

CATV Diplex Filter 5 - 42 / 54 - 1000 MHz

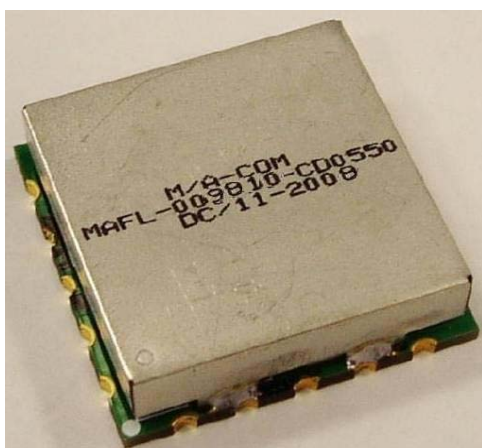
M/A-Com Products
Rev. V1

Features

- 75 Ohm
- Surface Mount
- RoHS* Compliant
- Technology used in this product is patent pending.

Description

M/A-COM's MAFL-009810-CD0550 is a low cost, non hermetically sealed Diplex Filter unit designed for CATV applications.

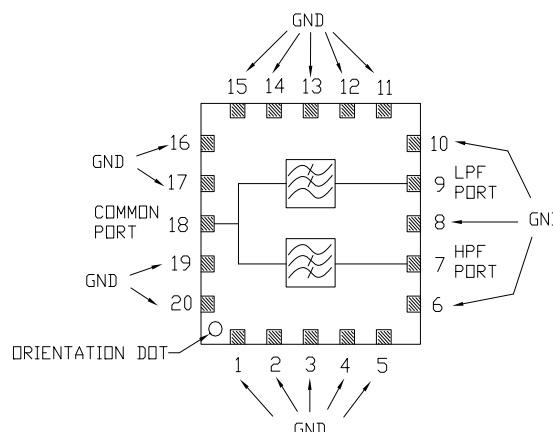


Absolute Maximum Ratings^{1,2}

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

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

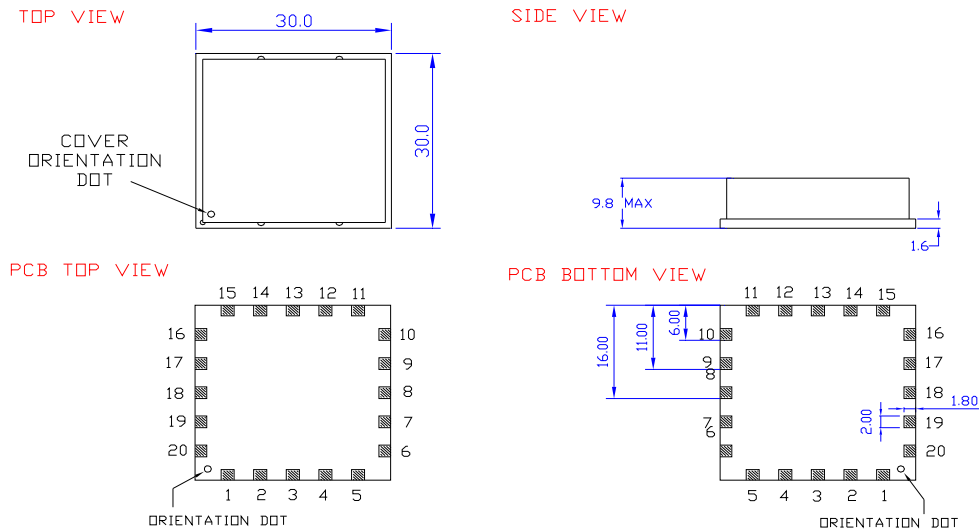
Part Number	Package
MAFL-009810-CD0550	50 Piece Reel
MAFL-009810-CD05TB	Customer Test Board

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

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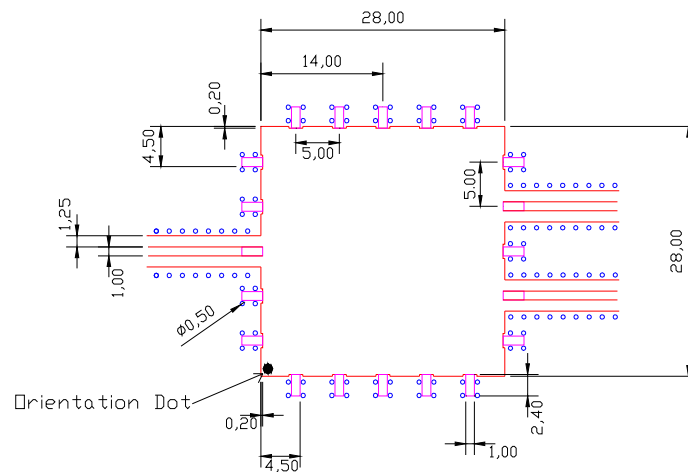
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SM-85 Case Style



