

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

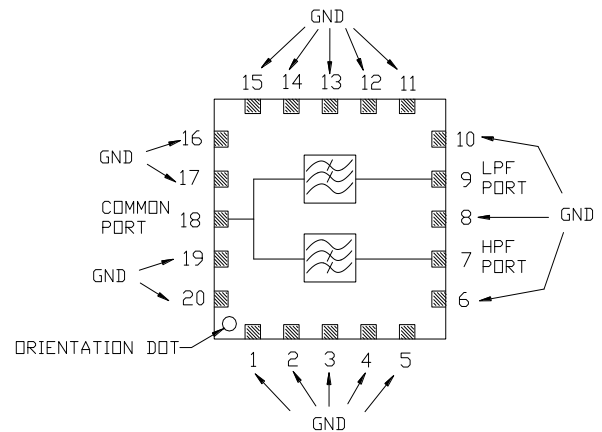
MAFL-008098-CD0550 is a low cost, non hermetically sealed Diplex Filter unit designed for CATV applications.



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
Insertion Loss				
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
Isolation				
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	-
Return Loss				
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

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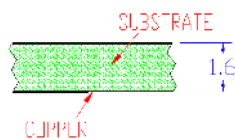
For further information and support please visit:
<https://www.macom.com/support>

Outline Drawing

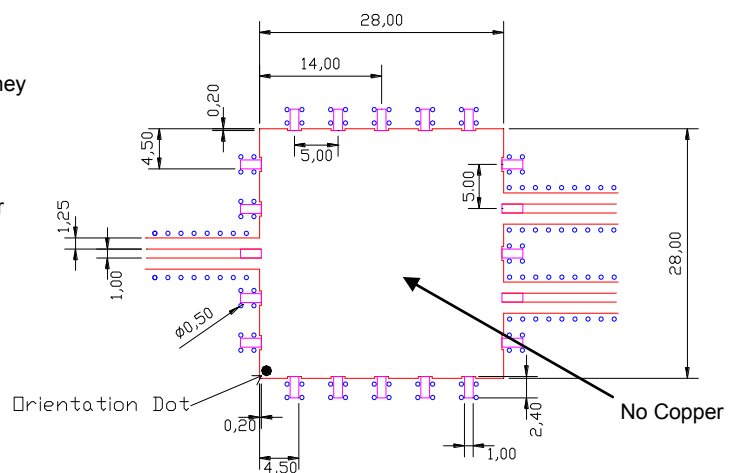
