

## CATV Diplex Filter 5 - 65 / 86 - 1000 MHz

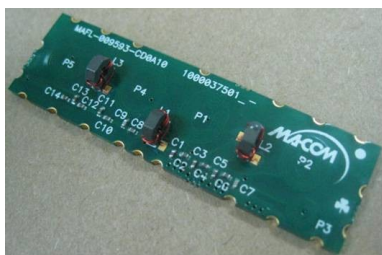
Rev. V4

### Features

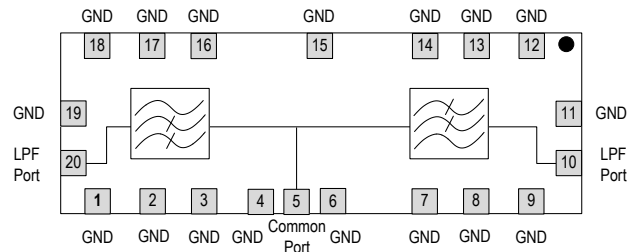
- 75  $\Omega$
- Surface Mount Technology
- Low Profile
- RoHS\* Compliant
- Lead Free
- 30 units per tray

### Description

The MAFL-009593-CD0A10 is a low profile diplex filter designed for use in CATV set-top box, cable modem and D-PON applications.



### Functional Block Diagram



### Pin Configuration

Pin #	Function
1 - 4, 6 - 9, 11 - 19	Ground
5	Common Port
10	LPF Port
20	HPF Port

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

Parameter	Frequency Test Condition (MHz)	Units	Min.	Typ.	Max.
Low Pass Insertion Loss	5-55	dB	—	0.5	0.8
	56-65			0.9	1.25
High Pass Insertion Loss	86-89	dB	—	1	1.25
	90-100			0.7	1.1
	101-1000			0.5	0.8
Filter Isolation	5-57	dB	55	60	—
	58-65		53	57	
Filter Isolation	86-104	dB	50	55	—
	105-260		52	56	
	261-520		60	64	
	521-1000		52	57	
Input Return Loss	5-10	dB	20	23	—
	11-65		12	15	
	86-290		12	16	
	291-700		18	20	
	701-1000		12	15	

\* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

## Ordering Information

Part Number	Package
MAFL-009593-CD0A10	900

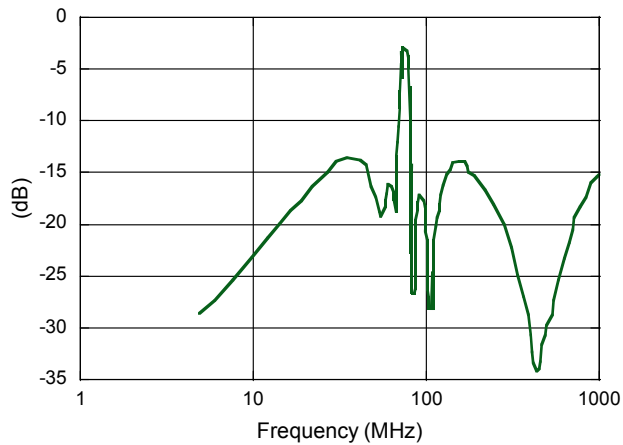
## Absolute Maximum Ratings<sup>1,2</sup>

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

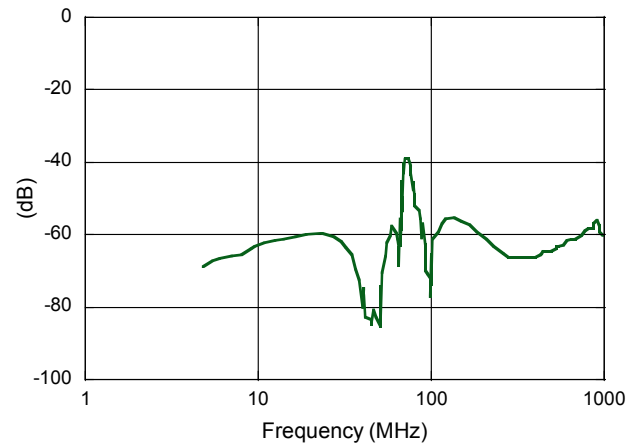
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

