

CATV Diplex Filter 5 - 65 / 86 - 1000 MHz

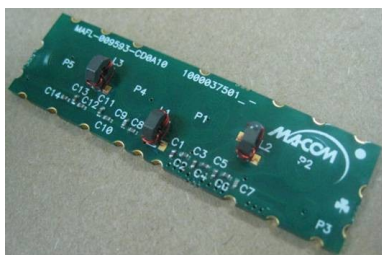
Rev. V4

Features

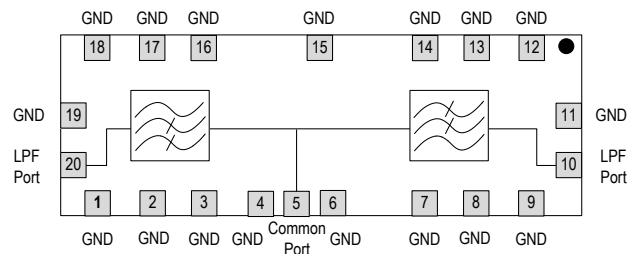
- 75 Ω
- Surface Mount Technology
- Low Profile
- RoHS* Compliant
- Lead Free
- 30 units per tray

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

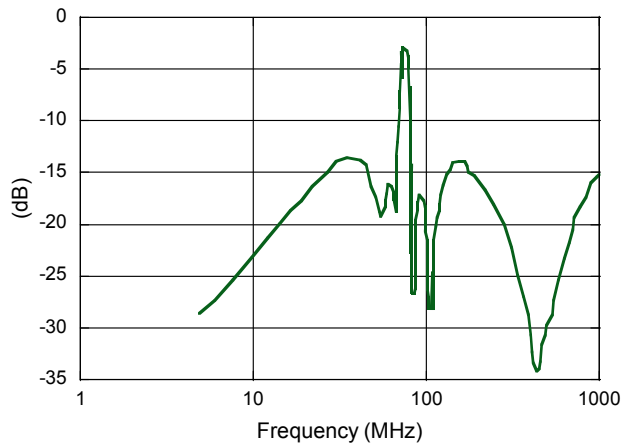
Absolute Maximum Ratings^{1,2}

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

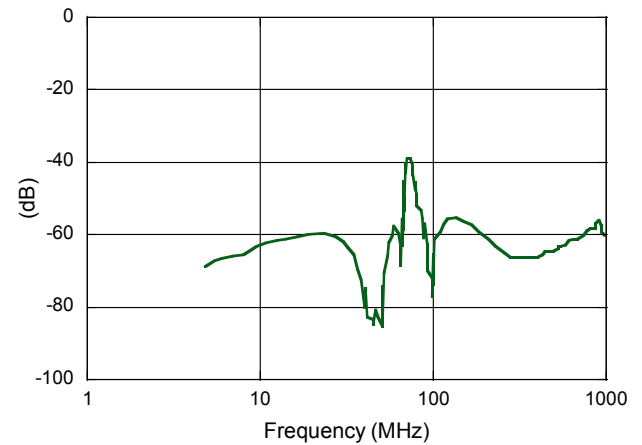
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

