

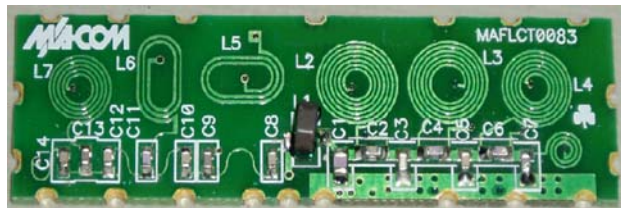
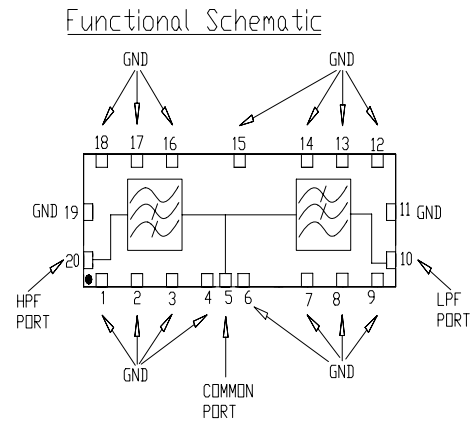
**Features**

- 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-top box and cable modem applications. Technology used in this design is patent pending.

**Functional Schematic**



**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** <sup>1,2</sup>

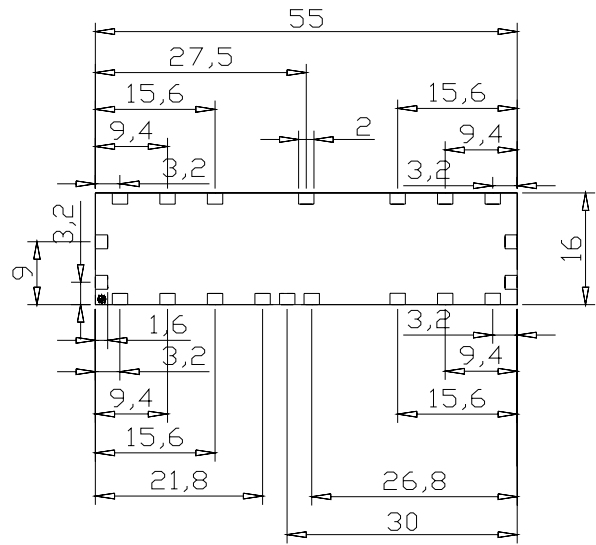
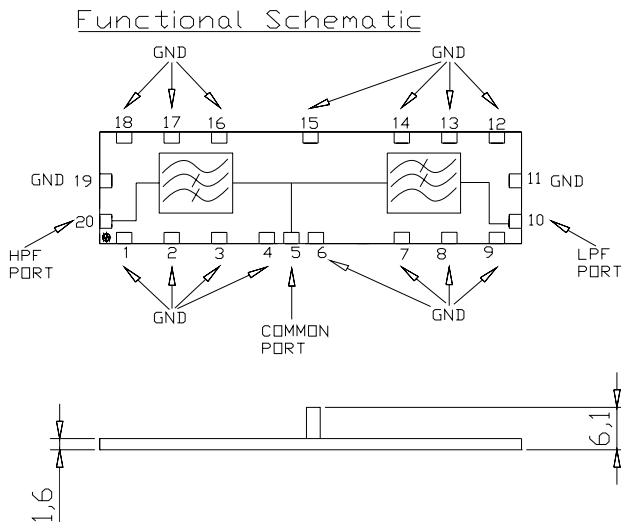
Parameter	Absolute Maximum
RF Power	250mW
DC Current	30mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C

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.