## Typical Performance Curves

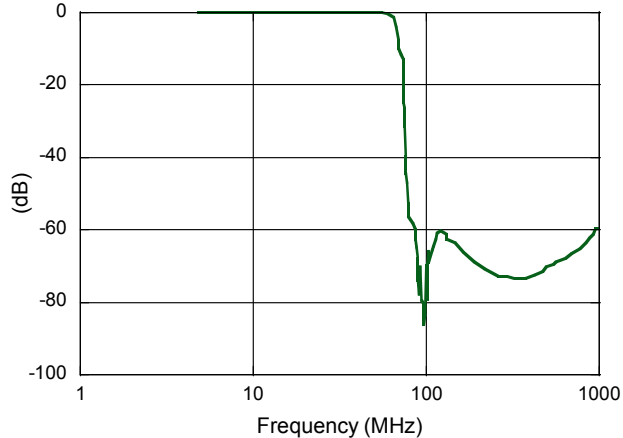
**Input Return Loss**



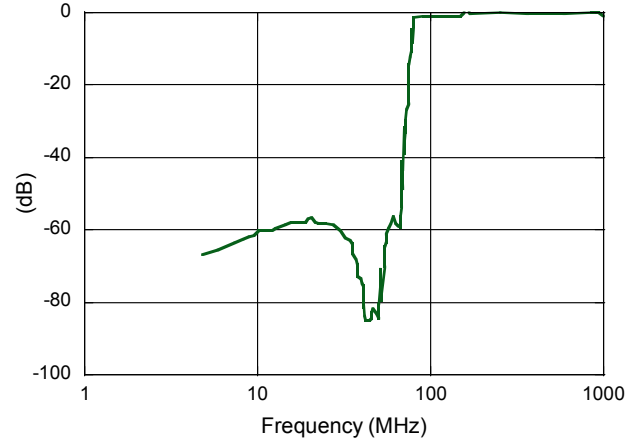
**Isolation**



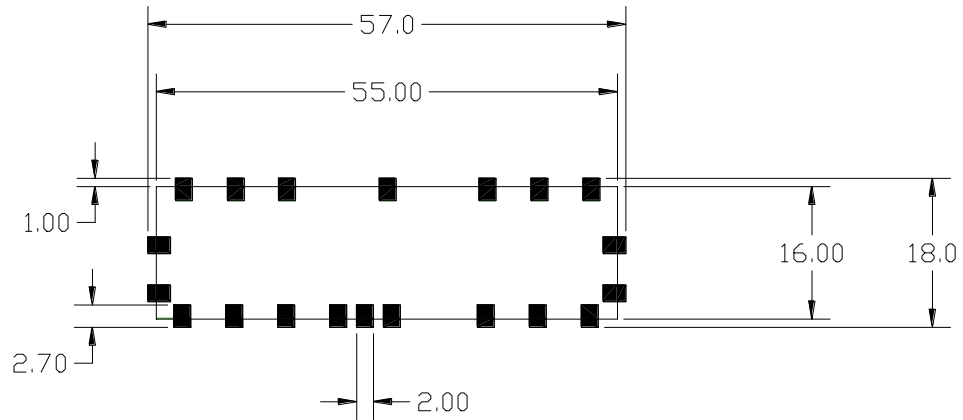
**Low Pass Filter Insertion Loss**



**High Pass Filter Insertion Loss**

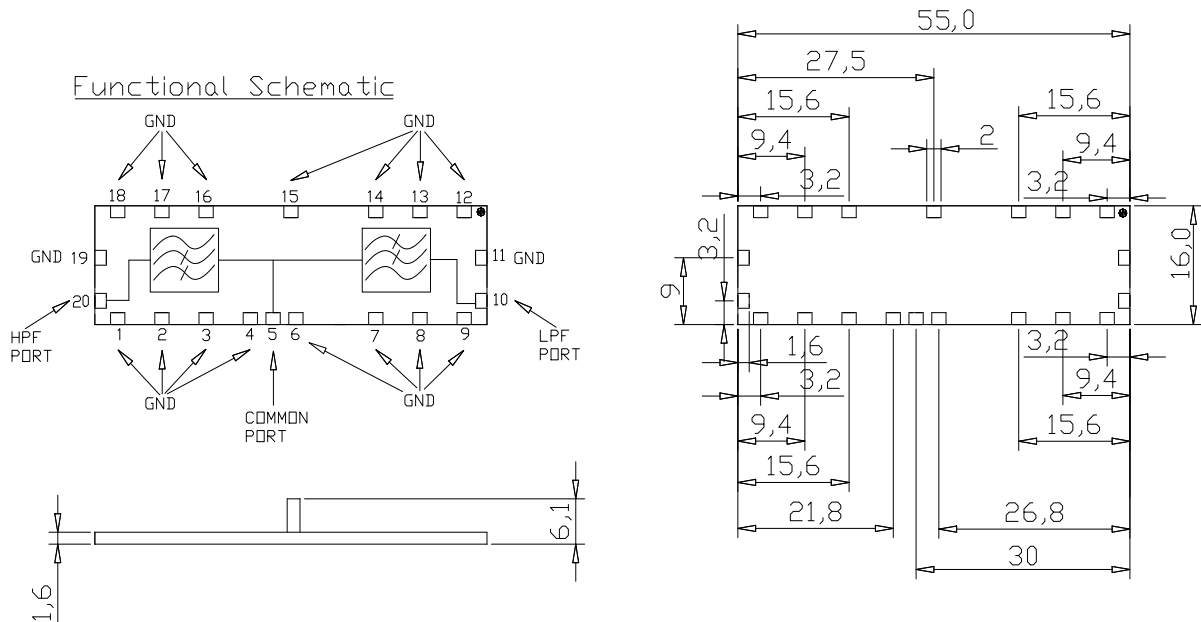


## Recommended PCB Configuration



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

## SM-161 Case Style



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

Maximum coplanarity specification of 0.1 mm

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