

# MAFL-010464-CD0B20



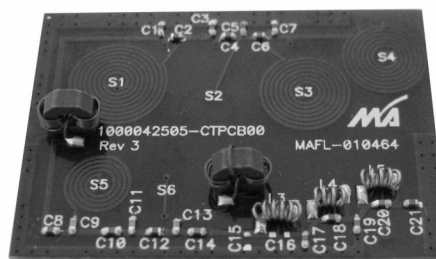
Filter, MoCA Diplexer  
5 - 42 / 88 - 1002 MHz

Rev. V2

## Features

- ◆ RoHS Compliant
- ◆ Surface mount
- ◆ 75 ohm
- ◆ MoCA Reject from 1125 - 1525 MHz

## Product Photo



## Description

M/A-Com's MAFL-010464-CD0B20 is a low cost, low profile diplexer filter designed for use in CATV set-top box and cable modem applications.

## Pin Configuration

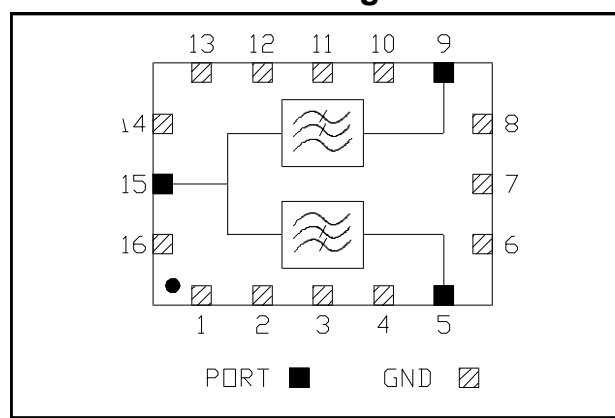
Pin No.	Function
5	Forward Path Port
9	Reverse Path Port
15	Common Port
1-4,6,7,8,10-14,16	Ground

