

# MABA-009109-CF1A40

1:1 Flux Coupled Balun Transformer  
5 - 120 MHz

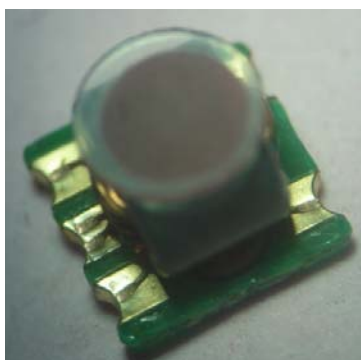
M/A-COM Products  
Part Status: Released Rev V2

## Features

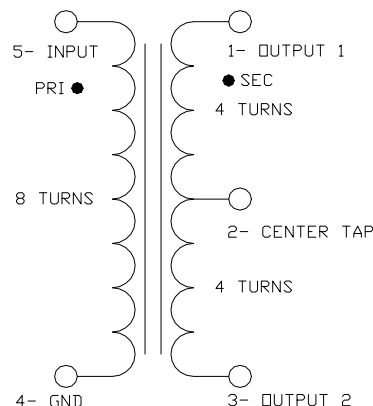
- Surface Mount
- 1:1 Impedance
- 75 Ohm
- RoHS Compliant

## Description

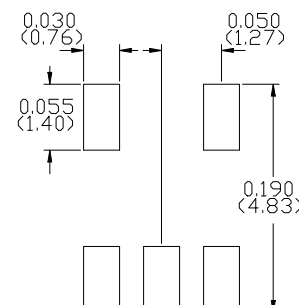
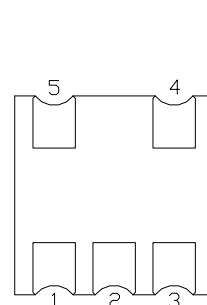
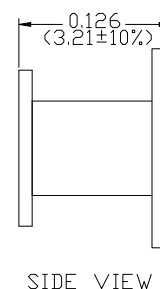
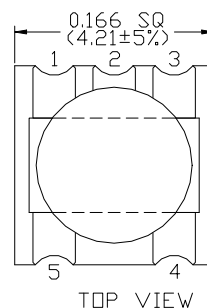
M/A-COM's MABA-009109-CF1A40 is a 1:1 RF flux coupled Transformer in a low cost surface mount package. Ideally suited for high volume CATV application.



## Schematic



## Case Style SM-164A



Dimensions are inches (millimeters)  $\pm 0.015$  (0.38) unless otherwise specified.

## Pin Configuration

| Function                 | Pin Number |
|--------------------------|------------|
| Secondary Dot (Output 1) | 1          |
| Secondary Centre Tap     | 2          |
| Secondary (Output 2)     | 3          |
| Primary (Ground)         | 4          |
| Primary Dot (Input)      | 5          |

## Ordering Information

| Part Number        | Package              |
|--------------------|----------------------|
| MABA-009109-CF1A40 | 2000 pieces per reel |
| MABA-009109-CF1ATB | Customer test board  |

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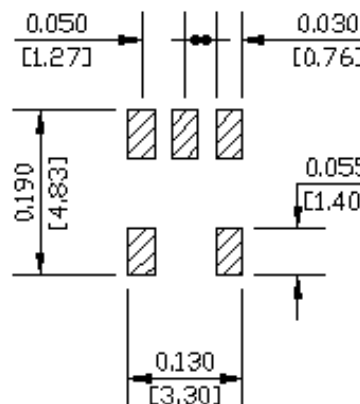
### Electrical Specifications: $T_A = 25^\circ\text{C}$ , 0dBm, $Z_0 = 75\Omega$

| Parameter                         | Test Conditions | Units    | Min. | Typ.       | Max.       |
|-----------------------------------|-----------------|----------|------|------------|------------|
| Frequency Range                   | 5 – 120 MHz     |          |      |            |            |
| Insertion Loss 1 (Pin 5 to Pin 1) | 5 – 75 MHz      | dB       | –    | 0.1        | 0.4        |
|                                   | 75 – 120 MHz    | dB       | –    | 0.3        | 0.6        |
| Insertion Loss 2 (Pin 5 to Pin 3) | 5 – 75 MHz      | dB       | –    | 0.2        | 0.4        |
|                                   | 75 – 120 MHz    | dB       | –    | 0.4        | 0.5        |
| Amplitude Un-Balance              | 5 – 75 MHz      | dB       | –    | $\pm 0.03$ | $\pm 0.17$ |
|                                   | 75 – 120 MHz    | dB       | –    | $\pm 0.12$ | $\pm 0.38$ |
| Phase Un-Balance                  | 5 – 75 MHz      | $^\circ$ | –    | $\pm 0.05$ | $\pm 2.0$  |
|                                   | 75 – 120 MHz    | $^\circ$ | –    | $\pm 0.10$ | $\pm 3.0$  |
| Input Return Loss (Pin 5)         | 5 – 75 MHz      | dB       | 20   | 28         | –          |
|                                   | 75 – 120 MHz    | dB       | 15   | 19         | –          |

### Absolute Maximum Ratings

| Parameter             | Absolute Maximum                            |
|-----------------------|---------------------------------------------|
| RF Power              | 250mW                                       |
| DC Current            | 30mA                                        |
| Operating Temperature | $-40^\circ\text{C}$ to $+100^\circ\text{C}$ |
| Storage Temperature   | $-40^\circ\text{C}$ to $+100^\circ\text{C}$ |

