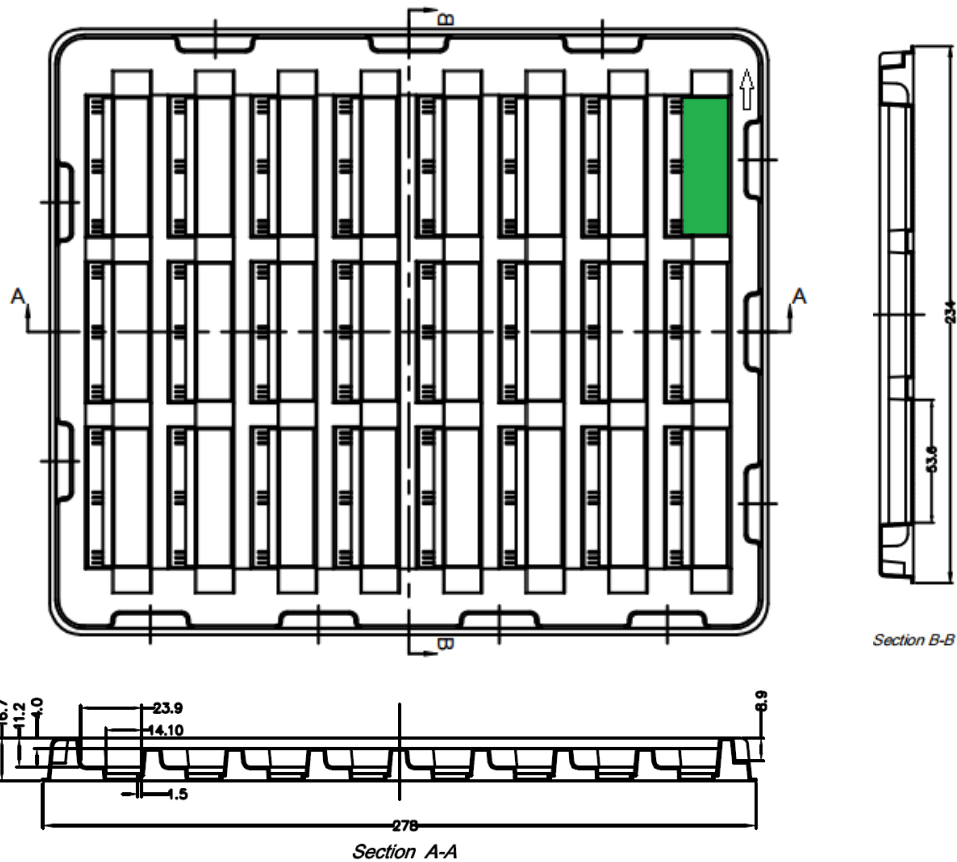
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### Tray Information

Parameter	Units	Value
Min Order Qty	-	480
Tray Length	mm	278
Tray Width	mm	234
Tray Height	mm	16.7
Orientation	-	See below

Consecutive trays will be stacked alternately at 180°



Dimensions are in millimetres.

Tolerance:  $.x \pm 0.1$  mm, except where specified.

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