

MoCA Triplex Filter 5 - 6000 MHz

M/A-COM Products

Features

- Surface Mount
- 75 Ohm
- RoHS Compliant

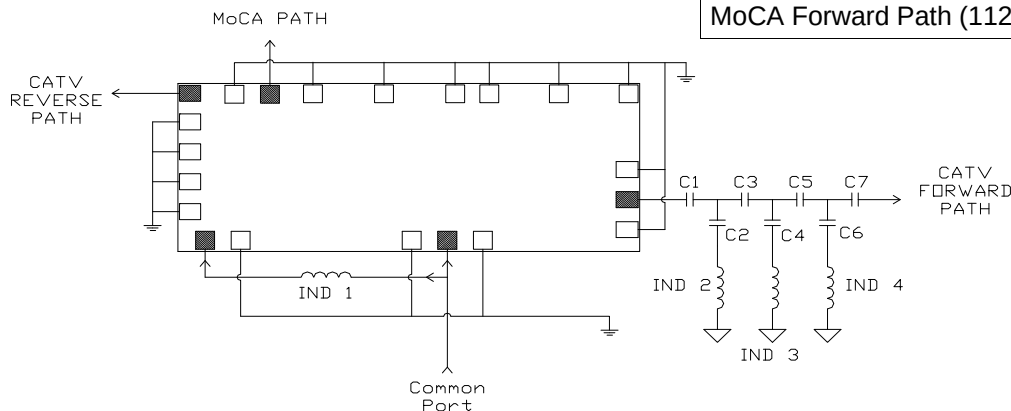
Description

M/A-COM's MAFL-009010-CT0B90 is a surface mount triplex filter unit designed for MoCA applications. This Triplex filter requires some additional "off chip" components as shown below:

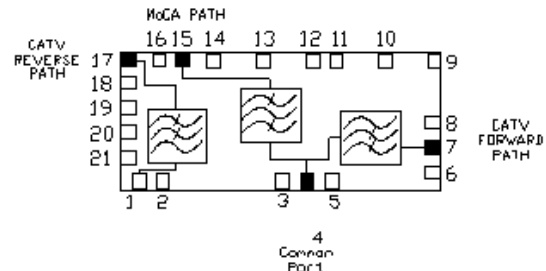
Ordering Information

Device	Description
MAFL-009010-CT0B90	300 per Tape
MAFL-009010-CT00TB	Test Board

Schematic including off Filter components



Functional Schematic



Pin Configuration

Function	Pin
RF IN (Common Port)	4
CATV Reverse Path (5 - 42 MHz)	17
CATV Forward Path (54 - 1002 MHz)	7
MoCA Forward Path (1125 - 1525 MHz)	15

Off Filter Component Values

Ref	Description	Possible P/N	Possible Vendor
IND 1	Ind, SM-138 (426 nH)	MAPC-009061-CI08A0	M/A-COM
IND 2	Ind, SM-138 (175 nH)	MAPC-009062-CI08A0	M/A-COM
IND 3	Ind, SM-138 (120 nH)	MAPC-009063-CI08A0	M/A-COM
IND 4	Ind, SM-138 (217 nH)	MAPC-009064-CI08A0	M/A-COM
C1	Cap, 0402, 33pF, +/-2%, 50V COG	GRM1555C1H330GZ01D	Murata
C2	Cap, 0402, 150pF, +/-2%, 50V COG	GRM1555C1H151GA01D	Murata
C3	Cap, 0402, 30pF, +/-2%, 50V COG	GRM1555C1H300GZ01D	Murata
C4	Cap, 0402, 470pF, +/-2%, 50V COG	GRM1555C1H471GA01D	Murata
C5	Cap, 0402, 33pF, +/-2%, 50V COG	GRM1555C1H330GZ01D	Murata
C6	Cap, 0402, 68pF, +/-2%, 50V COG	GRM1555C1H680GZ01D	Murata
C7	Cap, 0402, 120pF, +/-2%, 50V COG	GRM1555C1H1211GA01D	Murata

