

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

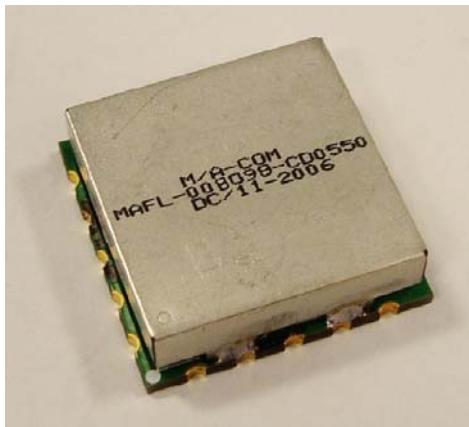
V2

### Features

- 75 Ohm
- Surface Mount
- RoHS\* Compliant
- RoHS version of MAFLES0083
- Technology used in this product is patent pending

### Description

M/A-COM's MAFL-008098-CD0550 is a low cost, non hermetically sealed Diplex Filter unit designed for CATV applications.

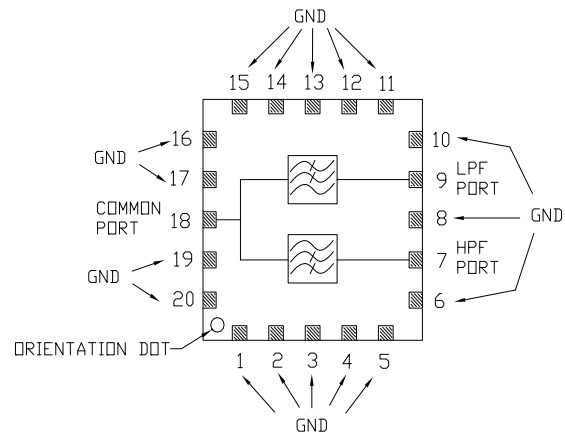


### Absolute Maximum Ratings <sup>1,2</sup>

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

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

### Functional Schematic



### 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	-

### Ordering Information

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

\* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

1

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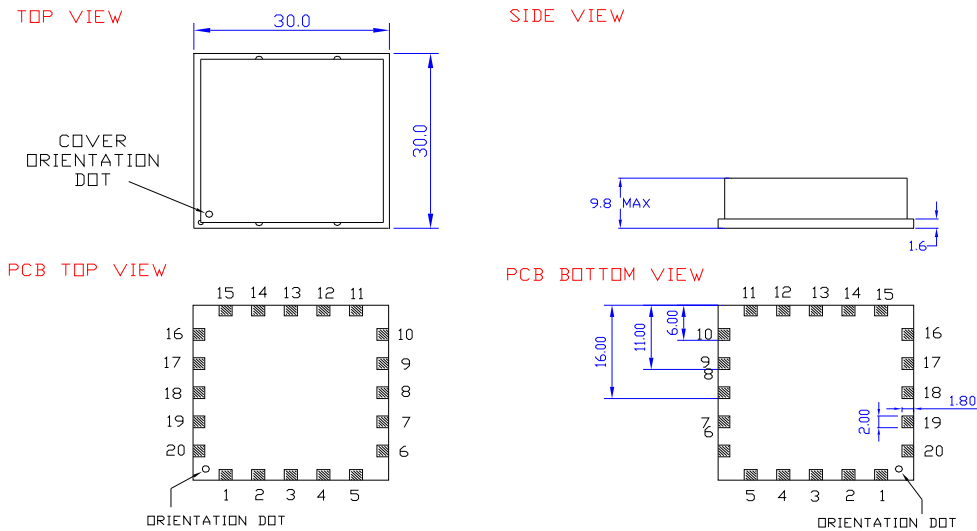
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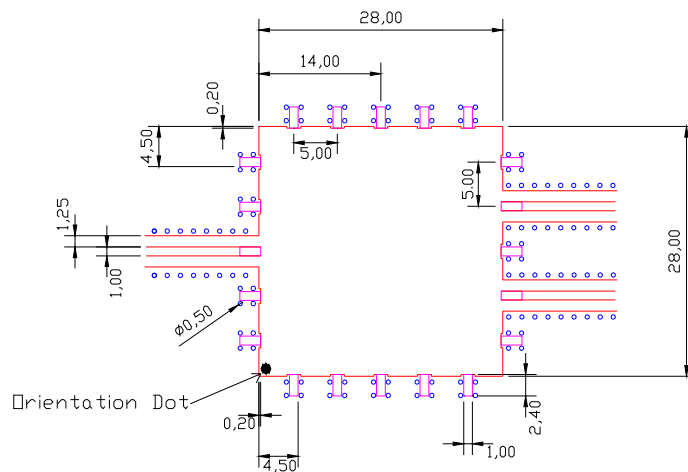
V2

### SM-85 Case Style



Dimensions in mm. Tolerance: .x ± 0.1, .xx ± 0.05

### Recommended PCB Configuration



Dimensions in mm. Tolerance: .x ± 0.1, .xx ± 0.05

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

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Frequency Range	5 – 1100 MHz	MHz			
Low Pass Cutoff	42 MHz	MHz	-	-	-
Low Pass Reject	54 MHz	MHz	-	-	-
High Pass Cutoff	54 MHz	MHz	-	-	-
Insertion Loss					
Pass Band	5 – 42 MHz	dB	-	0.5	1.2
Pass Band	54 – 1100 MHz	dB	-	0.5	1.1
Insertion Loss Flatness	5 – 42 MHz	dB	-	-	0.5
Isolation					
Stop Band	5 – 42 MHz	dB	45	50	-
Stop Band	54 – 900 MHz	dB	45	50	-
Return Loss Input Port					
	5 – 42 MHz	dB	18	21	-
	54 – 900 MHz	dB	18	21	-
Return Loss Low Pass Port	5 – 42 MHz	dB	18	21	-
Return Loss High Pass Port	54 – 900 MHz	dB	18	21	-

