

# MABA-009852-CF1A40



1:1 Flux coupled Balun Transformer,  
5 - 120MHz

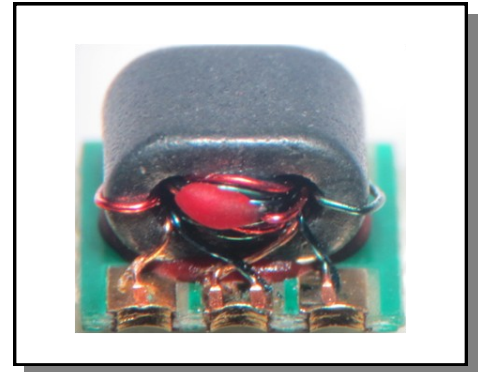
Rev. V5

## Features

- Surface Mount
- 1:1 Impedance
- 75 Ohm
- RoHS Compliant, Pb free.

## Description

M/A-COM's MABA-009852-CF1A40 is a 1:1 RF flux coupled Transformer in a low cost surface mount package. Ideally suited for high volume CATV application.



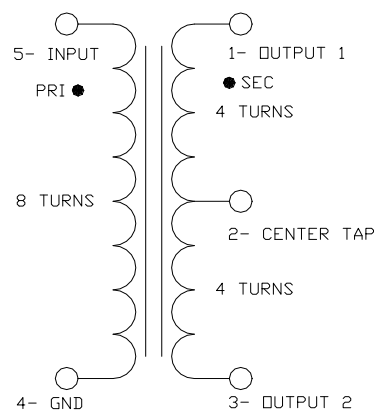
**Electrical Specifications:**  $T_A = 25^\circ\text{C}$ , 0dBm,  $Z_0 = 75\Omega$

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 – 20 MHz	dB	25	30	–
	20 – 75 MHz	dB	20	28	–
	75 – 120 MHz	dB	15	19	–

## 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

## Schematic



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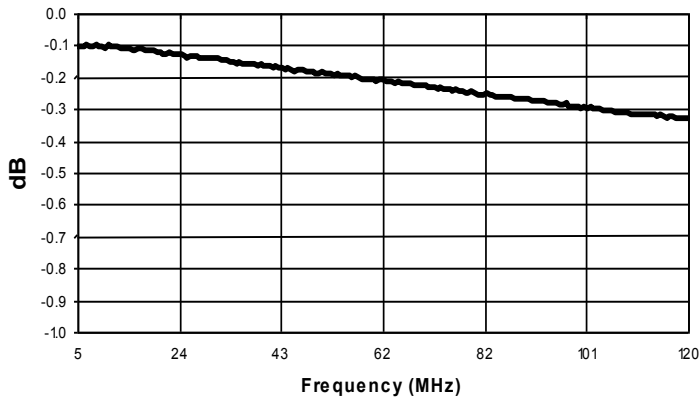


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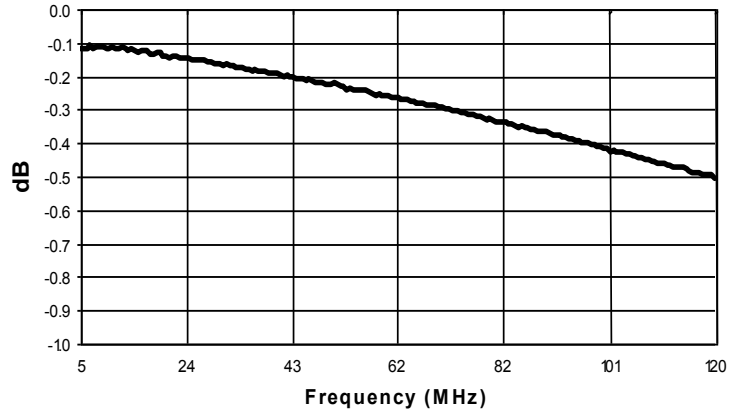
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Typical Performance:  $T_A = 25^\circ\text{C}$ , 0dBm,  $Z_0 = 75\Omega$

