

Features

- Small Size and Low Profile
- Superior Repeatability
- Typical Insertion Loss 0.5 dB
- Typical Rejection 20 dB
- 2 Watt Power Handling
- Lead-Free SO-8 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free “Green” Mold Compound
- 260°C Reflow Compatible
- RoHS* Compliant Version of FL05-0001-G

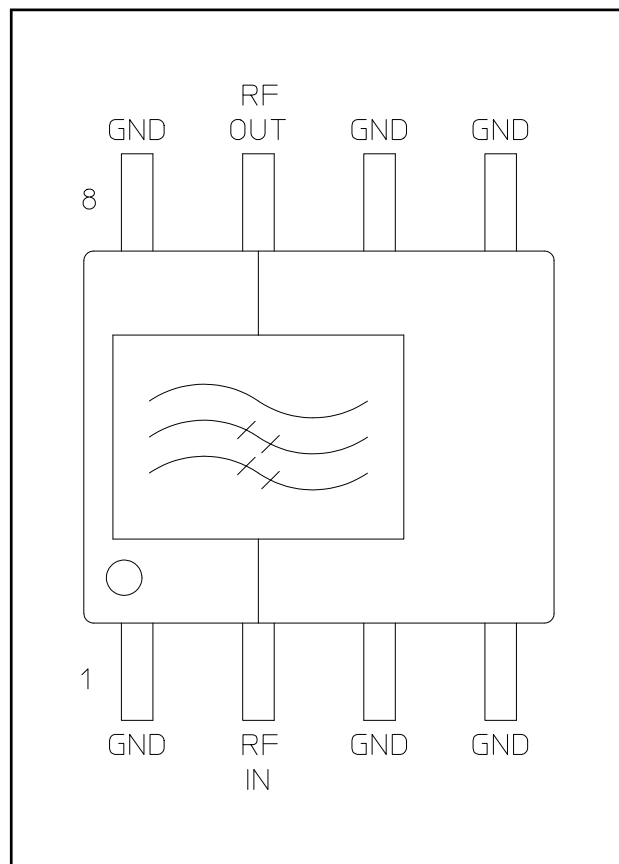
Description

M/A-COM's MAFLCC0004 is an IC-based monolithic high pass filter in a low cost SOIC-8 plastic package. This filter is ideally suited for applications where small size, low cost, and low loss are required.

Typical applications include base station switching networks and portable phones where size and PCB real estate are at a premium. Available in tape and reel.

The MAFLCC0004 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Functional Block Diagram



Ordering Information

Part Number	Package
MAFLCC0004	Bulk Packaging
MAFLCC0004-TR	1000 piece reel
MAFLCC0004-TB	Sample Test Board

Note: Reference Application Note M513 for reel size information.

Pin Configuration

Pin No.	Function	Pin No.	Function
1	GND	5	GND
2	RF IN	6	GND
3	GND	7	RF OUT
4	GND	8	GND

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

Low Cost SMT High Pass Filter 800 – 3000 MHz

Rev. V3

Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 50\Omega$

Parameter	Units	Min	Typ	Max
Insertion Loss: 800 – 850 MHz	dB	—	—	1.2
850 – 3000 MHz	dB	—	0.5	1.0
VSWR: 800 – 3000 MHz	—	—	1.5:1	1.8:1
Rejection: DC-400 MHz	dB	15	20	—

Absolute Maximum Ratings^{1,2}

Parameter	Absolute Maximum
Input Power	2 W CW
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°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.

Handling Procedures

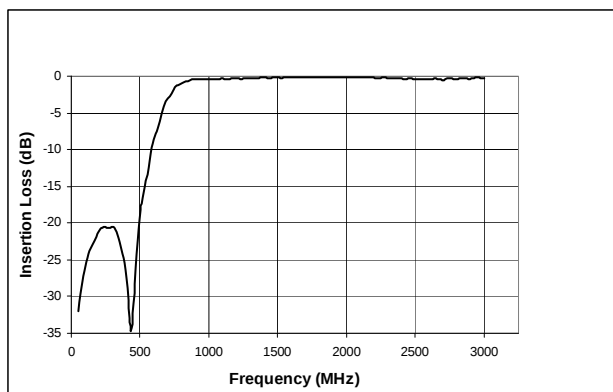
Please observe the following precautions to avoid damage:

Static Sensitivity

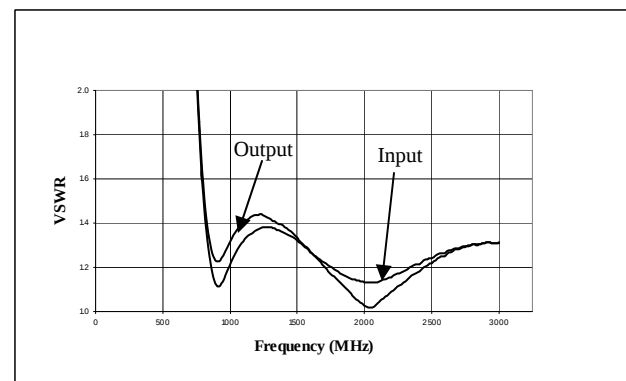
GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Typical Performance Curves @ 25°C

