

# MAFL-010465-CD0B20



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

Rev. V3

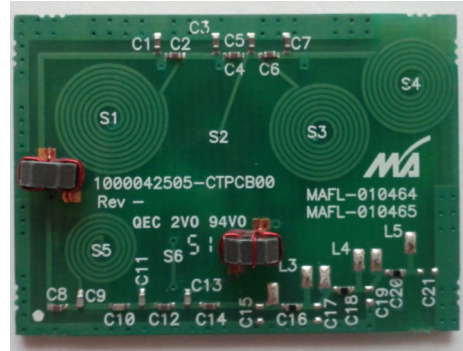
## Features

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

## Description

M/A-Com's MAFL-010465-CD0B20 is a low cost, low profile diplexer filter designed for use in CATV set-top box and cable modem applications.

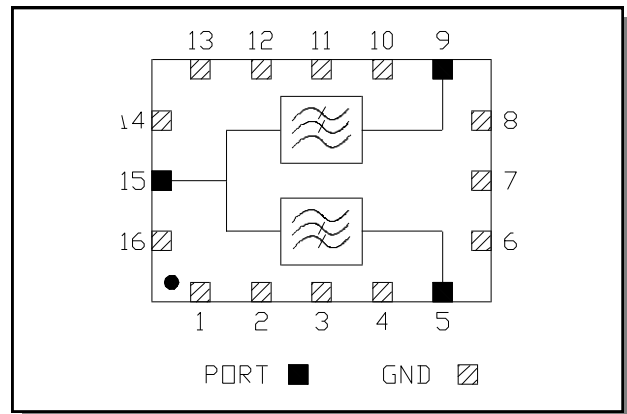
## Product Photo



## 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

## Block Diagram

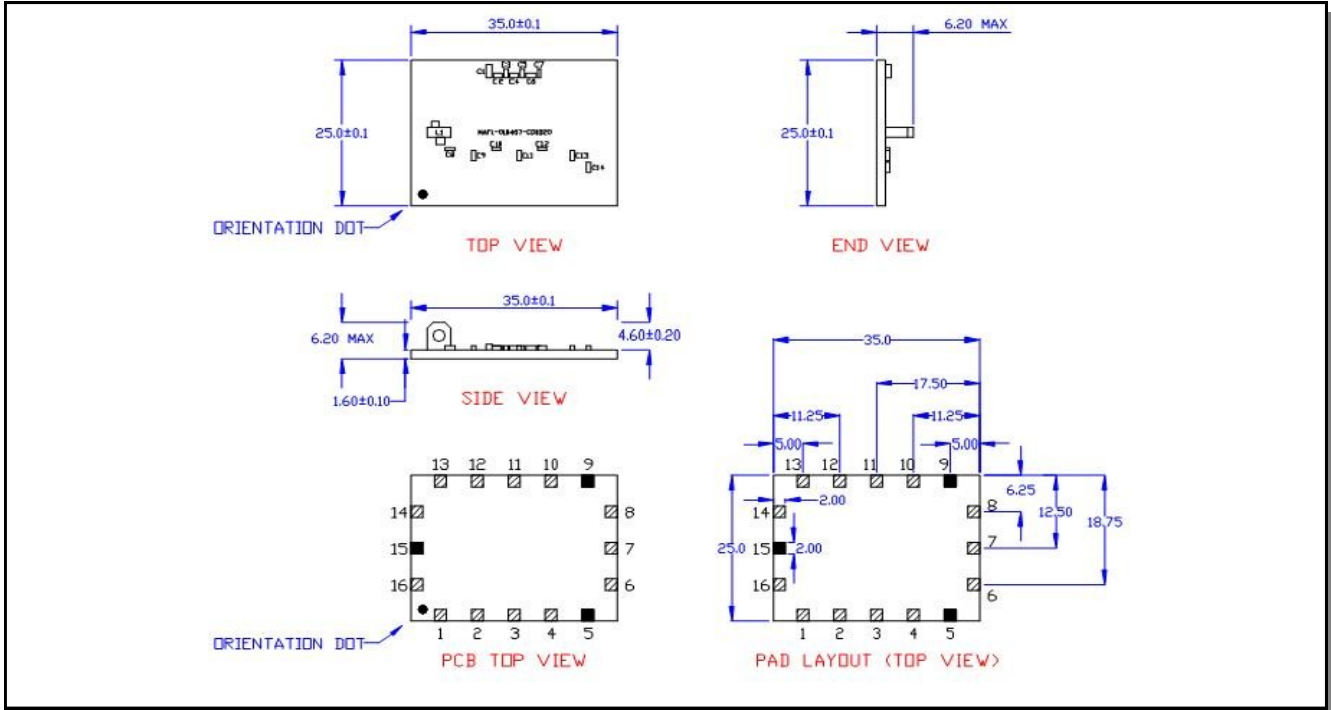


## Target Electrical Specifications @ 25°C,

Parameter	Conditions	Units	Min	Typ	Max
Frequency Range		MHz	5		1002
Impedance		$\Omega$		75	
Forward Path Loss (HPF)	5 MHz — 38 MHz	dB	-60	-63	-
	38 MHz — 42 MHz	dB	-57	-59	-
	88 MHz — 1002 MHz	dB	-	-1.2	-1.5