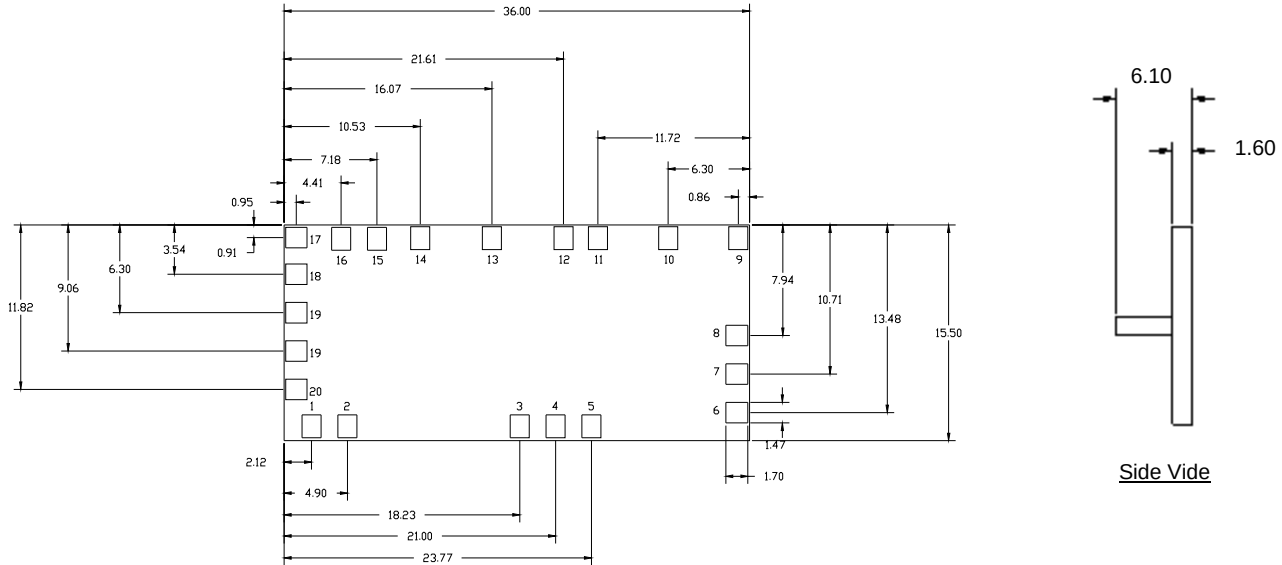
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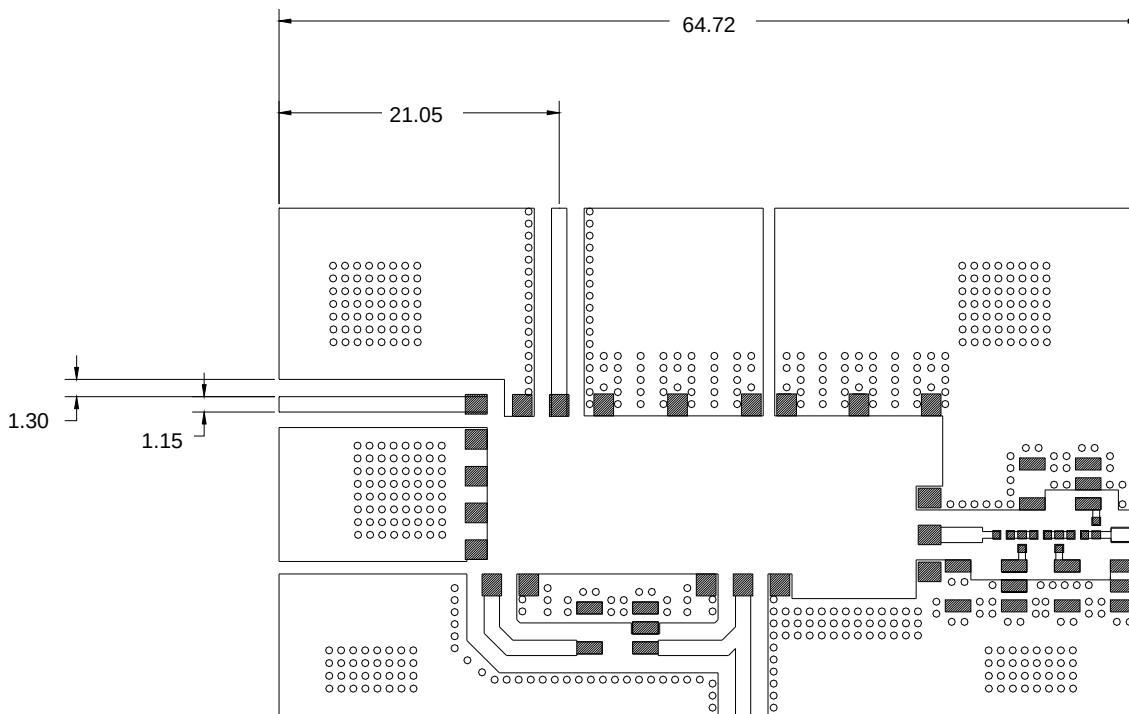
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 Visit www.macontech.com for additional data sheets and product information.

