tyco Electronics

**RoHS Compliant**

MACOM

CATV Diplex Filter
5 - 42 / 54 - 900 MHz

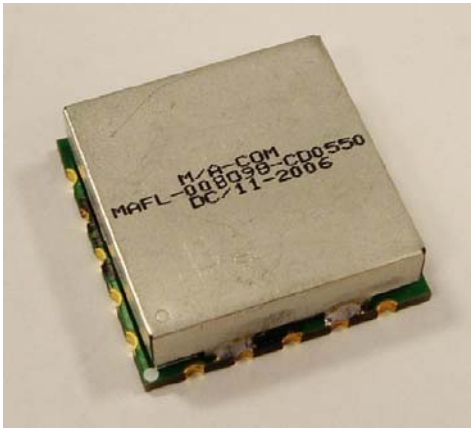
MAFL-008098-CD0550
V1

## Features

- 75 Ohm
- Surface Mount
- RoHS* Compliant
- RoHS version of MAFLES0083
- Technology used in this product is patent pending

## Description

M/A-COM's MAFL-008098-CD0550 is a low cost, non hermetically sealed Diplex Filter unit designed for CATV applications.

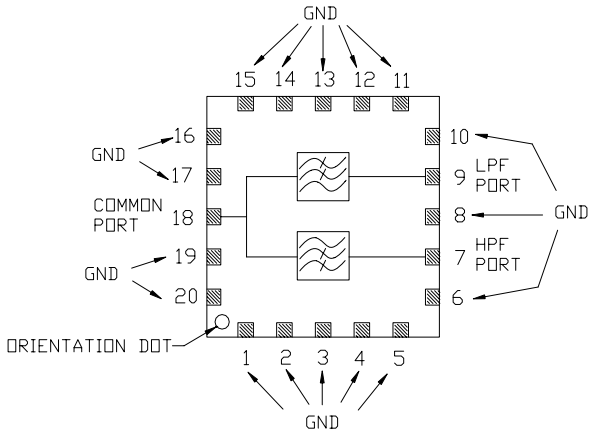



## Absolute Maximum Ratings [1,2]

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

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

## Functional Schematic




## Pin Configuration

| Function | Pin Number |
|---|---|
| Common Port | 18 |
| Low Pass Port | 9 |
| High Pass Port | 7 |
| Ground | 1-6, 8, 10-17, 19, 20 |
| Not connected | - |

## Ordering Information

| Part Number | Package |
|---|---|
| MAFL-008098-CD0550 | 50 Piece Reel |
| MAFL-008098-CD05TB | Customer Test Board |

* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

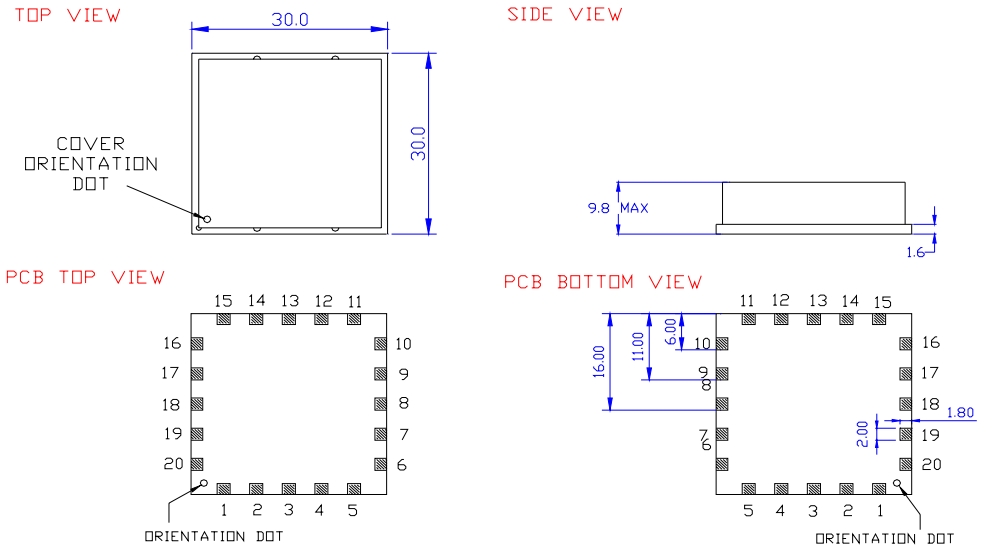





- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

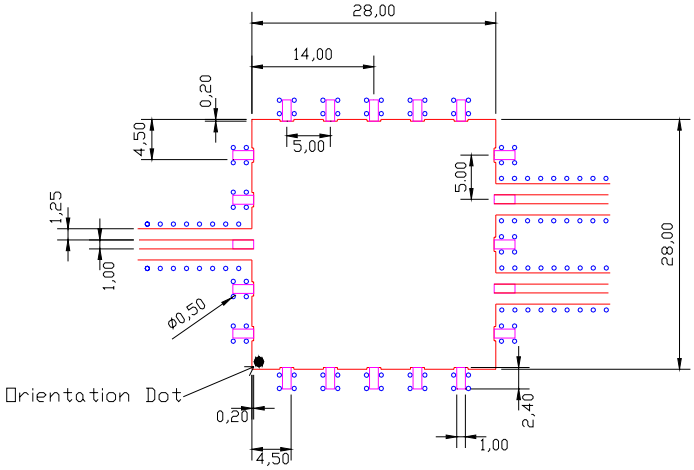
Visit www.macom.com for additional data sheets and product information.

## SM-85 Case Style




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

## Recommended PCB Configuration




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



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

| Parameter | Test Conditions | | Units | Min. | Typ. | Max. |
|---|---|---|---|---|---|---|
| Frequency Range | 5 – 900 | MHz | | | | |
| Low Pass Cutoff | 42 | MHz | MHz | - | - | - |
| Low Pass Reject | 54 | MHz | MHz | - | - | - |
| High Pass Cutoff | 54 | MHz | MHz | - | - | - |
| Insertion Loss | | | | | | |
| Pass Band | 5 – 42 | MHz | dB | - | 0.5 | 1.2 |
| Pass Band | 54 – 900 | MHz | dB | - | 0.5 | 1.1 |
| Insertion Loss Flatness | 5 – 42 | MHz | dB | - | - | 0.5 |
| Isolation | | | | | | |
| Stop Band | 5 – 42 | MHz | dB | 45 | 50 | - |
| Stop Band | 54 – 900 | MHz | dB | 45 | 50 | - |
| Return Loss Input Port | | | | | | |
| | 5 – 42 | MHz | dB | 18 | 21 | - |
| | 54 – 900 | MHz | dB | 18 | 21 | - |
| Return Loss Low Pass Port | 5 – 42 | MHz | dB | 18 | 21 | - |
| Return Loss High Pass Port | 54 – 900 | MHz | dB | 18 | 21 | - |

## Additional Specifications

| Group Delay (nSec) |
|---|
| 38.5 – 42 MHz ≤ 20ns |
| 54 – 57.5 MHz ≤ 20ns |





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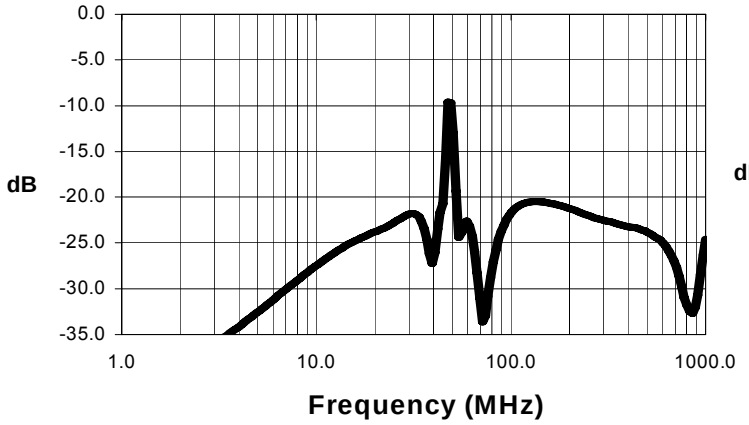
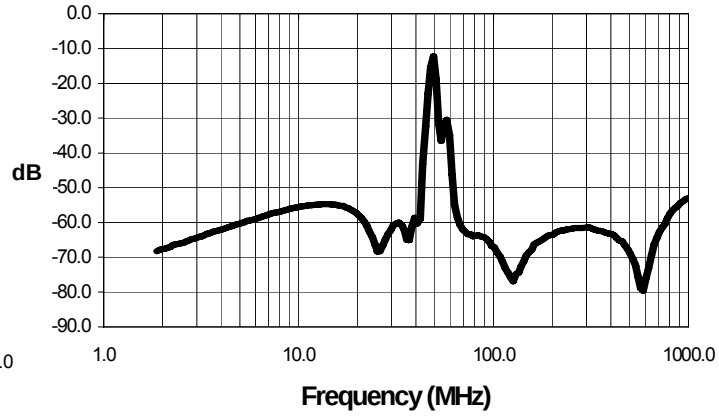
## Typical Performance