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	-64	-
Common Port Return Loss	5 MHz — 42 MHz	dB	-12	-15	-
	88MHz — 1002 MHz	dB	-10	-12	-

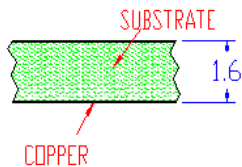
1 Note: Typical Specs may only be achieved when using the recommended filter layout on page 2.

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

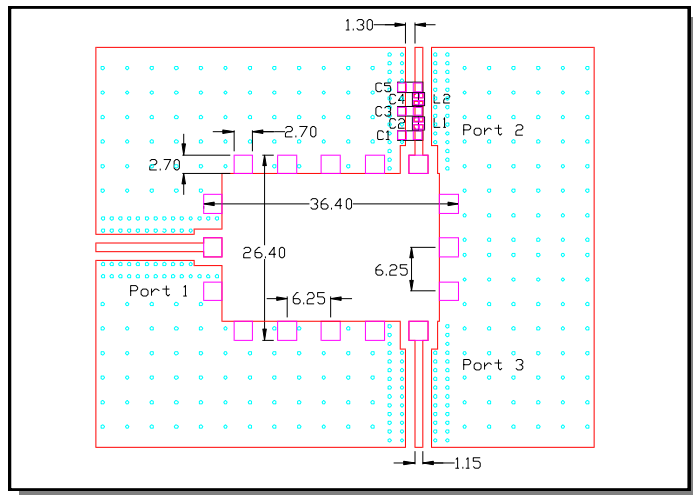


**Notes:**

- 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 Footprint**



**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

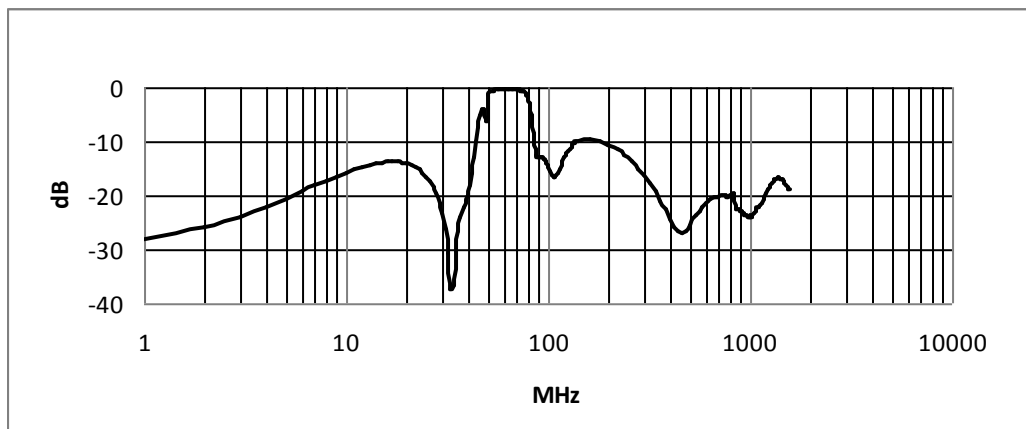
Description	Ref Des	Qty
CAP, SMT, 0603, 15pF, +/-2%, 50V, COG	C1	1
CAP, SMT, 0402, 22pF, +/-2%, 50V, COG	C2	1
CAP, SMT, 0603, 43pF, +/-2%, 50V, COG	C3	1
CAP, SMT, 0402, 9.1pF, +/-2%, 50V, COG	C4	1
CAP, SMT, 0603, 15pF, +/-2%, 50V, COG	C5	1
Inductor, SMT, 0402, 150nH, +/-5%	L1, L2	2

