



CATV Diplex Filter 5 - 42 / 54 - 900 MHz

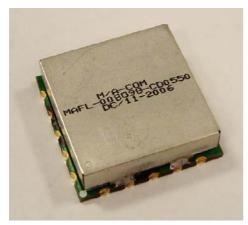
MAFL-008098-CD0550

### **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.

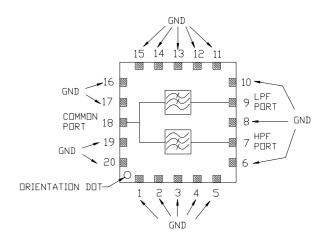


### Absolute Maximum Ratings 1,2

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

- Exceeding any one or combination of these limits may cause permanent damage to this device.
- 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		

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

<sup>•</sup> North America Tel: 800.366.2266 / Fax: 978.366.2266

<sup>•</sup> Europe Tel: 44.1908.574.200 / Fax: 44.1908.574.300

Asia/Pacific Tel: 81.44.844.8296 / Fax: 81.44.844.8298

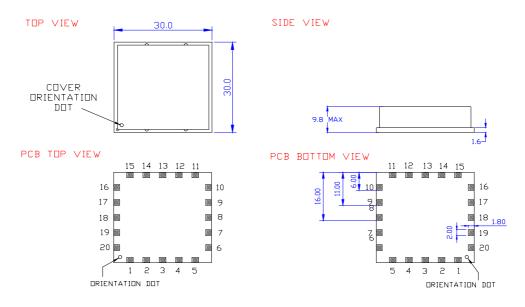




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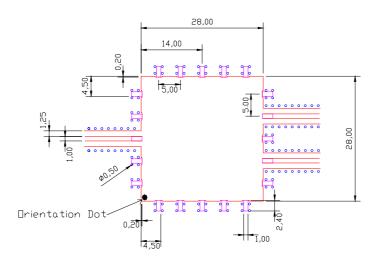
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### SM-85 Case Style



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

### **Recommended PCB Configuration**



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

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**CATV Diplex Filter** 5 - 42 / 54 - 900 MHz MAFL-008098-CD0550

Electrical Specifications:  $T_A = 25$ °C,  $Z_0 = 75\Omega$ 

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

### **Additional Specifications**

Group Delay (nSec)	
38.5 -	- 42 MHz ≤ 20ns
54 – 5	57.5 MHz ≤ 20ns

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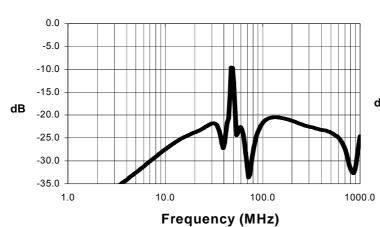


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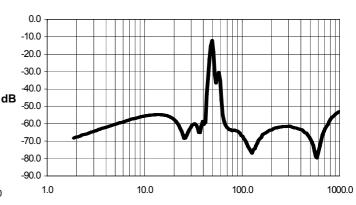
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### **Typical Performance**

#### Input Return Loss

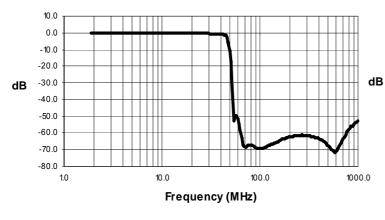


#### Filter Isolation

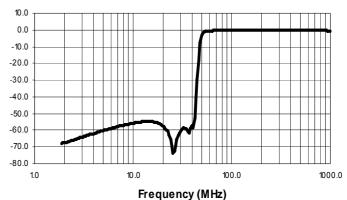


Frequency (MHz)

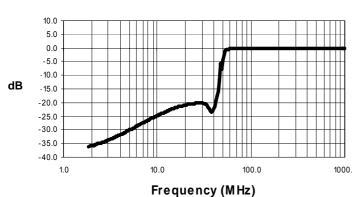
#### Low Pass Filter Insertion Loss



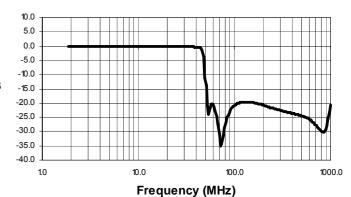
High Pass Filter Insertion Loss



### **Low Pass Filter Output Return Loss**



### **High Pass Filter Output Return Loss**



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