

**CATV Diplex Filter**  
**5 - 42 / 54 - 900 MHz**

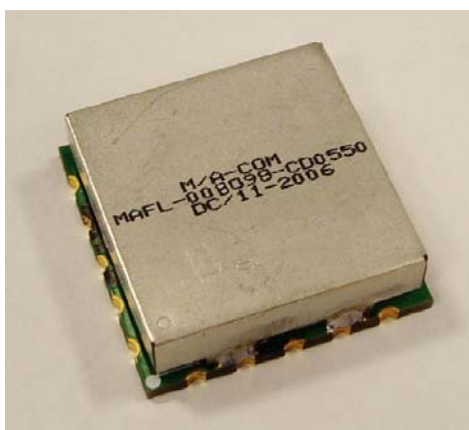
**MAFL-008098-CD0550**  
**V1**

**Features**

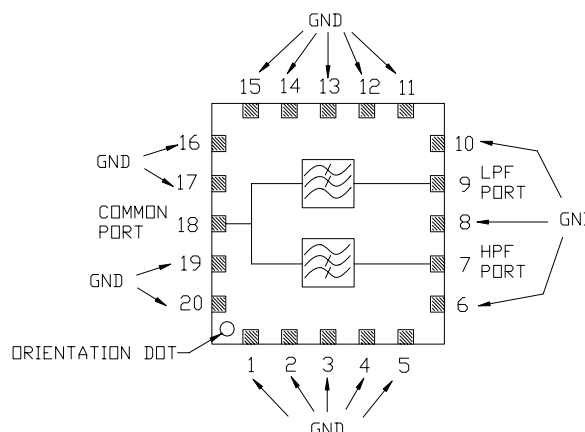
- 75 Ohm
- Surface Mount
- RoHS\* Compliant
- RoHS version of MAFLES0083
- Technology used in this product is patent pending

**Description**

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



**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	-

**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.

**Ordering Information**

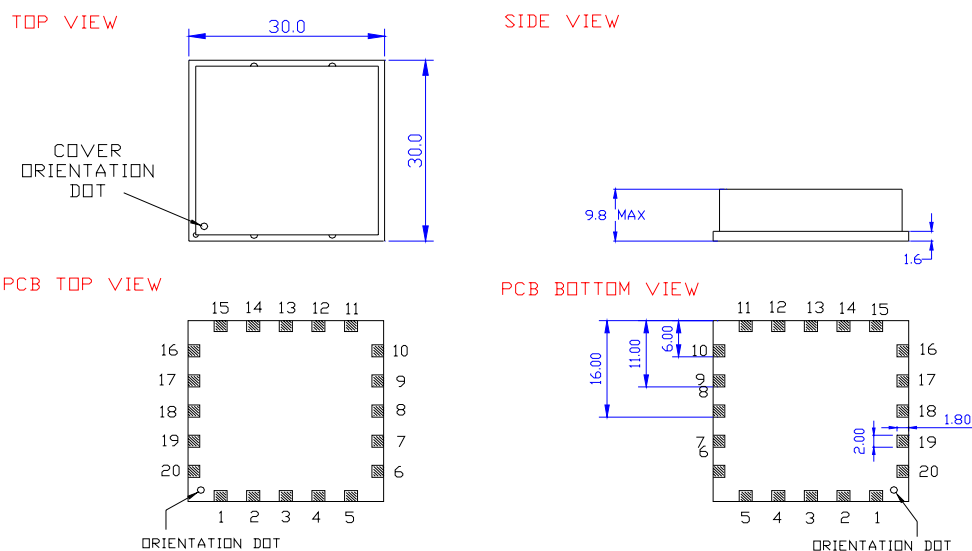
Part Number	Package
MAFL-008098-CD0550	50 Piece Reel
MAFL-008098-CD05TB	Customer Test Board

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

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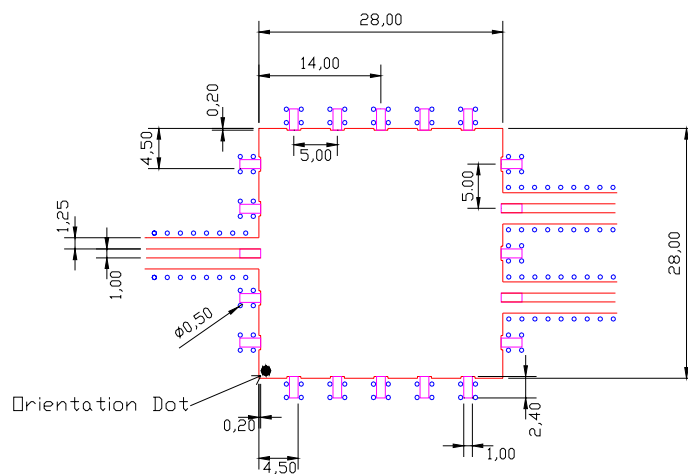
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**SM-85 Case Style**



Dimensions in mm. Tolerance: .x  $\pm$  0.1, .xx  $\pm$  0.05

**Recommended PCB Configuration**



Dimensions in mm. Tolerance: .x  $\pm$  0.1, .xx  $\pm$  0.05

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

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Frequency Range	5 – 900 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 – 900 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**

