

## CATV Diplex Filter 5 - 42 / 54 - 1100 MHz

Rev. V6

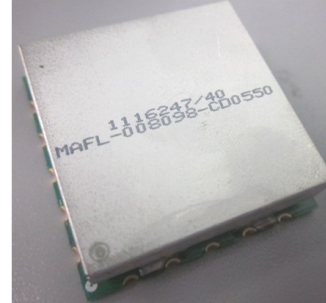
### Features

- 75 Ohm
- SMT unit
- RoHS\* Compliant
- RoHS version of MAFLES0083

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

### Description

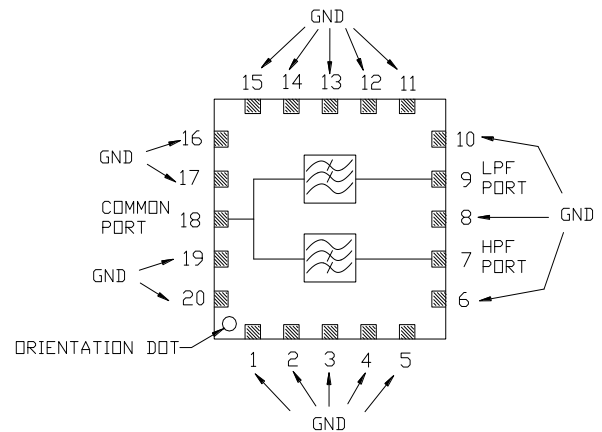
MAFL-008098-CD0550 is a low cost, non hermetically sealed Diplex Filter unit designed for CATV applications.



### Pin Configuration

Function	Pin Number
Common Port	18
Low Pass Port	9
High Pass Port	7
Ground	1 - 6, 8, 10-17, 19, 20
Not connected	-

### Functional Schematic



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

Parameter	Units	Min	Typ	Max
<b>Insertion Loss</b>				
Low Pass Filter 5 - 42 MHz	dB	-	0.5	1.2
High Pass Filter 54 - 1100 MHz	dB	-	0.5	1.1
Insertion Loss Flatness 5 - 42 MHz	dB	-	-	0.5
<b>Isolation</b>				
High Pass Port to Common Port 5 - 42 MHz	dB	45	50	-
Low Pass Port to Common Port 54 - 900 MHz	dB	45	50	-
900 - 1100 MHz	dB	43	48	-
<b>Return Loss</b>				
Common Port 5 - 42 MHz	dB	18	21	-
54 - 900 MHz	dB	18	21	-
900 - 1100 MHz	dB	17	20	-
Low Pass Port 5 - 42 MHz	dB	18	21	-
High Pass Port 54 - 900 MHz	dB	18	21	-
900 - 1100 MHz	dB	17	20	-

### Recommended Maximum Ratings

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

### Additional Specifications

#### Group Delay (nSec)

38.5 - 42 MHz  $\leq$  20ns

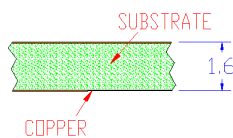
54 - 57.5 MHz  $\leq$  20ns

## Outline Drawing

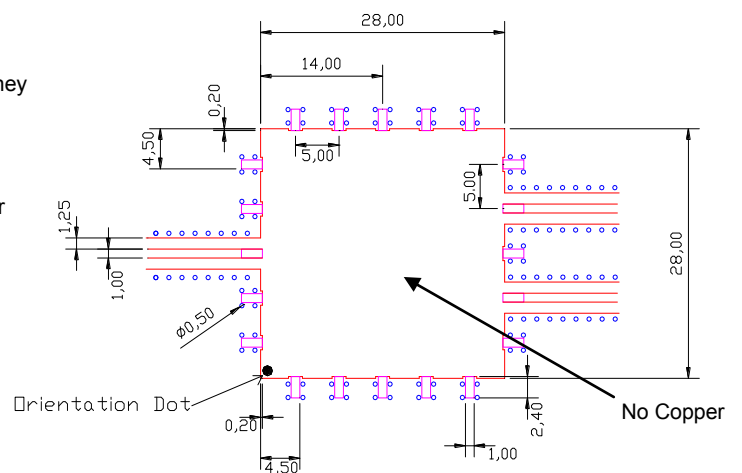
Dimensions in mm

### Recommended PCB Configuration

- Track dimension = 1.0mm
- Gap dimension = 1.25mm
- It is not recommended to run tracks under the filter unless they are greater than 1.6mm below the base.
- Ground should be 1.6mm below the base of the filter
- Area directly under the filter should be free from copper
- RF shield should be kept a minimum of 6mm above the filter