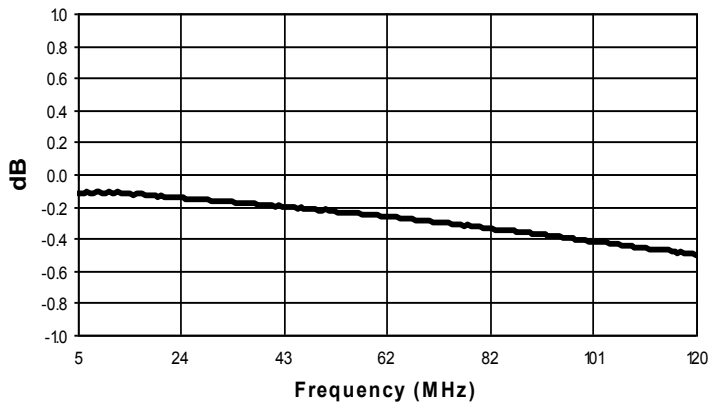
Insertion Loss 1: Pin 5 – Pin1



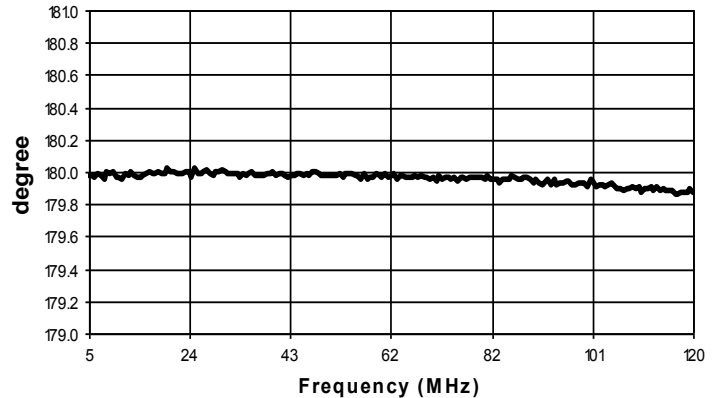
Insertion Loss 2: Pin 5-Pin 3



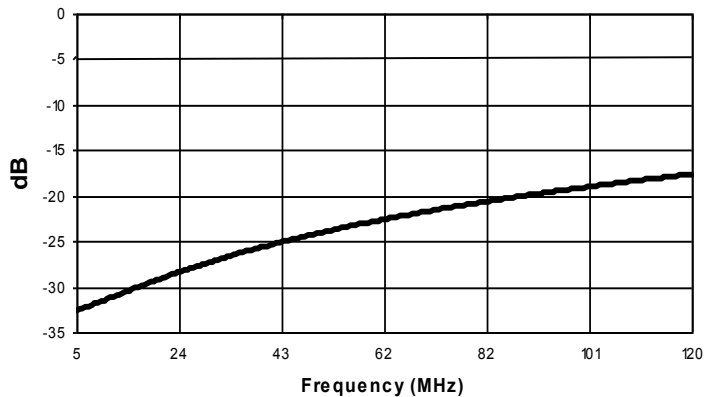
Amplitude Balance:



Phase Balance:



Input Return Loss: Pin 5



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

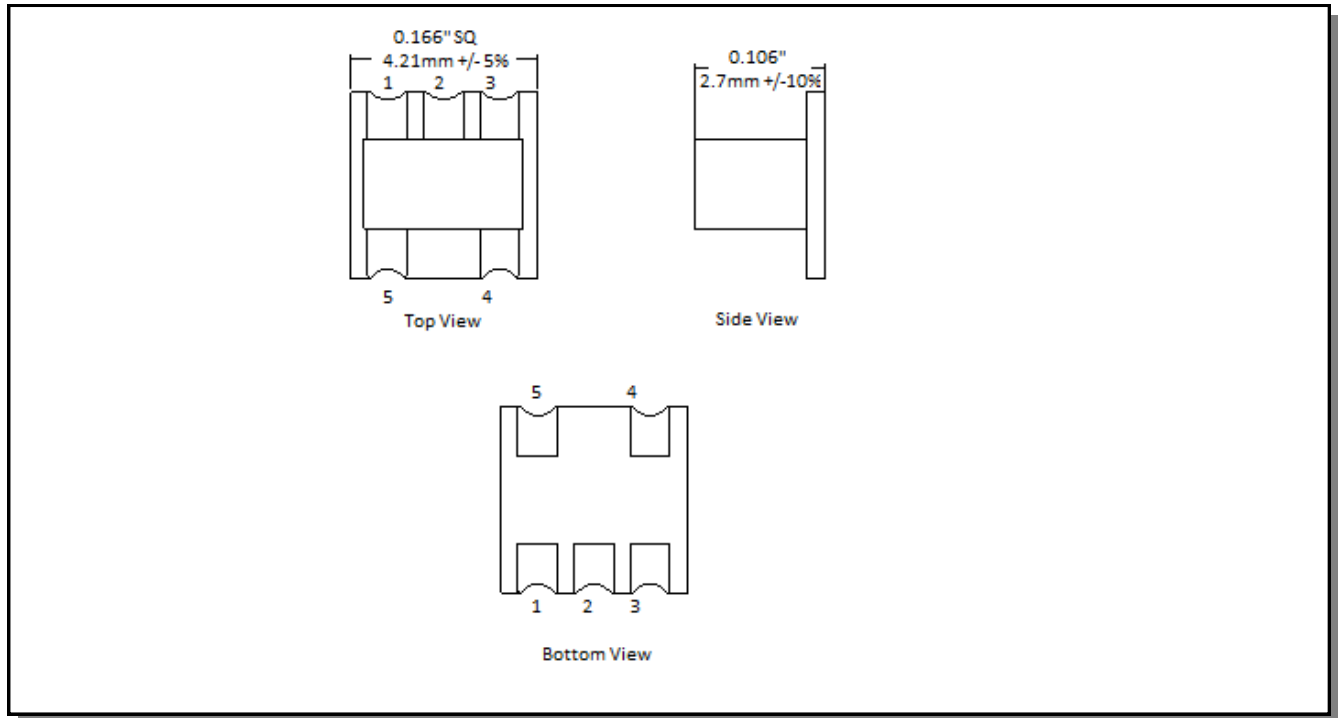
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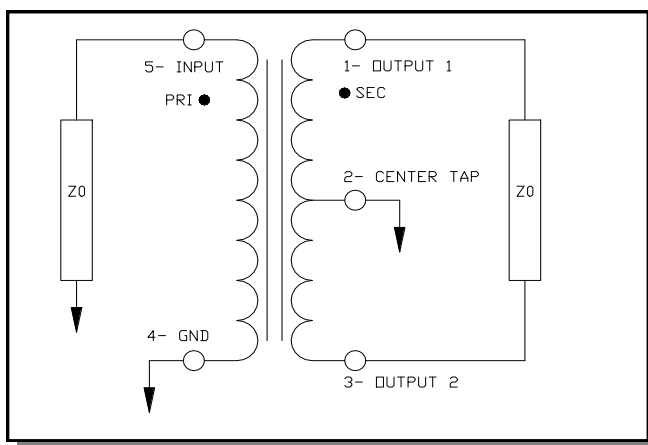
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## Outline Drawing

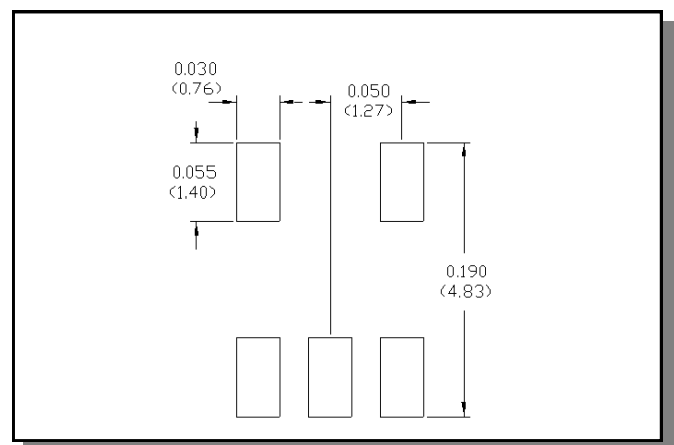


1. Dimensions are in inches (mm)
2. Tolerance:  $\pm 0.015''$  (0.38mm) unless otherwise noted.
3. Model number and lot code printed on reel.
4. Plating finish: ENIG on both sides, 0.05 to 0.1  $\mu\text{m}$  gold over 3 to 6  $\mu\text{m}$  nickel

## Application Circuit



## Recommended Footprint



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

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## Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel size	mm	330
Tape width (W)	mm	12.0
Pitch (P <sub>1</sub> )	mm	8
A <sub>0</sub>	mm	4.5
B <sub>0</sub>	mm	4.5
K <sub>0</sub>	mm	2.73
Orientation	-	F31
Reference Application note ANI-019 for orientation		

## Ordering Information

Part Number	Description
MABA -009852-CF1A40	Tape & Reel
MABA-009852-CF1ATB	Customer Evaluation Board

## Recommended Maximum Ratings

Parameter	Value
RF Power	250mW
DC Current	30mA
Operating Temperature	-40°C to +100°C
Storage Temperature	-40°C to +100°C