

# MAFL-010467-CD0B20



**Filter, CATV Diplexer**  
**5 - 65 / 108 - 1002 MHz**

Rev. V2

## Features

- ◆ RoHS Compliant
- ◆ Surface mount
- ◆ 75 ohm

## Description

M/A-COM Technology Solutions MAFL-010467-CD0B20 is a low cost, low profile diplex filter designed for use in CATV set-top box and cable modem applications

## Pin Configuration

Pin No.	Function
5	CATV Forward Path Port
9	CATV Reverse Path Port
15	Common Port
1-4,6-8,10-14,16	Ground

## Ordering Information

Part Number	Package
MAFL-010464-CD0B20	900

## Recommended Maximum Ratings

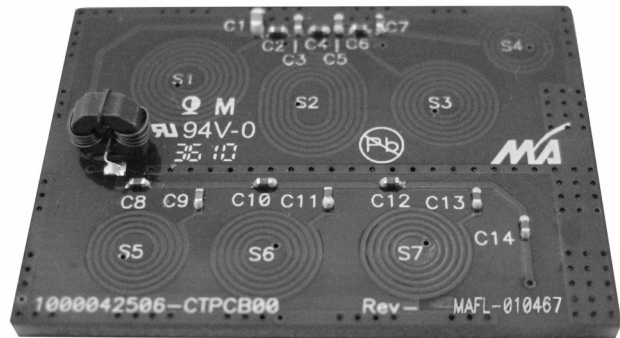
Parameter	Units	Min	Max
Input Power	mW		250
DC Current	mA		30
Operating Temperature Range	°C	-40	+85
Storage Temperature Range	°C	-55	+125

## Target Electrical Specifications @ 25°C, P<sub>in</sub>=0dBm

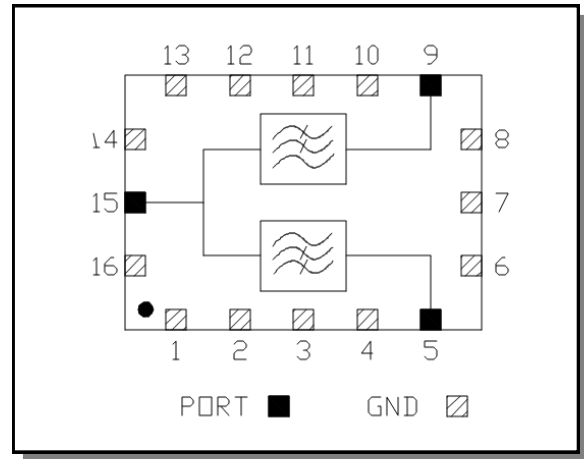
Parameter	Conditions	Units	Target Min	Typ	Target Max
Frequency Range		MHz	5		1002
Impedance		Ω	-	75	-
Forward Path Loss	5 MHz—50 MHz	dB	-60	-68	-
	50 MHz—65 MHz	dB	-50	-55	-
	108 MHz—1002 MHz	dB	-	-0.8	-1.2
Reverse Path Loss	5 MHz—65 MHz	dB	-	-1.5	-1.8
	87.5 MHz—108 MHz	dB	-46	-50	-
	108 MHz—136 MHz	dB	-70	-78	-
	136MHz— 195 MHz	dB	-70	-80	-
	195 MHz— 1002 MHz	dB	-61	-63	-
Common Port Return Loss	5 MHz—65 MHz	dB	-12	-13	-
	108MHz—760 MHz	dB	-10	-11	-
	760MHz—1002 MHz	dB	-9.5	-10	-

Note: Typical Specs may only be achieved when using the recommended filter layout on page 2.