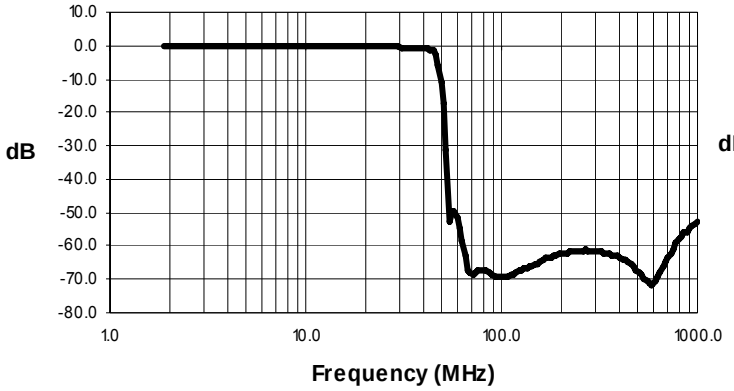
### *Input Return Loss*



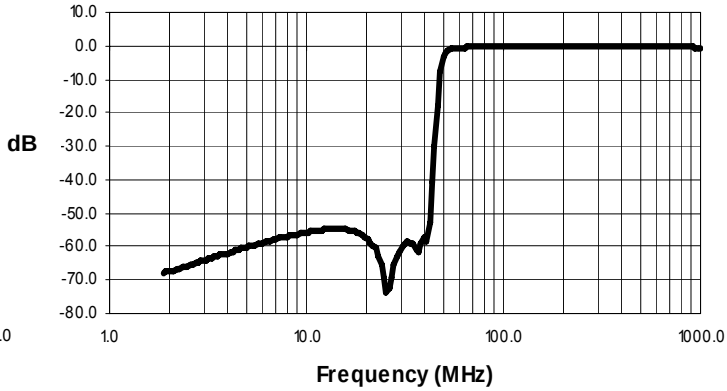

### *Filter Isolation*



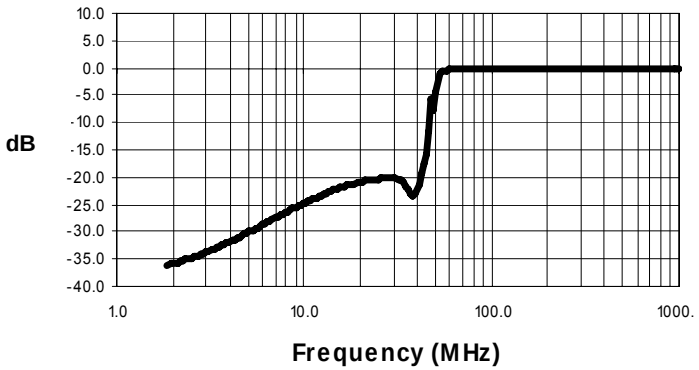

### *Low Pass Filter Insertion Loss*



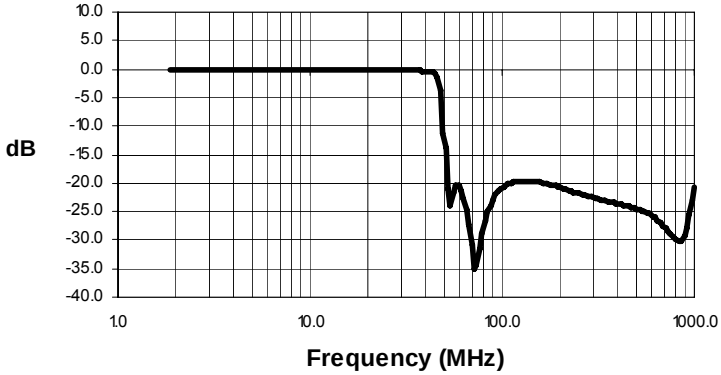

### *High Pass Filter Insertion Loss*




### Low Pass Filter Output Return Loss




### High Pass Filter Output Return Loss









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