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

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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 – 1000 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 – 1000 MHz	dB	-	0.5	1.1
Insertion Loss Flatness	5 – 42 MHz	dB	-	0.5	-
Isolation:					
Stop Band	5 – 42 MHz	dB	45	55	-
Cross over	43 – 53 MHz	dB	30	33	-
Stop Band	54 – 900 MHz	dB	45	50	-
Return Loss Input Port:					
	5 – 42 MHz	dB	18	21	-
	38.5 – 42 MHz	dB	17	19	-
	54 – 64.5 MHz	dB	12	14	-
	64.5 – 71.5 MHz	dB	16	20	-
	71.5 – 1000 MHz	dB	18	22	-

Additional Specifications

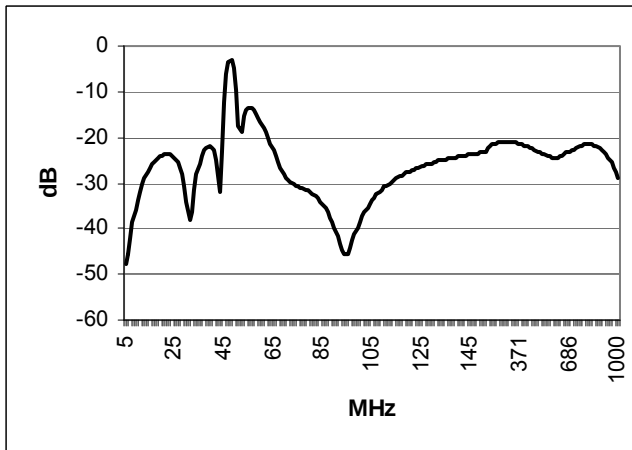
Group Delay (nSec)
38.5 – 42 MHz $\leq 20\text{ns}$
54 – 57.5 MHz $\leq 20\text{ns}$

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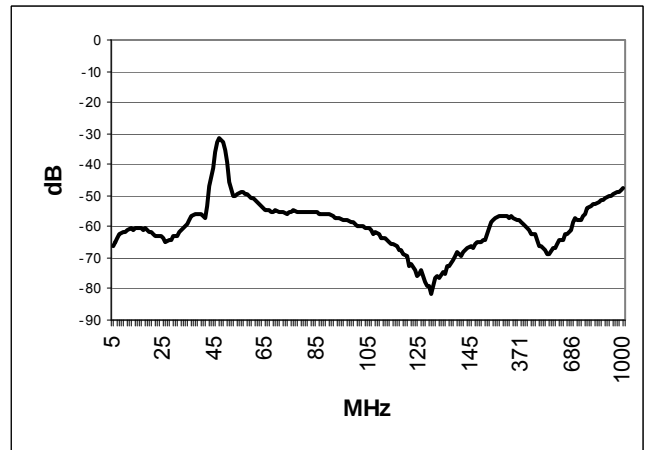
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Typical Performance

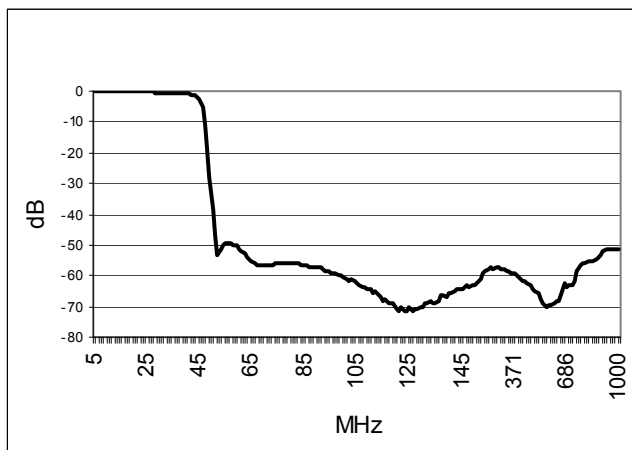
Input Return Loss



Filter Isolation



Low Pass Filter Insertion Loss



High Pass Filter Insertion Loss