Dimensions in mm

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

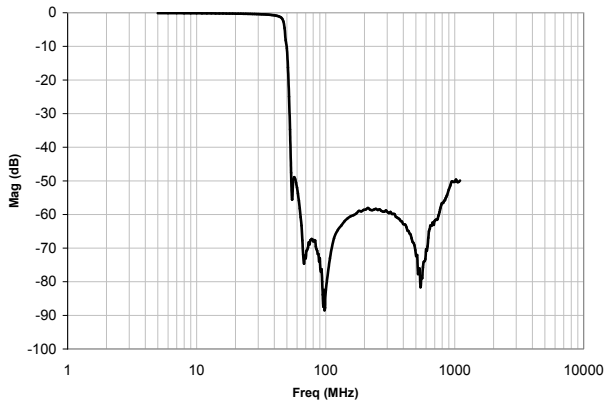


Dimensions in mm

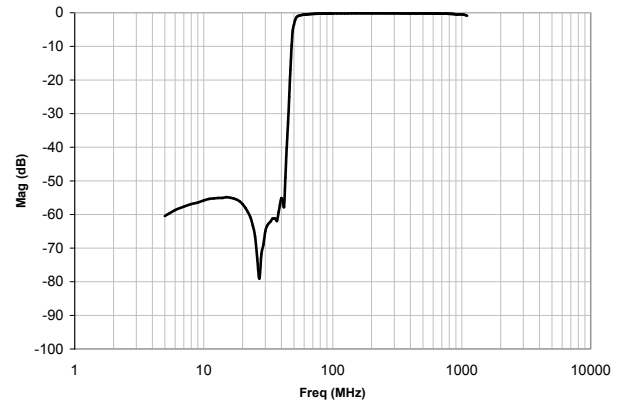


Typical Performance: $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$

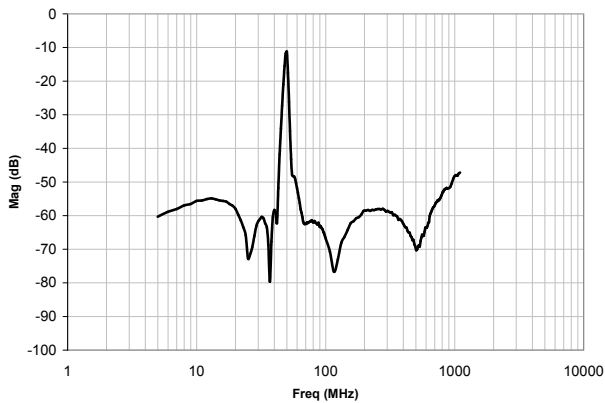
Low Pass Filter Insertion Loss



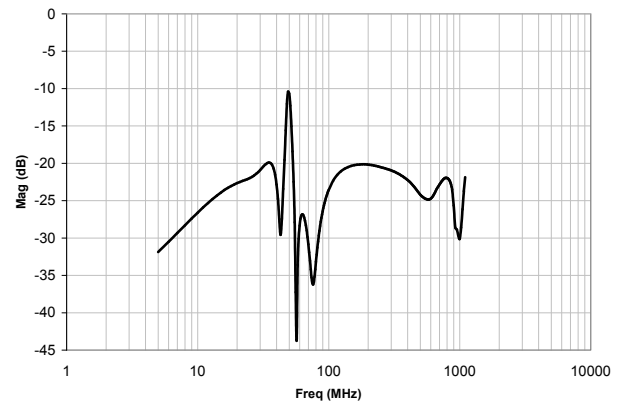
High Pass Filter Insertion Loss



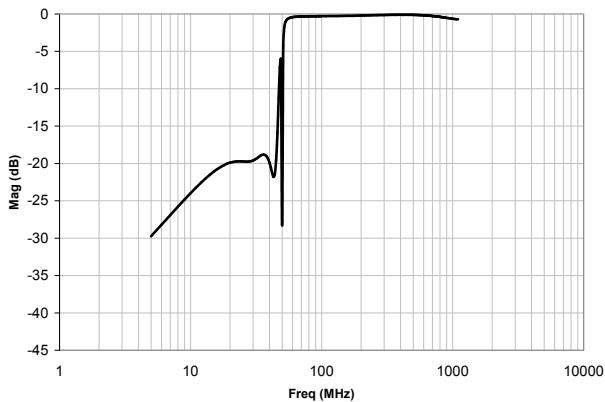
Low Side to High Side Isolation



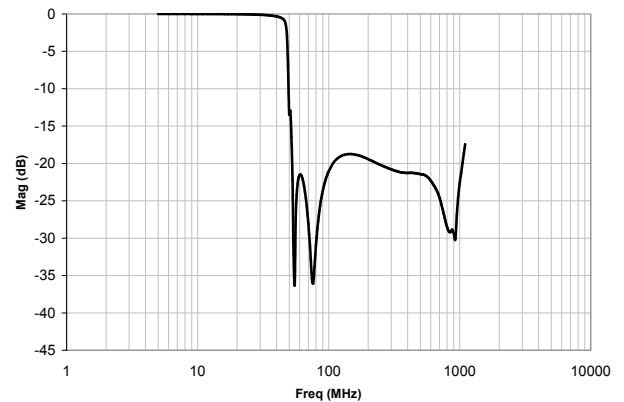
Common Port Return Loss



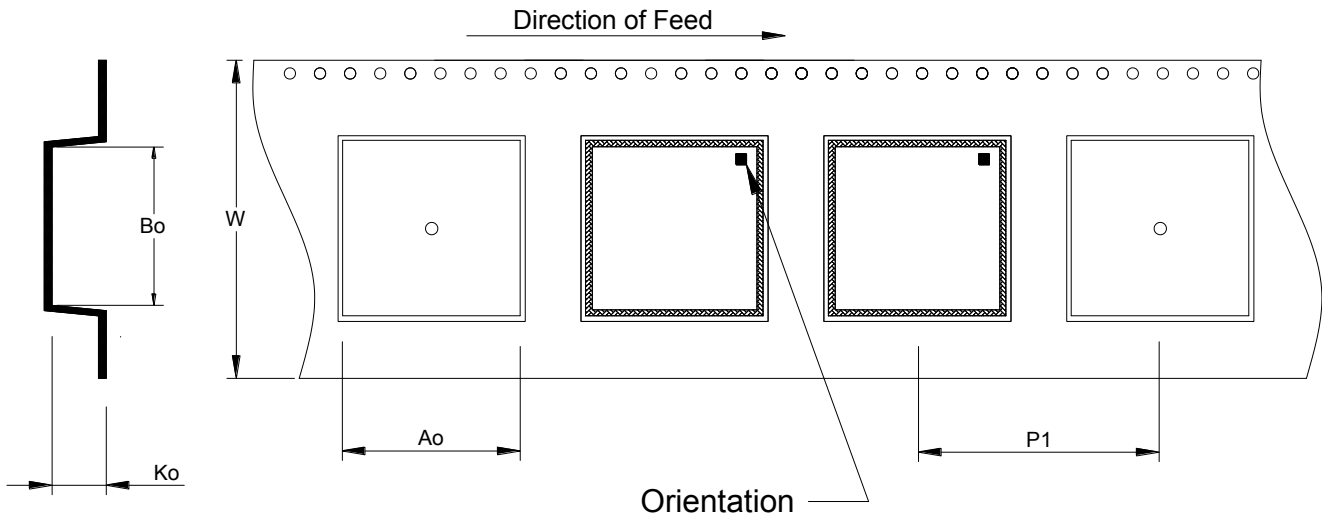
Low Pass Port Return Loss



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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