Typical Performance Curves

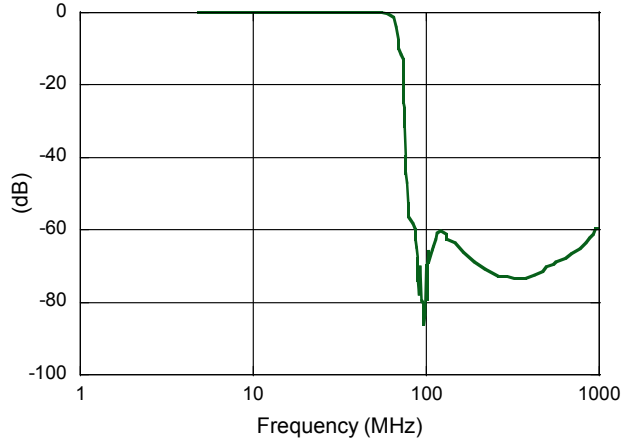
Input Return Loss



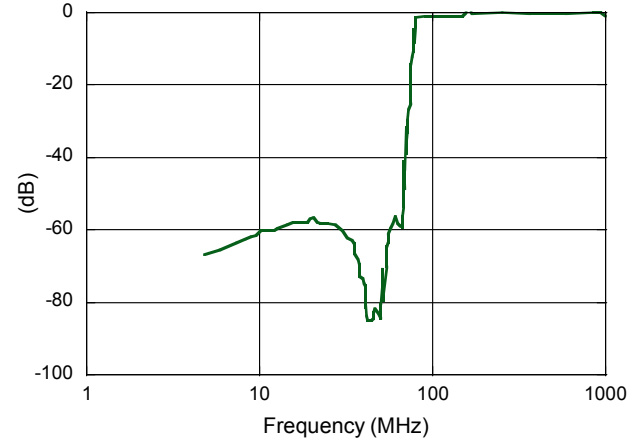
Isolation



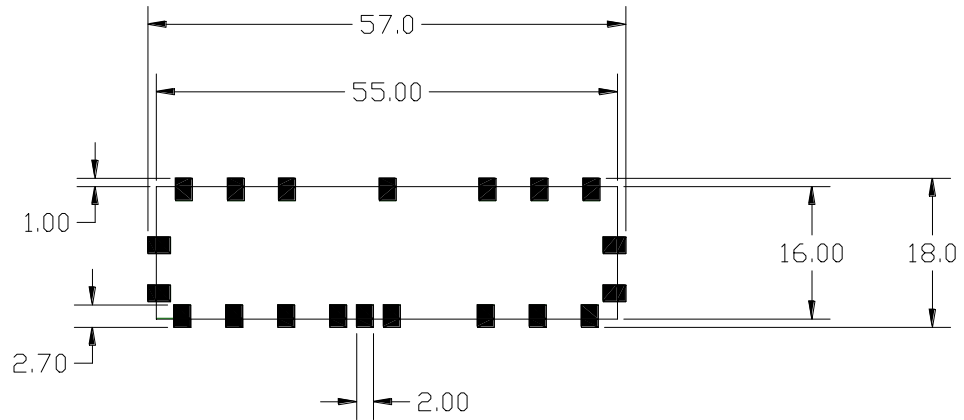
Low Pass Filter Insertion Loss



High Pass Filter Insertion Loss

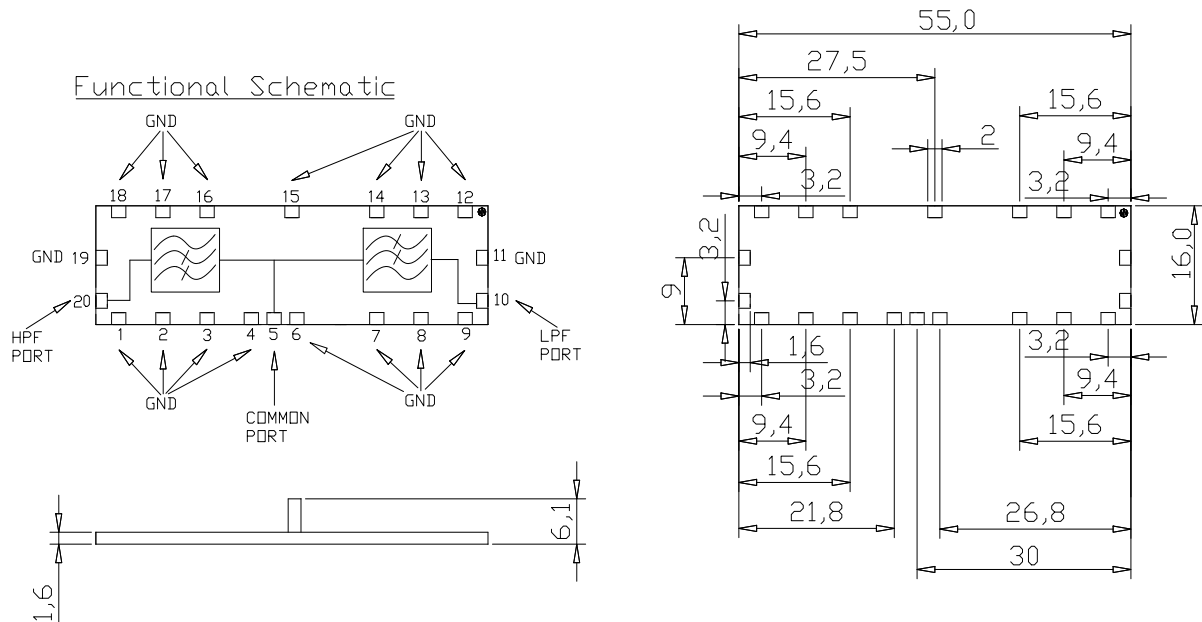


Recommended PCB Configuration



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

MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.