

# MoCA Triplex Filter 5 - 2000 MHz

Rev. V4

#### **Features**

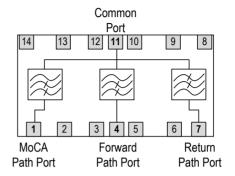
- 75 Ω
- Surface Mount Technology
- RoHS\* Compliant & Lead-Free

### **Description**

The MAFL-010140-CT0C60 is a surface mount triplex filter unit designed for MoCA applications.



#### **Functional Schematic**



## **Pin Configuration**

Pin #	Function		
1	MoCA Path Port		
2,3,5,6,8,9,10,12,13,14	Ground		
4	Forward Path Port		
7	Return Path Port		
11	RF Input (Common Port)		

# Electrical Specifications: $T_A = 25$ °C, $Z_0 = 75$ $\Omega$

Parameter	Test Conditions Frequency (MHz)	Units	Min	Тур	Max
Input Port Return Loss	5 - 42		-15	-12	
	54 - 1002	dB	-12	-10	_
	1125 - 1525		-12	-10	
Reverse Path Filter	5 - 42		-1.2		-1.5
	54 - 64		-62.0	-60.0	_
	64 - 210	dB	-48.0	-45.0	_
	210 - 450		-40.0	-37.5	_
	450 - 1002		-32.0	-28.0	_
Forward Path Filter	5 - 40		-55.0	-50.0	l
	40 - 42		-50.0	-47.5	_
	54 - 88		-1.5	_	-2.0
	88 - 800		-1.0	_	-1.5
	800 - 1002	dB	-2.0	_	-2.5
	1125 - 1200		-40.0	-37.0	_
	1200 - 1400		-28.0	-26.0	_
	1400 - 1500		-37.0	-33.0	_
	1500 - 2000		-30.0	-26.0	
MoCA Path Filter	5 - 750		-50.0	-45.0	_
	750 - 1002	dB	-42.0	-40.0	_
	1125 - 1525	UD	-2.0	_	-3.0
	2000		-35.0	-30.0	_

<sup>\*</sup> Restrictions on Hazardous Substances, compliant to current RoHS EU directive.



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## **Ordering Information**

Part Number	Package
MAFL-010140-CT0C60	960 per tray

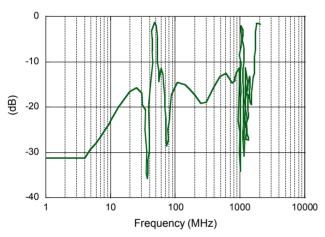
# **Absolute Maximum Ratings**<sup>1,2</sup>

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

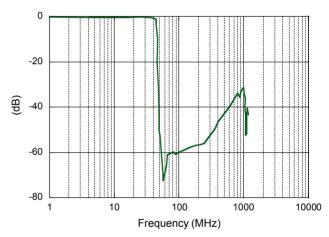
- 1. Exceeding any one or combination of these limits may cause permanent damage to this device.
- MACOM does not recommend sustained operation near these survivability limits.

## **Typical Performance Curves**

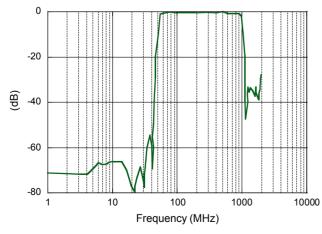
#### **Common Port Return Loss**



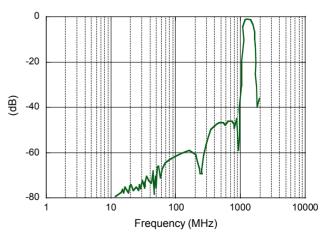
#### Common to Reverse Path Filter



#### Common to Forward Path Filter



#### Common to MoCA Path Filter



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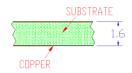


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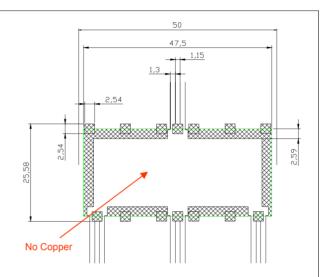
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## **Recommended PCB Configuration**

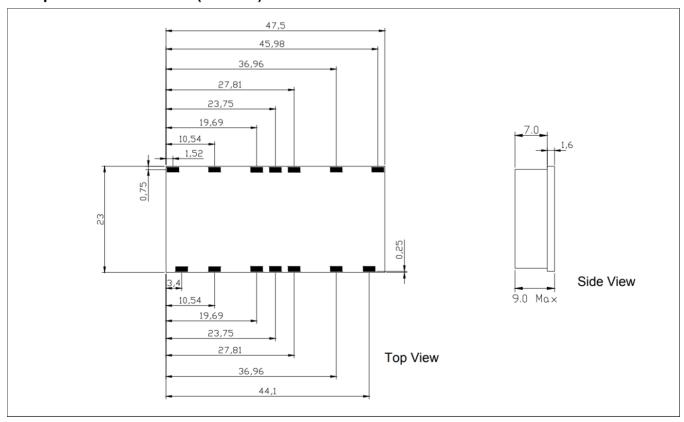
- Track dimension = 1.15 mm
- Gap dimension = 1.3 mm
- It is not recommended to run tracks under the filter unless they are greater than 1.6 mm below the base.
- Ground should be 1.6 mm below the base of the filter.
- Area directly under the filter should be free from copper.
- RF shield should be kept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



Dimensions in mm. Tolerance:  $.x \pm 0.1$ , unless otherwise specified



### **Component Dimensions (SM-198)**





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