Dimensions in mm

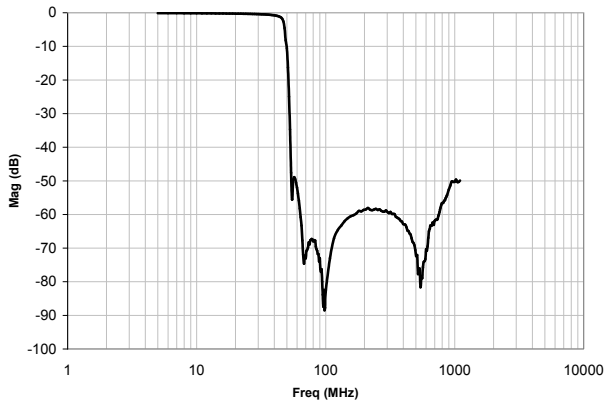


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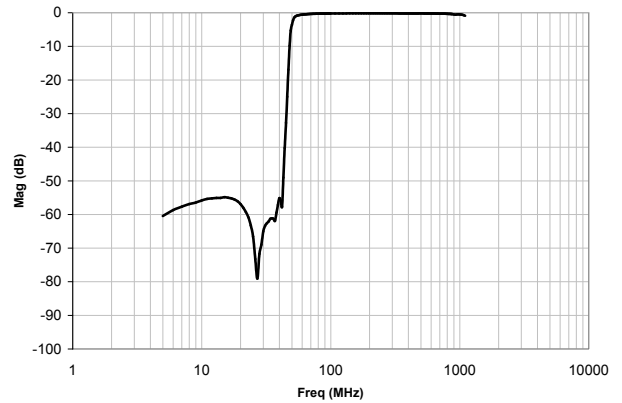
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Typical Performance:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$

