

CATV Diplex Filter
5 - 42 / 54 - 1000MHz

MAFL-007654-CD0A10
V1P

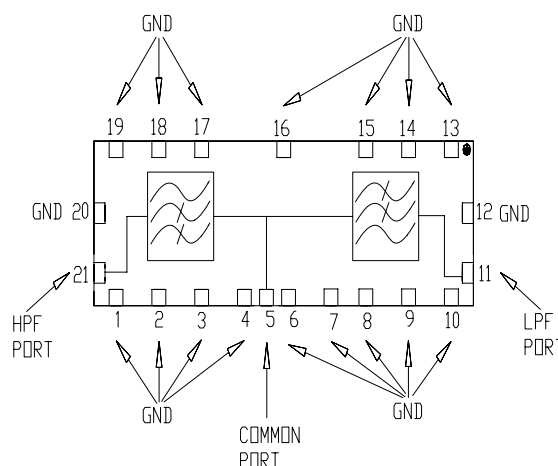
Features

- 75 Ohm
- SMT unit
- Low Cost, Low Profile
- RoHS* Compliant

Description

M/A-COM's MAFL-007654-CD0A10 is a low cost, low profile diplex filter designed for use in CATV set-top-box and cable modem applications. Technology used in this design is patent pending.

Functional Schematic



Pin Configuration

Function	Pin Number
Common Port	5
Low Pass Port	11
Output Port	21
Ground	1-4, 6-10, 12-20
Not connected	-

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.

This ADVANCE Data Sheet contains information regarding a product M/A-COM is considering for development. Performance is based on simulated results or target specifications. Commitment to produce in volume is not guaranteed.

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

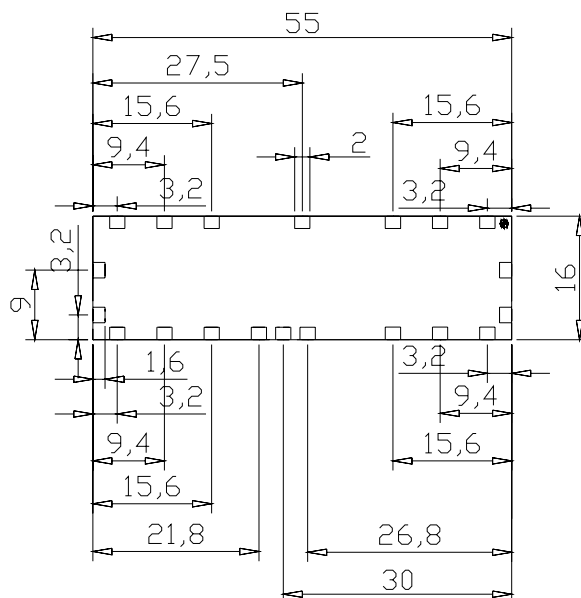
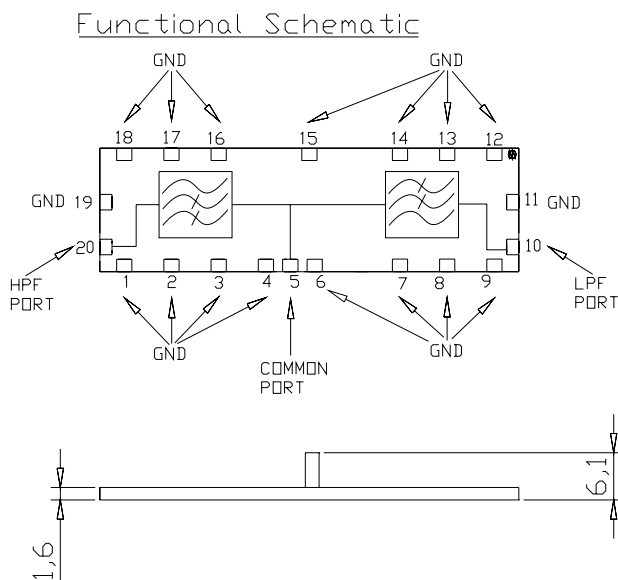
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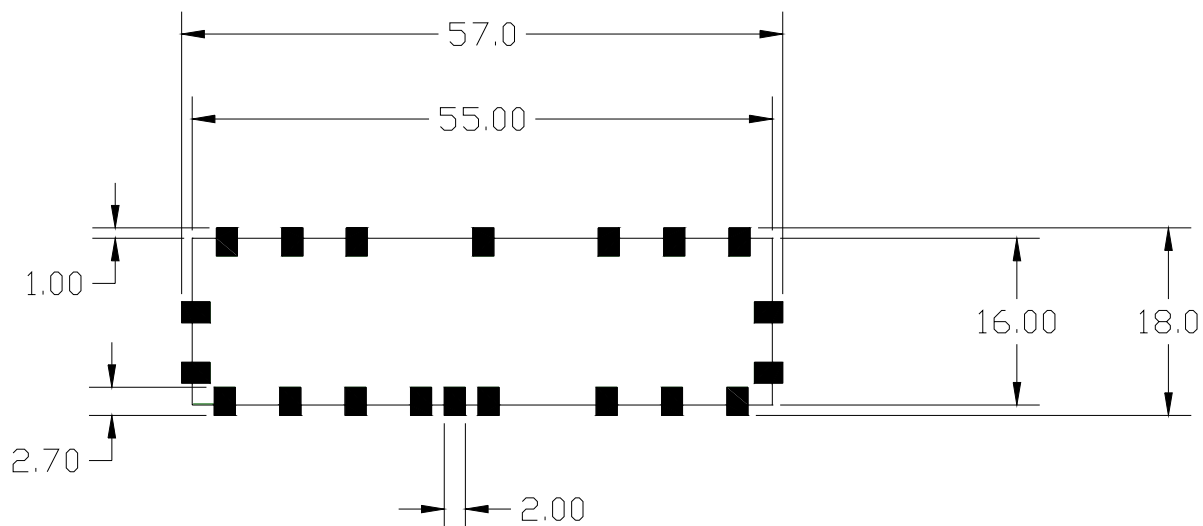
SM-161 Case Style