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

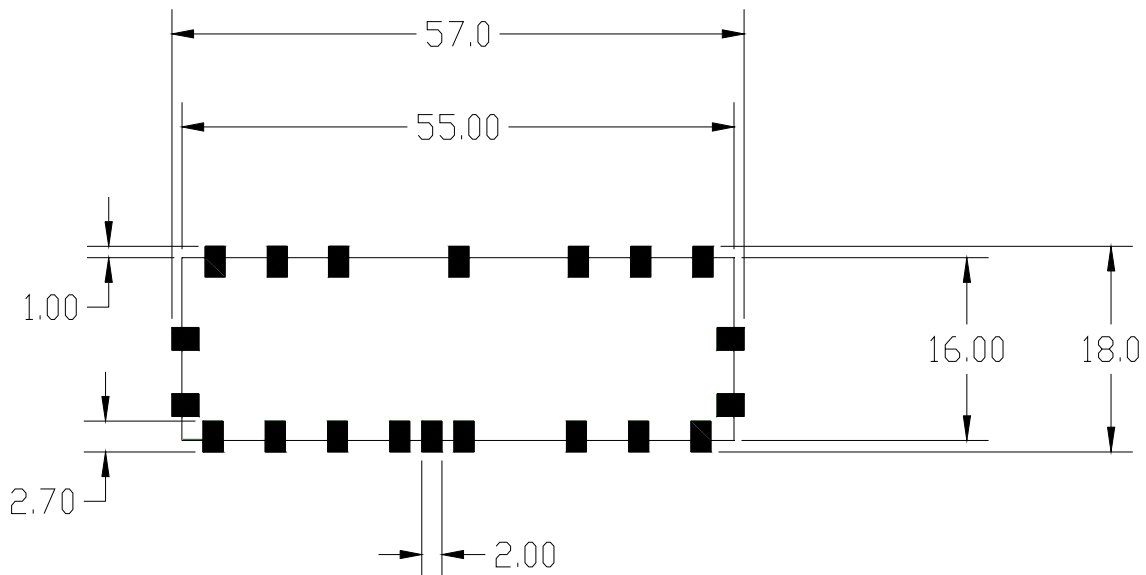
**SM-161 Case Style**

Sm-161 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

**CATV Diplex Filter**  
5 - 65 / 94 - 860MHz

**MAFLCT0083**  
**V1P**

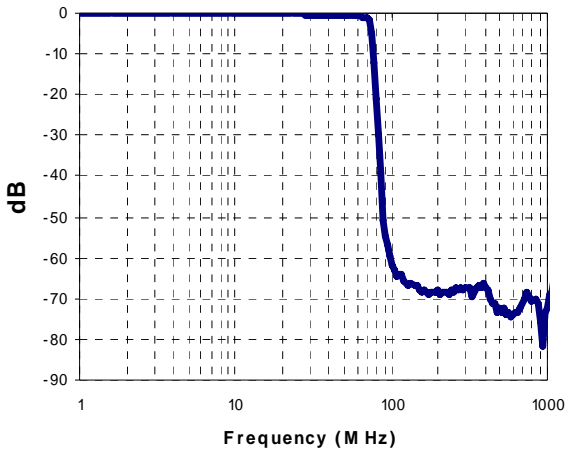
**Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$**

Parameter	Test Conditions	Units	Min.	Typ.	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

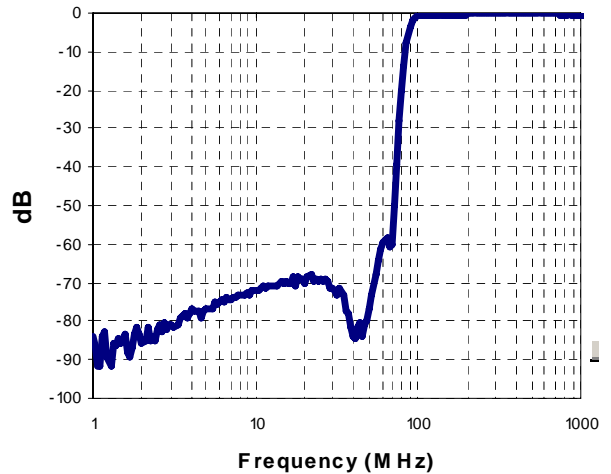
Additional Specifications	Group Delay (nSec)	
	TYP	MAX
63.5 – 65 MHz	2.5ns	7ns
94 – 97.5 MHz	3.5ns	7ns

**Typical Performance Curves**

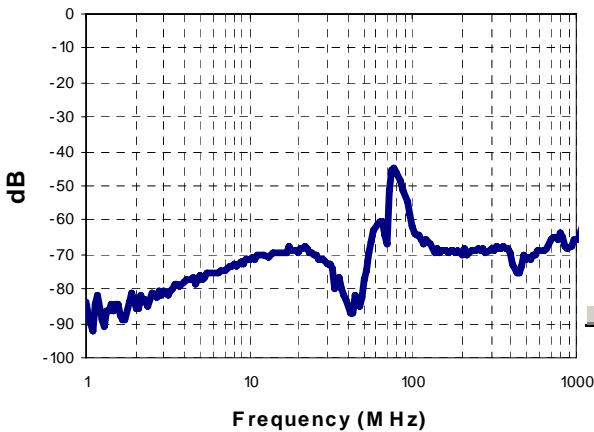
*Low Pass Filter Insertion loss*



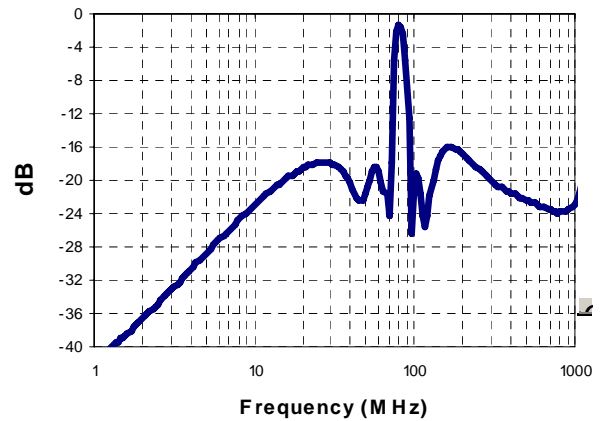
*High Pass Filter Insertion loss*



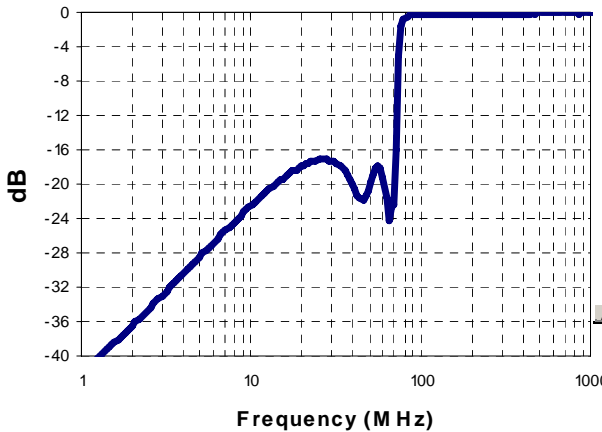
*Filter Isolation*



*Input Return Loss*



*Low Pass Filter Return Loss*



*High Pass Filter Return Loss*