## Ordering Information

Part Number	Package
MAFL-010464-CD0B20	900

## Target Electrical Specifications @ 25°C,

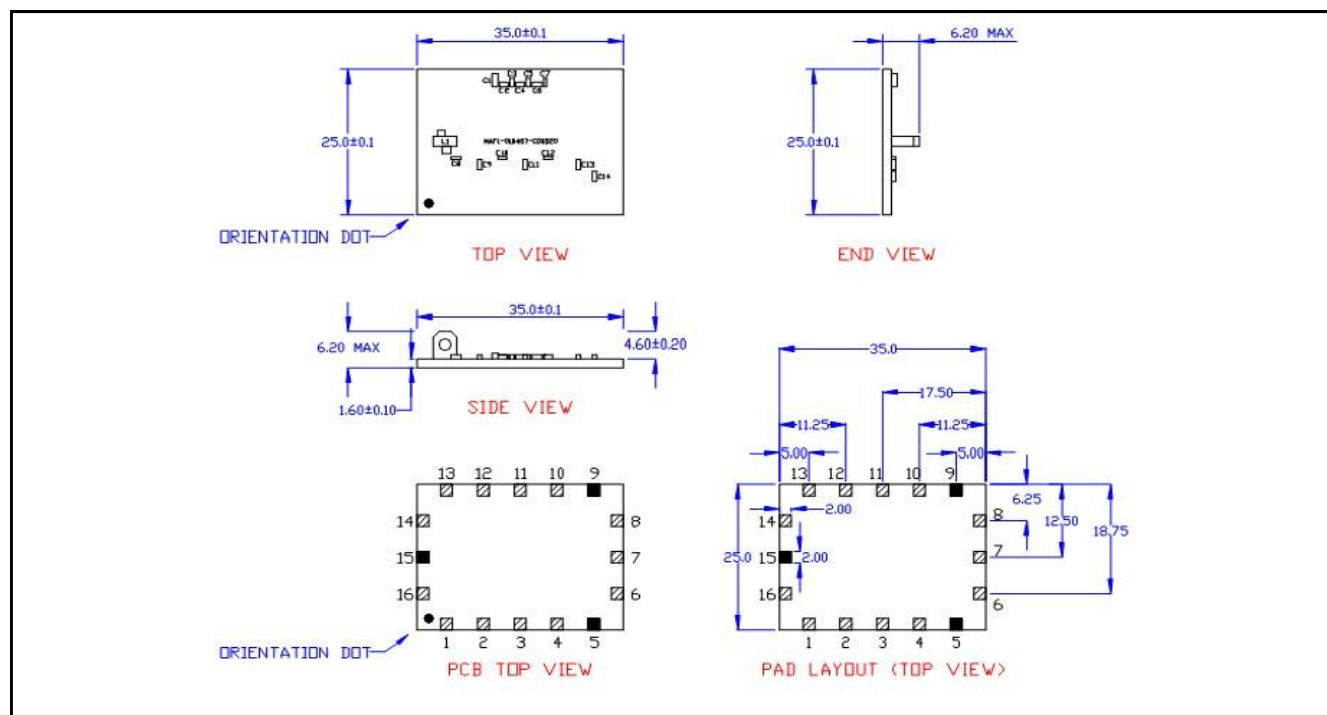
## Block Diagram



Parameter	Conditions	Units	Min	Typ	Max
Frequency Range		MHz	5		1525
Impedance		$\Omega$		75	
Forward Path Loss (HPF)	5 MHz—38 MHz	dB	-60	-63	-
	38 MHz—42 MHz	dB	-58	-60	-
	88 MHz—800 MHz	dB	-	-1.2	-1.5
	800 MHz—1002 MHz	dB	-	-2.1	-2.5
	1125 MHz— 1150 MHz	dB	-30	-33	-
	1150 MHz— 1525 MHz	dB	-32	-35	-
Reverse Path Loss (LPF)	5 MHz—38 MHz	dB	-	-1.2	-1.8
	38 MHz—42 MHz	dB	-	-1.8	-2.1
	54 MHz—60 MHz	dB	-47	-52	-
	60 MHz—108 MHz	dB	-61	-70	-
	108 MHz—500 MHz	dB	-70	-78	-
	500 MHz— 1002 MHz	dB	-54	-60	-
Common Port Return Loss	5 MHz—42 MHz	dB	-12	-15	-
	88MHz—800 MHz	dB	-10	-12	-
	800MHz—1002 MHz	dB	-9	-10	-

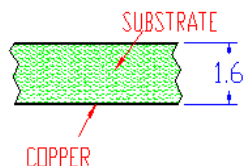
<sup>1</sup> Note: Typical Specs may only be achieved when using the recommended filter layout on page 2.

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



### Notes:

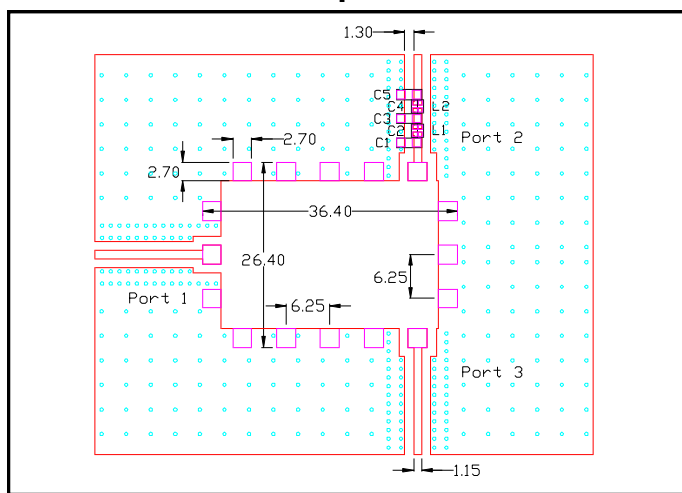
- Input and output track dimension = 1.15mm
- Gap dimension = 1.3mm
- It is not recommended to run tracks under the filter unless they are greater than 1.6mm below the base.
- Ground should be 1.6mm below the base of the filter.
- Area directly under the filter should be free from copper.
- RF shield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