Insertion Loss vs. Frequency



VSWR vs. Frequency

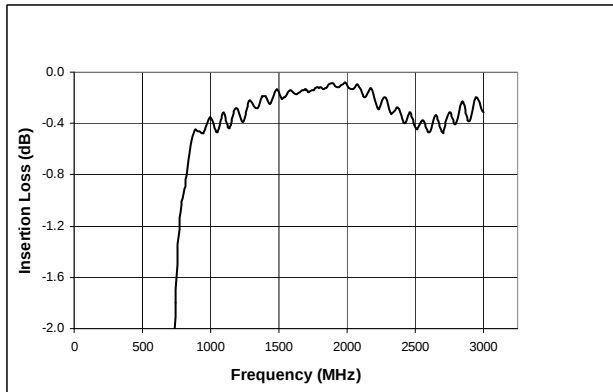


Low Cost SMT High Pass Filter 800 – 3000 MHz

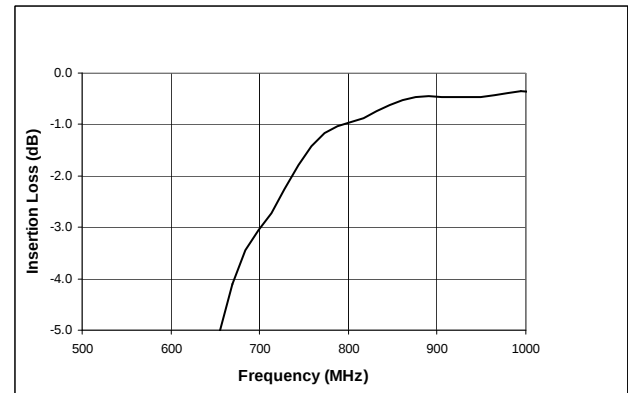
Rev. V3

Typical Performance Curves @ 25°C

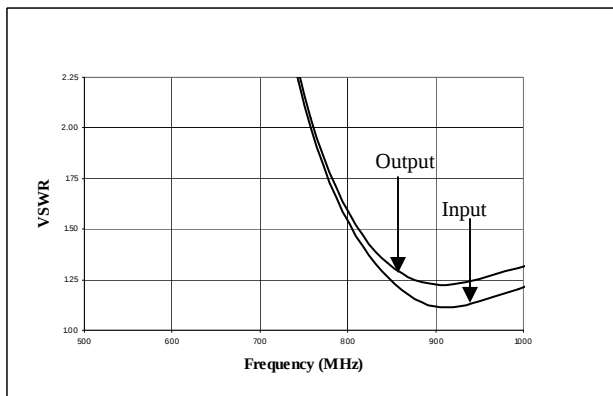
Passband Insertion Loss vs. Frequency



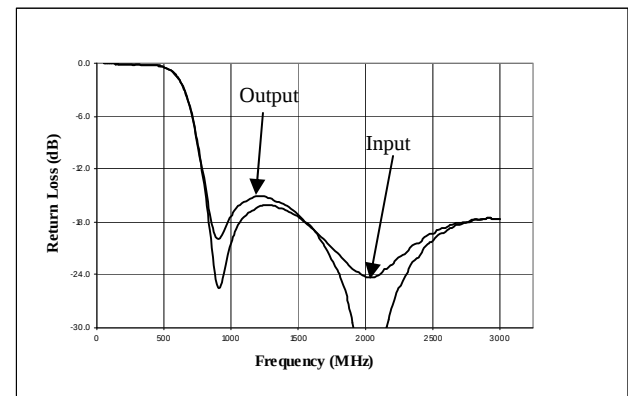
Insertion Loss at Edge of Passband vs. Frequency



VSWR at Edge of Passband vs. Frequency



Return Loss at Edge of Passband vs. Frequency



Rev. V3

Technical drawing of a 4-pin D-subminiature connector. The drawing includes a top view, a side view, and a cross-section view (SECTION B-B).

Top View:

- Part Number: XXXXXXXX
- Date/Lot Code: YYWWXXXX
- Company Logo: MACOM
- Orientation Mark: A circle with a dot.
- Pin 1: Indicated by a circle with a dot.
- Pin 8: Indicated by a circle with a dot.
- Dimensions:
 - Overall Width: $\frac{.1534}{3.90}$ inches / $\frac{.2364}{6.00}$ inches
 - Pin Pitch: $\frac{.0201}{.0121}$ inches / $\frac{.51}{0.31}$ mm
 - Pin Diameter: $\frac{.0492}{1.25}$ inches (MIN.) / $\frac{.0689}{1.75}$ inches (MAX.)
 - Pin Spacing: $\frac{.1928}{4.90}$ inches
 - Pin Length: $\frac{.0500}{1.27}$ inches
 - Pin Base Thickness: $\frac{.0098}{.0039}$ inches / $\frac{0.25}{0.10}$ mm

Side View:

- Dimensions:
 - Overall Height: $\frac{.0500}{.0157}$ inches / $\frac{1.27}{0.40}$ mm
 - Pin Diameter: $\frac{.0200}{.0122}$ inches / $\frac{0.51}{0.31}$ mm

Cross Section View (SECTION B-B):

- Dimensions:
 - Overall Width: $\frac{.0089}{.0065}$ inches / $\frac{0.23}{0.17}$ mm
 - Pin Diameter: $\frac{.0189}{.0111}$ inches / $\frac{0.48}{0.28}$ mm
 - Pin Base Thickness: $\frac{.0098}{.0067}$ inches / $\frac{0.25}{0.17}$ mm
- Labels: WITH PLATING, BASE METAL

SECTION B-B
SCALE: 75/1

1. REFERENCE JEDEC MS-012-AA, FOR ADDITIONAL DIMENSIONAL AND TOLERANCE INFORMATION.
2. REFERENCE M538 APPLICATION NOTE FOR FOOTPRINT INFORMATION.
3. ALL DIMENSIONS SHOWN AS INCHES/MM.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.