## Product Photo



## Functional Schematic



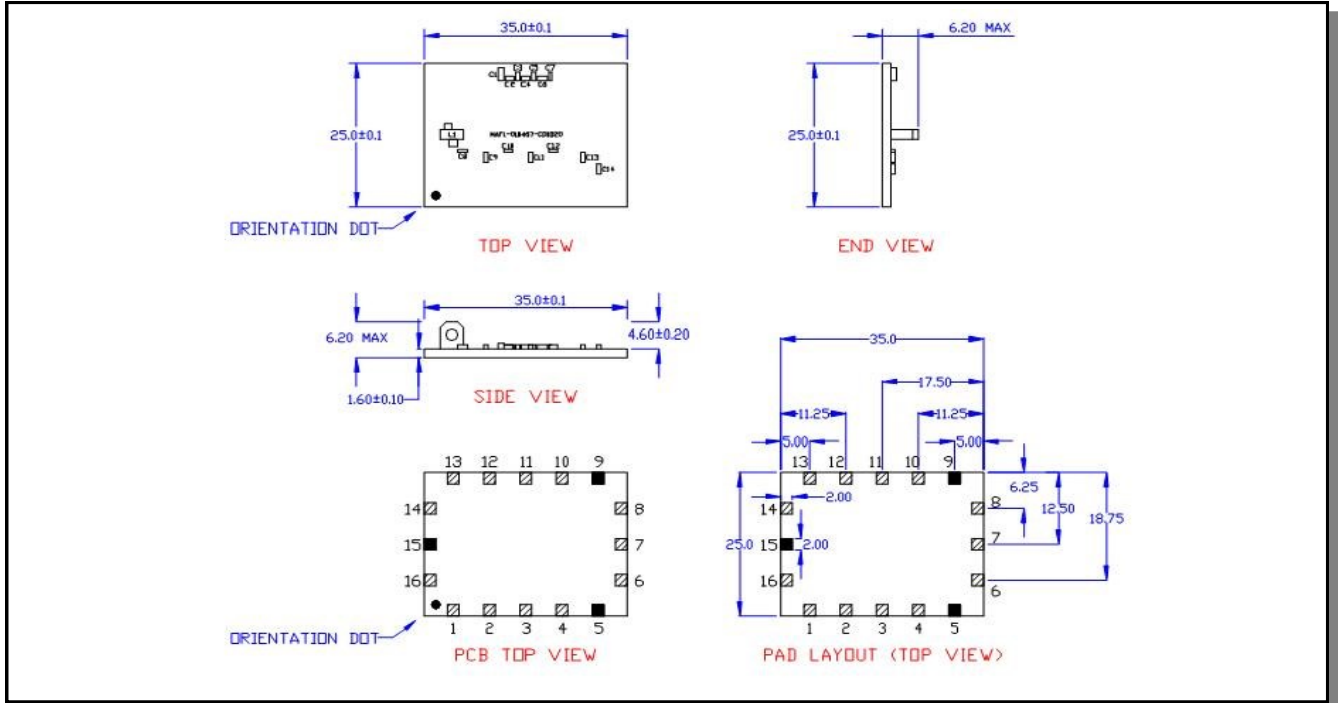
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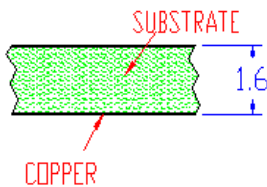
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## Outline Drawing