### Recommended 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

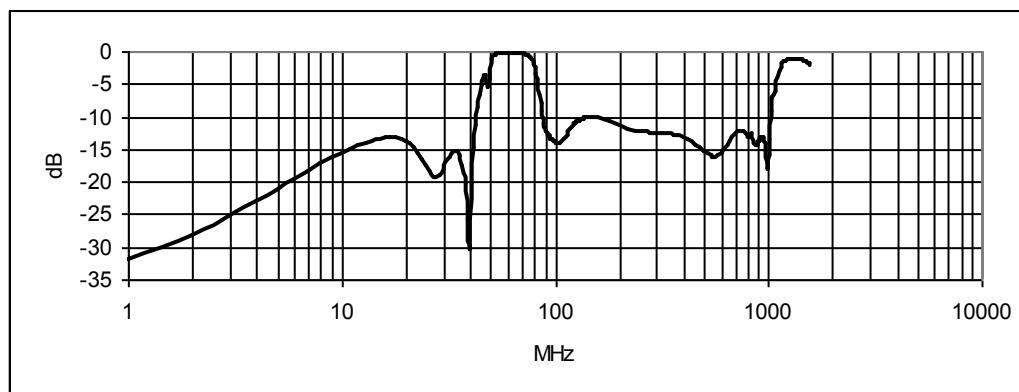
### Recommended Footprint



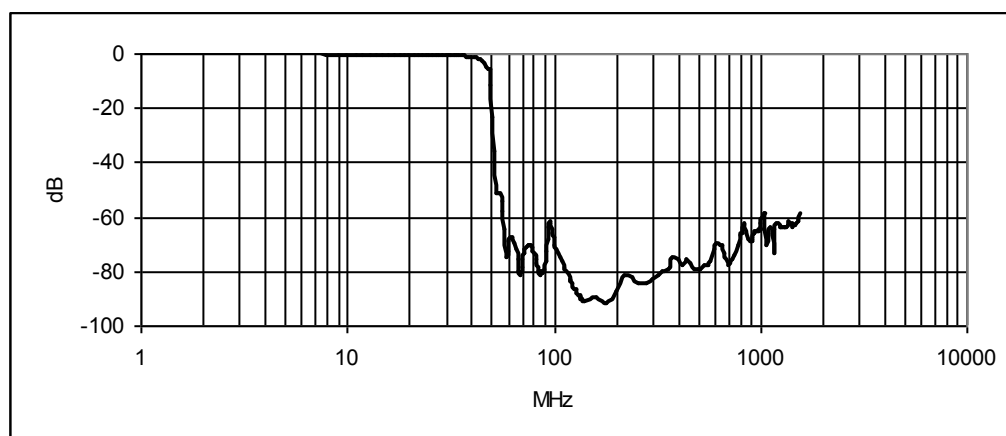
Description	Ref Des	Qty
CAP, SMT, 0603, 15pF, +/-2%, 50V, COG	C1	1
CAP, SMT, 0402, 22pF, +/-2%, 50V, COG	C2	1
CAP, SMT, 0603, 43pF, +/-2%, 50V, COG	C3	1
CAP, SMT, 0402, 9.1pF, +/-2%, 50V, COG	C4	1
CAP, SMT, 0603, 15pF, +/-2%, 50V, COG	C5	1
Inductor, SMT, 0402, 150nH, +/-5%	L1, L2	2

• Full temperature plots are available upon request.  
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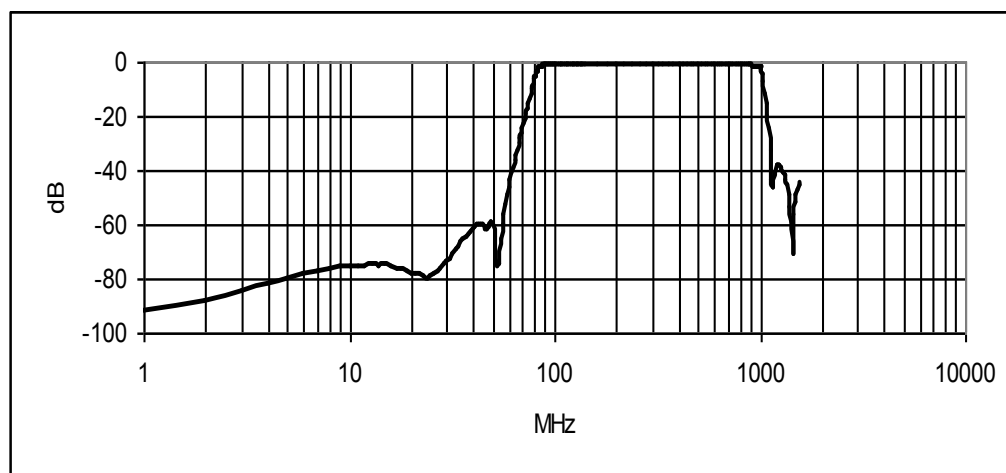
## Common Port Return Loss:



## Reverse Path Filter (LPF)



## Forward Path Filter (HPF)



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