• Full temperature plots are available upon request.

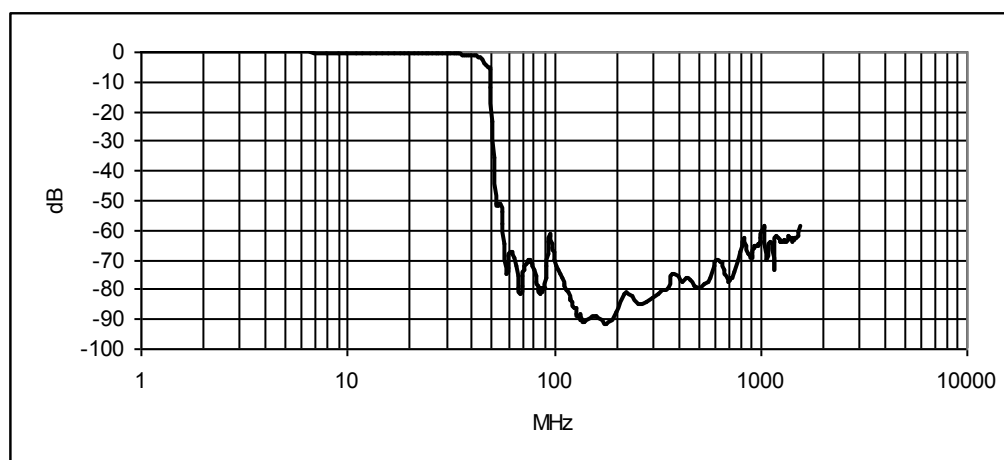
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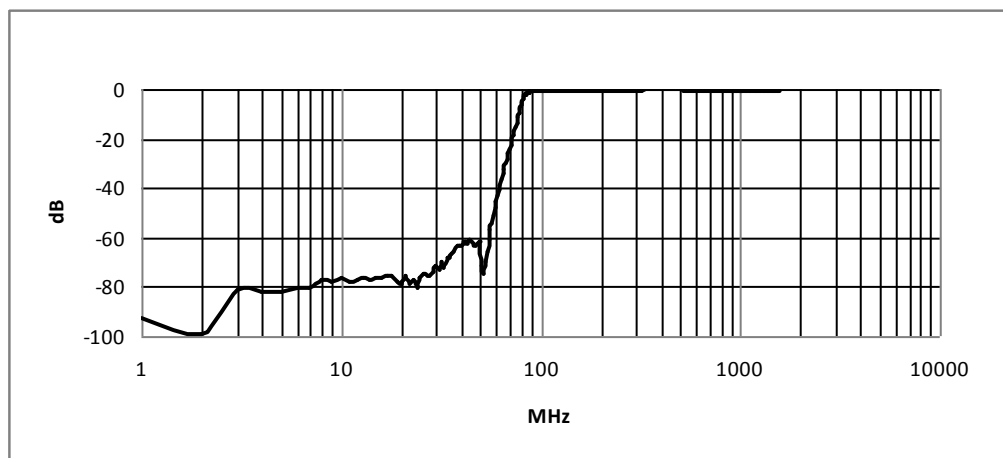
### Common Port Return Loss:



### Reverse Path Filter (LPF)



### Forward Path Filter (HPF)



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