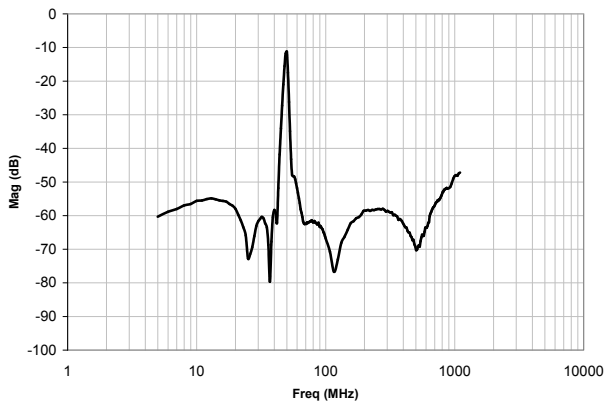
### Low Pass Filter Insertion Loss



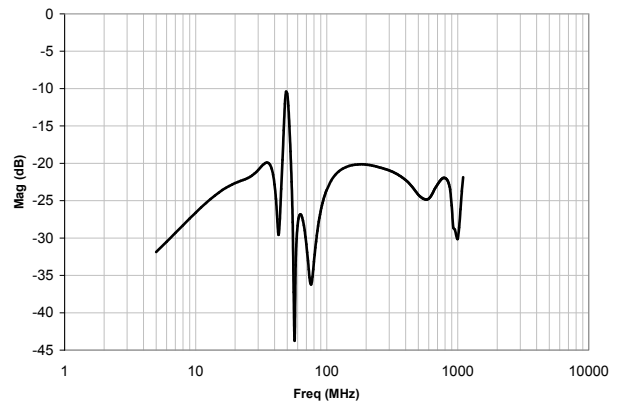
### High Pass Filter Insertion Loss



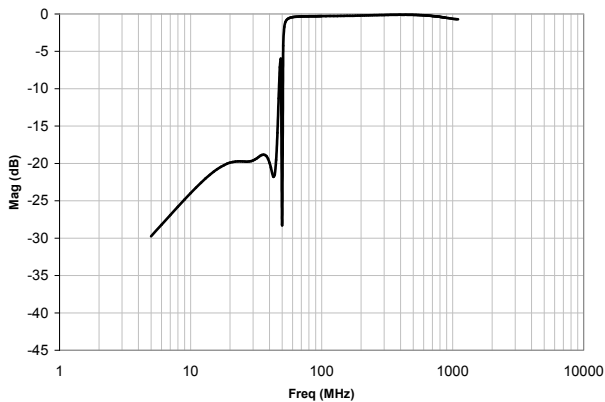
### Low Side to High Side Isolation



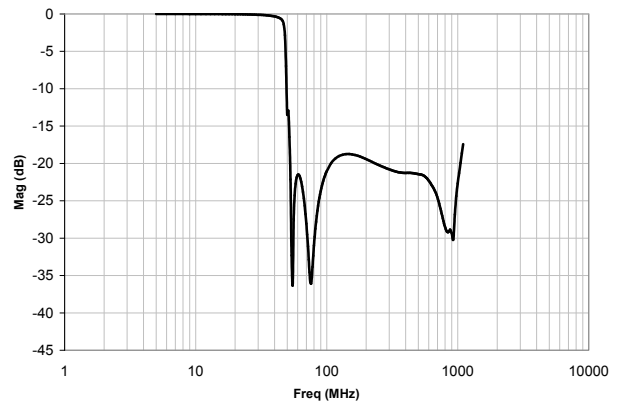
### Common Port Return Loss



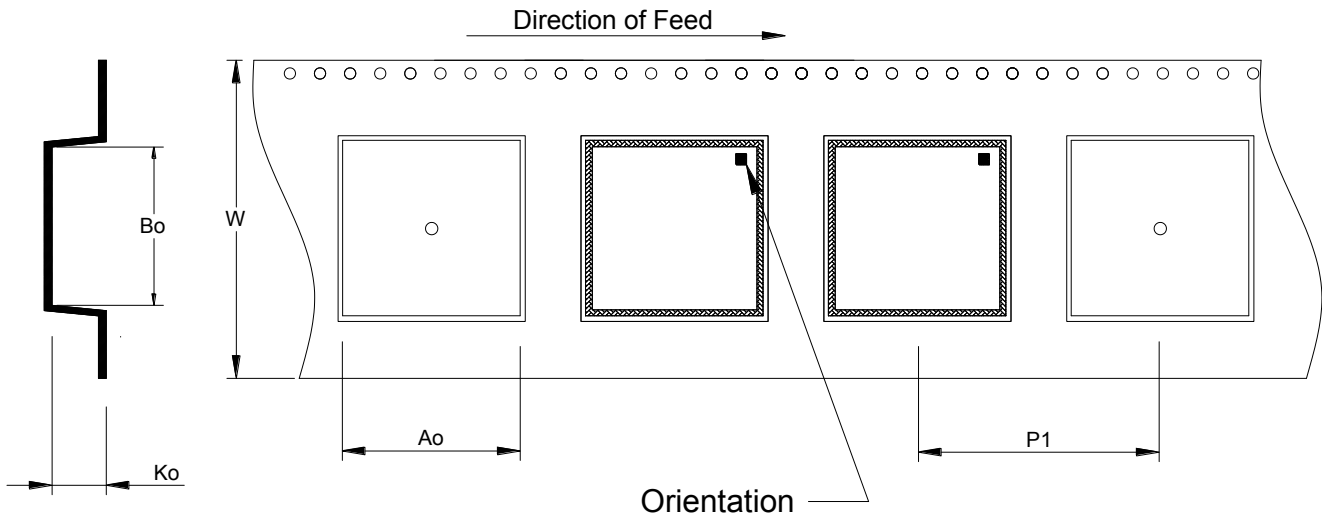
### Low Pass Port Return Loss



### High Pass Port Return Loss



## Tape & Reel Information



Item	Dimension
Ao	32.30mm +/- 0.1mm
Bo	32.30mm +/- 0.1mm
Ko	9.80mm +/- 0.1mm
W	56.00mm +/- 0.3mm
P1	40.00mm +/- 0.1mm

## Ordering Information

Part Number	Package
MAFL-008098-CD0550	50 Piece Reel
MAFL-008098-CD05TB	Customer Test Board

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