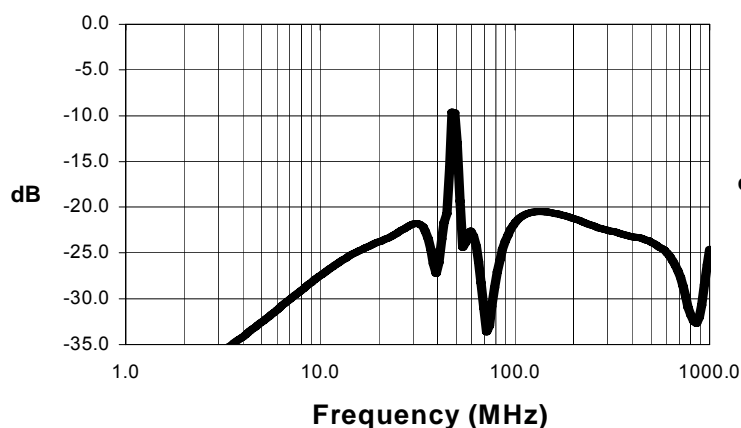
Group Delay (nSec)
38.5 – 42 MHz $\leq 20\text{ns}$
54 – 57.5 MHz $\leq 20\text{ns}$

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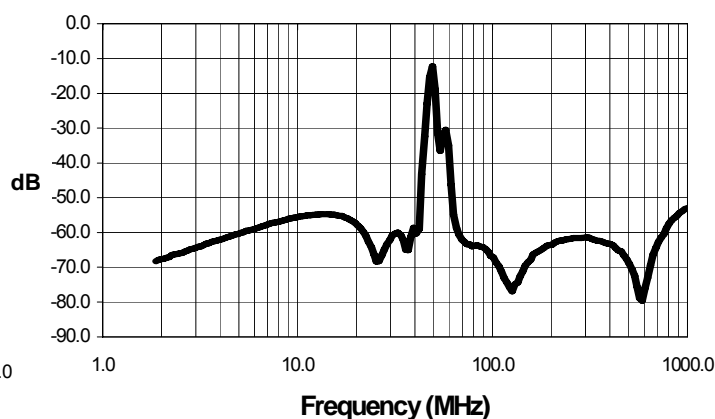
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**Typical Performance**

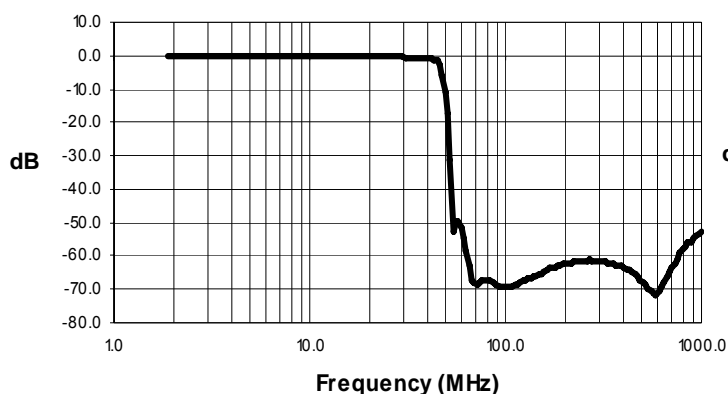
**Input Return Loss**



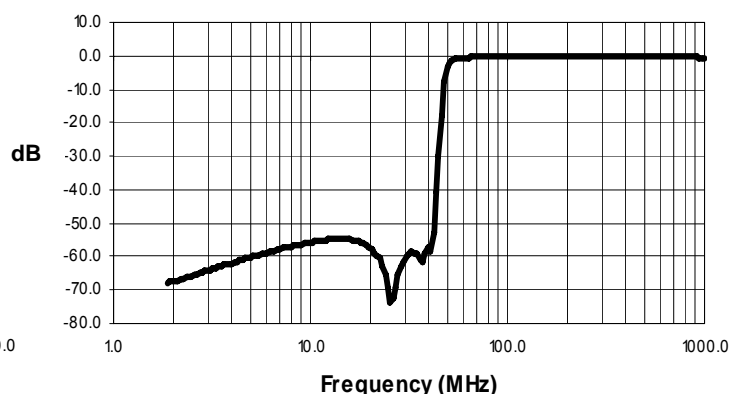
**Filter Isolation**



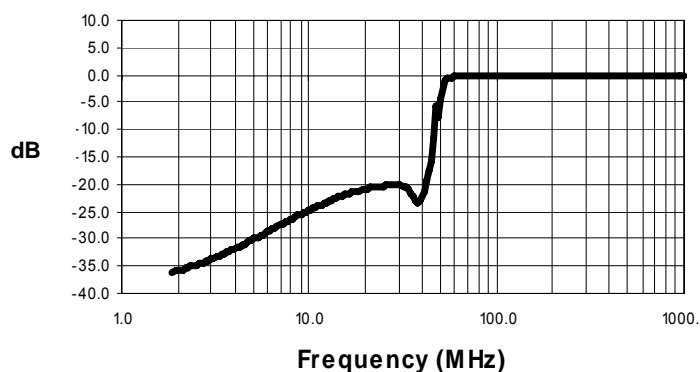
**Low Pass Filter Insertion Loss**



**High Pass Filter Insertion Loss**



**Low Pass Filter Output Return Loss**



**High Pass Filter Output Return Loss**