### Additional Specifications

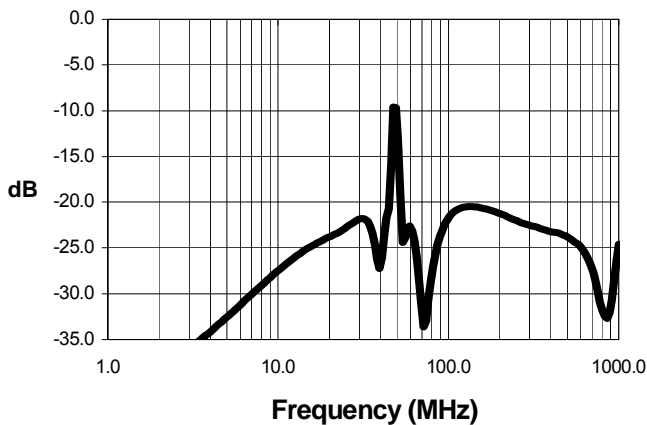
Group Delay (nSec)
38.5 – 42 MHz $\leq 20\text{ns}$
54 – 57.5 MHz $\leq 20\text{ns}$

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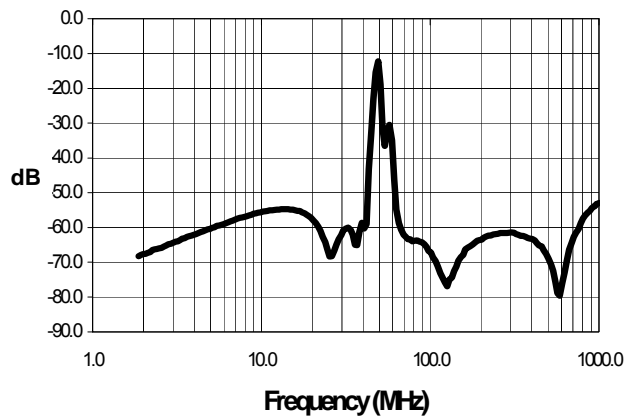
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### Typical Performance

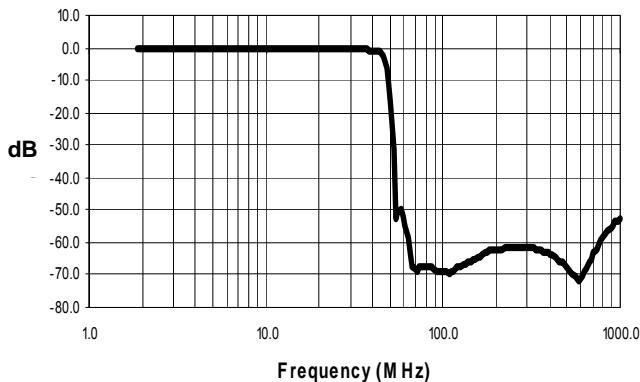
**Input Return Loss**



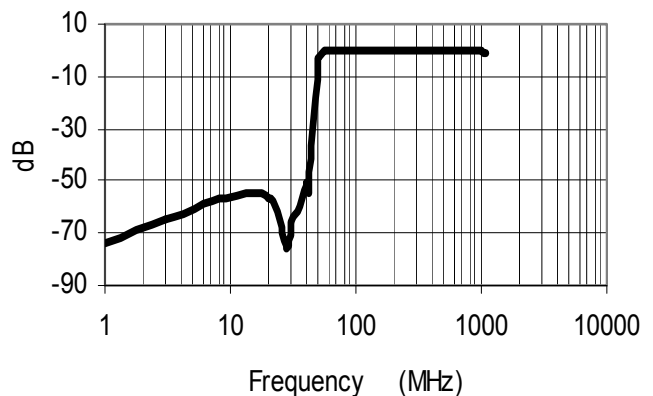
**Filter Isolation**



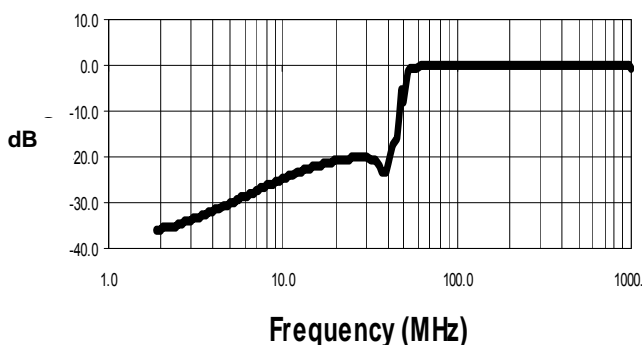
**Low Pass Filter Insertion Loss**



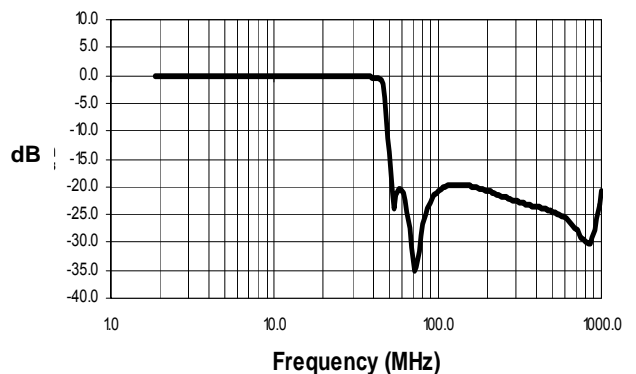
**High Pass Filter Insertion Loss**



**Low Pass Filter Output Return Loss**



**High Pass Filter Output Return Loss**



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