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PCB Dimensions



Recommended PCB Configuration



Dimensions in mm. Tolerance: .x ± 0.1, .xx ± 0.05

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MoCA Triplex Filter
5 - 6000 MHz

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Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$

Frequency Range 5 - 3000 MHz	Test Conditions	Nominal	Units	Min.	Typ.	Max.
<u>CATV Reverse Path:</u> Insertion Loss	5 - 42 MHz	—	dB	—	-1.0	-1.8
Rejection	54 - 200 MHz	—	dB	-53	-56	—
	200 - 864 MHz	—	dB	-48	-51	—
	864 - 1002 MHz	—	dB	-40	-45	—
<u>CATV Forward Path:</u> Insertion Loss	54 - 864 MHz	—	dB	—	-2.0	-2.5
	864 - 1002 MHz	—	dB	—	-3.2	-4.0
Rejection	1125 - 1525 MHz	—	dB	-28	-35	—
	1526 - 2000 MHz	—	dB	-25	-30	—
<u>CATV Reject Filter:</u> Rejection	5 - 35 MHz	—	dB	-50	-60	—
	35 - 42 MHz	—	dB	-45	-50	—
<u>MoCA Path:</u> Rejection	54 - 500 MHz	—	dB	-45	—	—
	500 - 864 MHz	—	dB	-35	—	—
	864 - 960 MHz	—	dB	-27	—	—
	960 - 1002 MHz	—	dB	-18	—	—
Insertion Loss	1125 - 1400 MHz	—	dB	—	-2.7	-3.0
	1400 - 1525 MHz	—	dB	—	-6.0	-7.0
Rejection	2300 MHz	—	dB	-27.5	-37	—
	3000 MHz	—	dB	-27.5	-33	—
	4600 MHz	—	dB	-12	-16	—
	6000 MHz	—	dB	-10	-14	—
Input Return Loss	5 - 42 MHz	—	dB	-12.0	-14.0	—
	54 - 950 MHz	—	dB	-9.0	-11.0	—
	950 - 1002 MHz	—	dB	-8.0	-9.0	—
	1125 - 1525 MHz	—	dB	-6.5	-8.0	—

Recommended Ratings

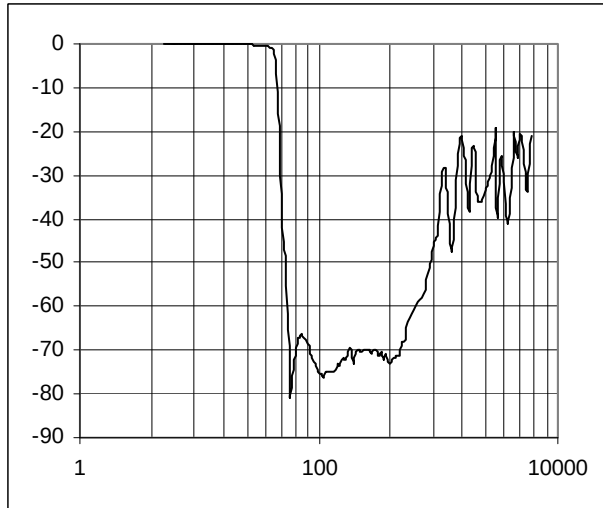
Parameter	Value
RF Power	250mW
DC Current	30mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C

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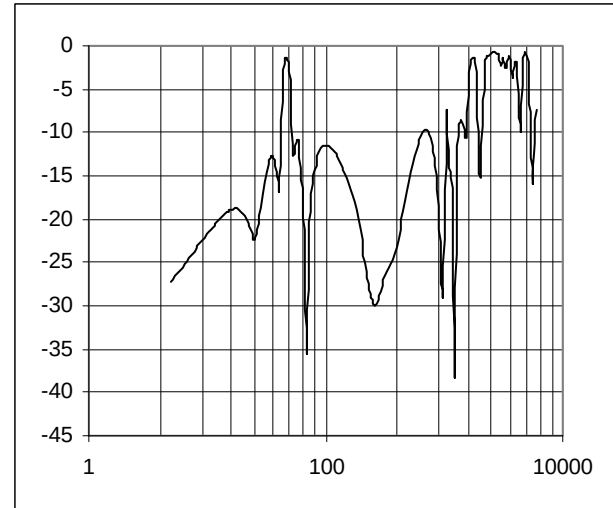
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Typical Performance: $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$

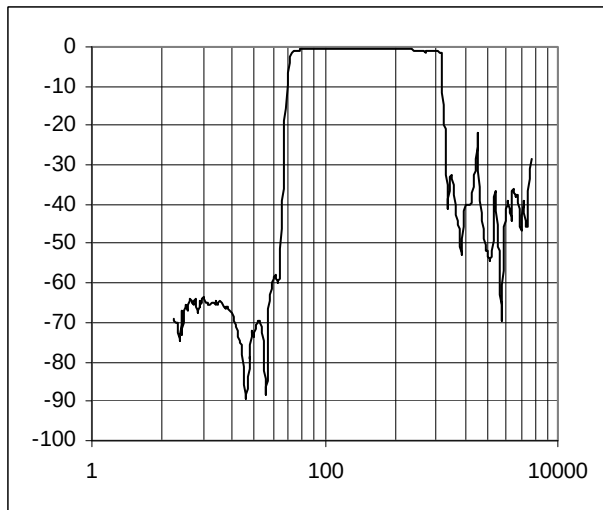
CATV Reverse Path



Input Return Loss



CATV Forward Path



MoCA Path