Sm-161 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: $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$ ¹

Parameter	Test Conditions	Units	Min	Typ	Max
Frequency Range	5 - 42MHz / 54 - 1000MHz				
Insertion Loss	5 - 42MHz	dB	-	-0.5	-1.1
Insertion Loss	54 - 60MHz	dB	-	-1.1	-1.3
	60 - 1000MHz	dB	-	-0.5	-1.1
Filter Isolation	5 - 39.5MHz	dB	-55	-62	-
	39.5 - 42MHz	dB	-48	-55	-
Filter Isolation	54 - 60MHz	dB	-53	-55	-
	60 - 500MHz	dB	-55	-58	-
	500 - 860MHz	dB	-50	-55	-
	860 - 1000MHz	dB	-45	-50	-
Input Return Loss	5 - 42MHz	dB	-14	-17	-
Input Return Loss	54 - 64MHz	dB	-10	-14	-
	64 - 74MHz	dB	-12	16	-
	74 - 650MHz	dB	-15	20	-
	650 - 1000MHz	dB	-14	16	-

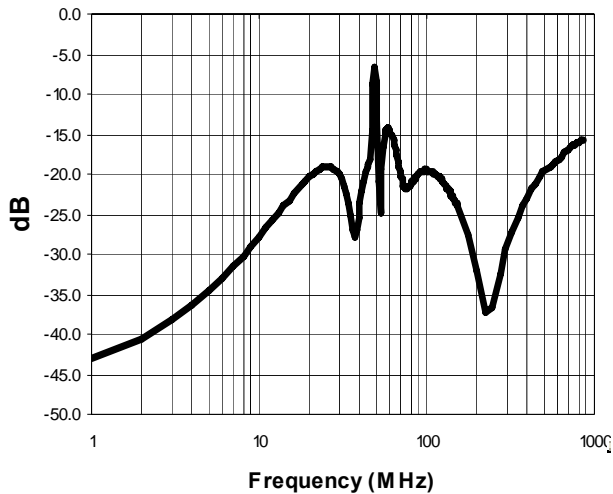
Note: Performance is target specifications based on a sample batch of 33 units.

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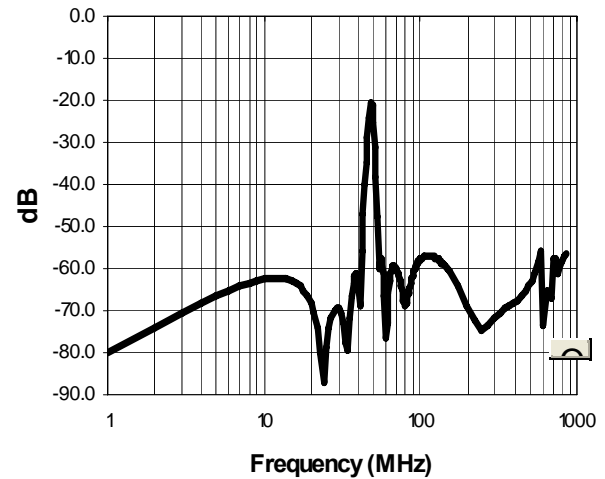
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Typical Performance Curves

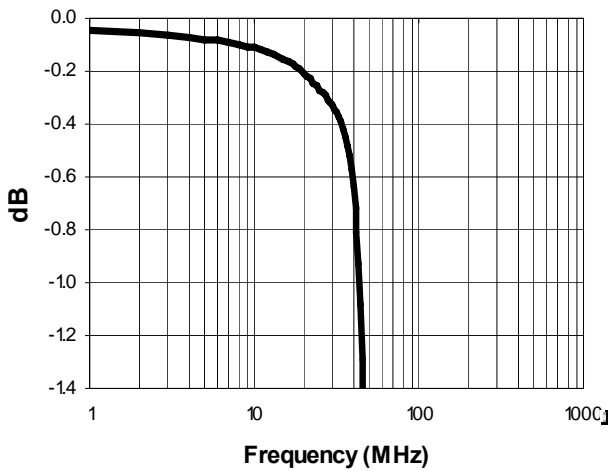
Input Return Loss



Filter Isolation



Low Pass Filter Insertion Loss



High Pass Filter Insertion Loss

