

Electronics

CATV Diplex Filter 5 - 65 / 94 - 860MHz

Features

- 75 Ohm
- SMT unit
- Low Cost, Low Profile
- RoHS* Compliant

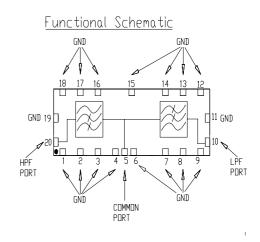
Description

M/A-COM's MAFLCT0083 is a low cost, low profile diplex filter designed for use in CATV set-topbox and cable modem applications. Technology used in this design is patent pending.

Functional Schematic

RoHS

Compliant





Pin Configuration

| Function | Pin Number | | |
|----------------|-----------------|--|--|
| Common Port | 5 | | |
| Low Pass Port | 10 | | |
| High Pass Port | 20 | | |
| Ground | 1-4, 6-9, 11-19 | | |
| Not connected | - | | |

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.

 M/A-COM does not recommend sustained operation near these survivability limits.

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

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1

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- Europe Tel: 44.1908.574.200 / Fax: 44.1908.574.300
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MAFLCT0083 V1P



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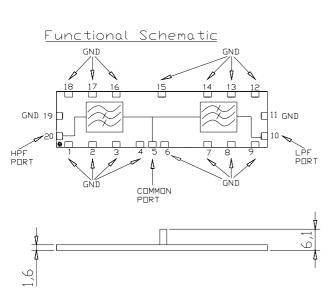


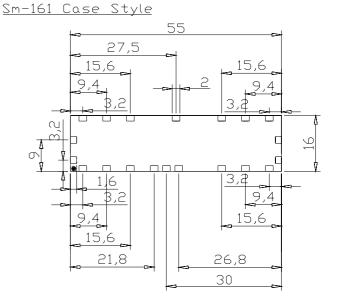
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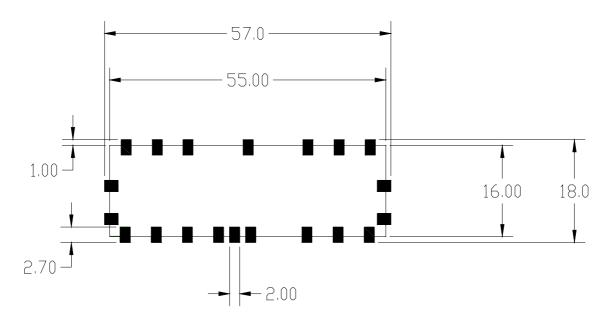
SM-161 Case Style





Dimensions in mm. Tolerance: .x \pm 0.1, .xx \pm 0.05

Recommended PCB Configuration



Dimensions in mm. Tolerance: .x \pm 0.1, .xx \pm 0.05

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

| Parameter | Test Conditions | Units | Min. | Тур. | Max. |
|---|-----------------|----------------|-------------------|-------------------|--------------|
| Frequency Range: 5-860 Low-pass range 5-65 High-pass range 94-860 | | MHz | | | |
| Insertion Loss: 5-65 MHz 94-860 MHz | | dB dB | | -0.92 -0.92 | -1.1 -1.1 |
| Isolation: 5-65 MHz 94-195 MHz 195-860 MHz | | dB dB dB | -55 -55 -50 | -59 -60 -59 | |
| Input Port Return Loss: 5-65 MHz 94-860 MHz | | dB dB | -12 -12 | -16 -16 | |
| Low-Pass Port Return Loss: 5-65 MHz | | dB | -12 | -16 | |
| High-Pass Port return Loss: 94-860 MHz | | dB | -12 | -16 | |
| Input Port Voltage Transient | | V | | | 200 |

| Additional Specifications | Group Delay (nSec) | | |
|---------------------------|--------------------|-----|--|
| | ТҮР | MAX | |
| 63.5 – 65 MHz | 2.5ns | 7ns | |
| 94 – 97.5 MHz | 3.5ns | 7ns | |

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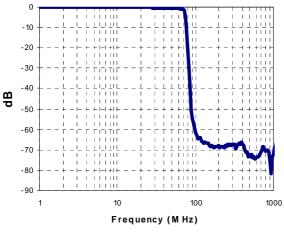


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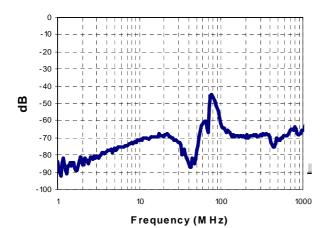
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Typical Performance Curves

Low Pass Filter Insertion loss

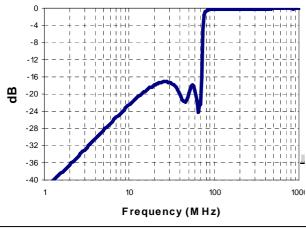






Low Pass Filter Return Loss

4

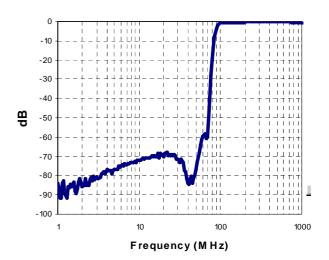


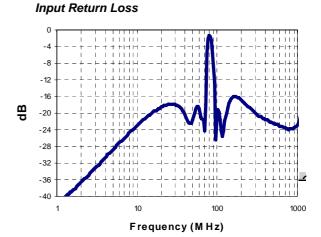
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High Pass Filter Insertion loss

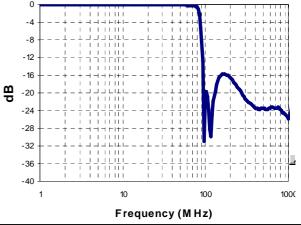
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