### Recommended PCB Configuration

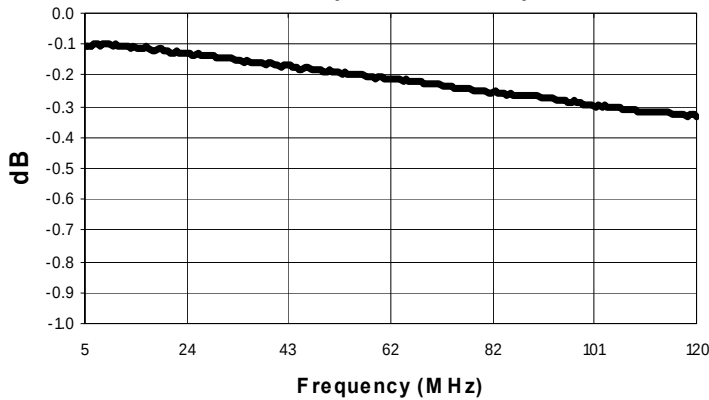


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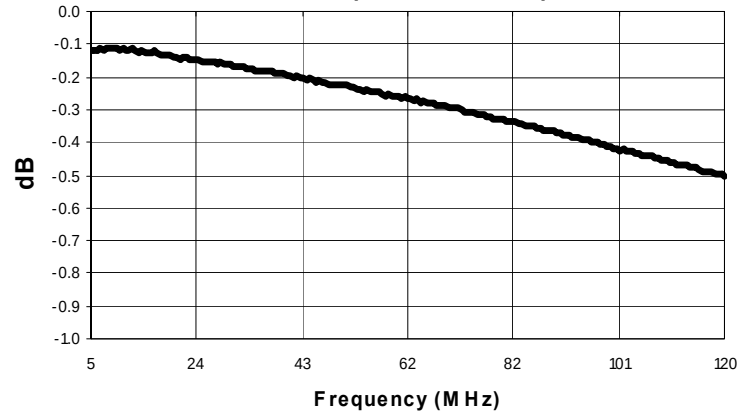
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Typical Performance:  $T_A = 25^\circ\text{C}$ , 0dBm,  $Z_0 = 75\Omega$

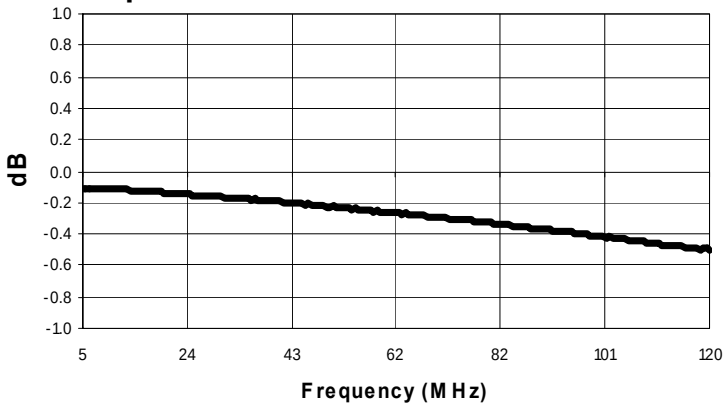
Insertion Loss 1 (Pin 5 - Pin 1)



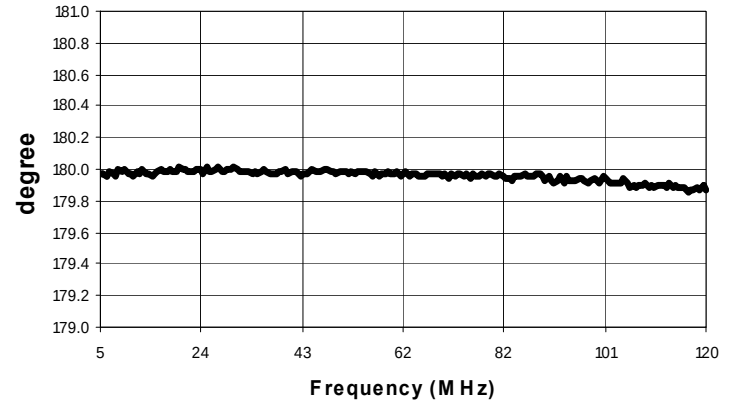
Insertion Loss 2 (Pin 5 - Pin 3)



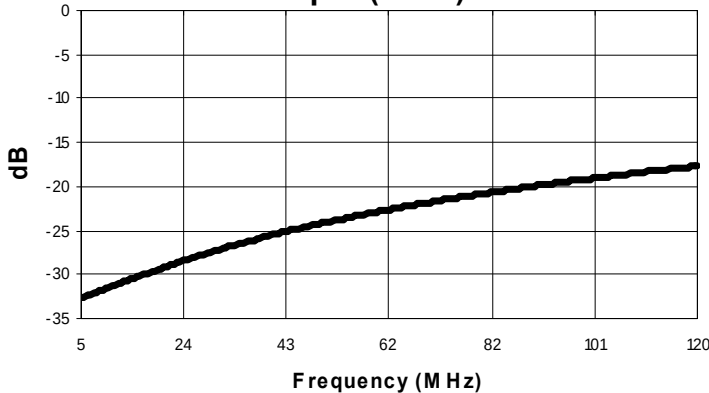
Amplitude Balance



Phase Balance



Return Loss: Input (Pin 5)



**ADVANCED:** Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

**PRELIMINARY:** Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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