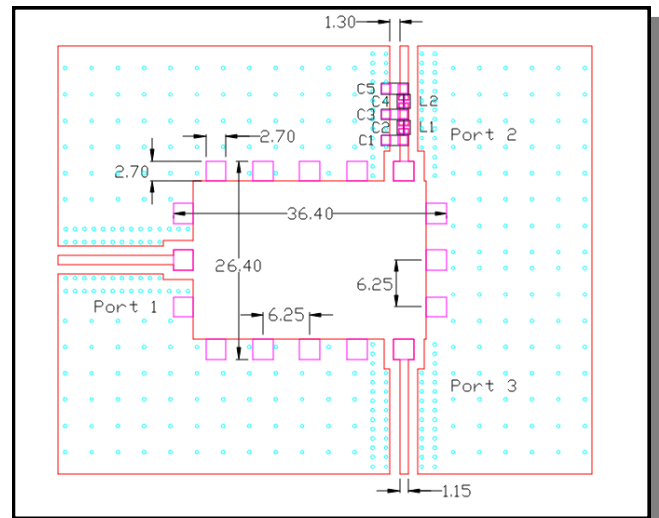


## Notes:

- Input and output track dimension = 1.15mm
- Gap dimension = 1.3mm
- It is not recommended to run tracks under the filter unless they are greater than 1.6mm below the base.
- Ground should be 1.6mm below the base of the filter.
- Area directly under the filter should be free from copper.
- RF shield should be kept a minimum of 6mm above the filter.
- Recommended stack up as follows:



## Recommended Layout



### OFF-CHIP BOM:

- C1 CAP, SMT, 0603, 9.1pF, +/-2%, 50V, COG
- C2 CAP, SMT, 0402, 18pF, +/-2%, 50V, COG
- C3 CAP, SMT, 0603, 36pF, +/-2%, 50V, COG
- C4 CAP, SMT, 0402, 9.1pF, +/-2%, 50V, COG
- C5 CAP, SMT, 0603, 15pF, +/-2%, 50V, COG
- L1 & L2 INDUCTOR, SMT, 0402, 100nH, +/-5%

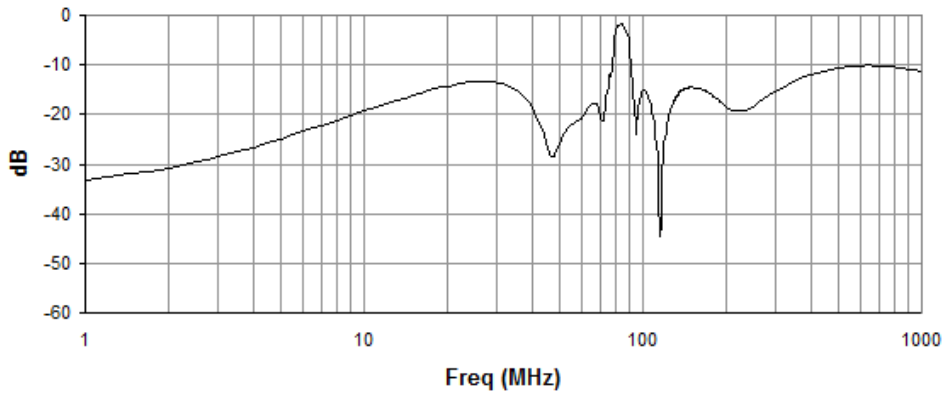
Note: Dimensions in mm (Tol +/-0.1 unless otherwise specified)

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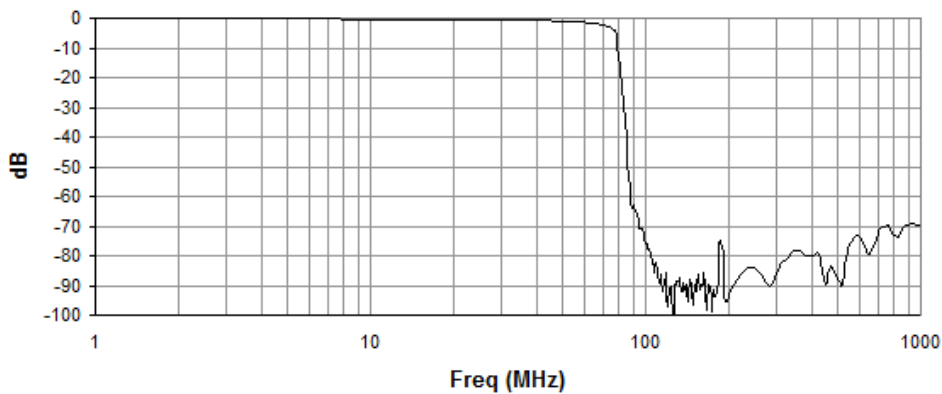
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### Common Port Return Loss



### Reverse Path Filter (LPF)



### Forward Path Filter (HPF)

