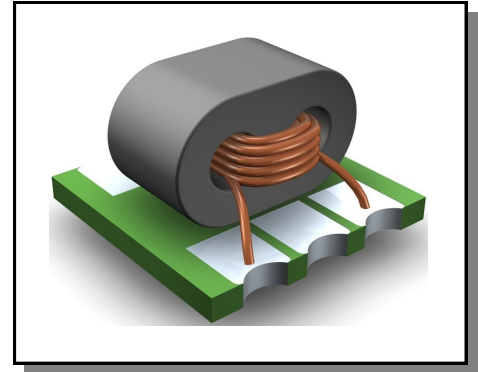


## 1:1.78 Step up flux coupled Transformer 5 MHz - 200 MHz

Rev. V3

### Features

- ◆ 1:1.78 step up flux coupled transformer
- ◆ Surface mount
- ◆ Separate secondary coils allowing separate bias
- ◆ feed into balanced amplifiers
- ◆ 260°C reflow compatible
- ◆ RoHS Compliant and Pb free
- ◆ Excellent temperature stability
- ◆ Can be used on 50Ω and 75Ω systems
- ◆ Suitable for all CATV, Broadband and FTTx applications.



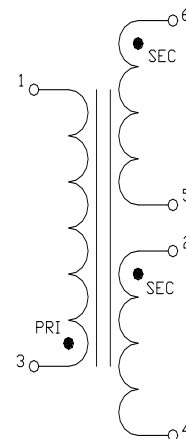
**Electrical Specifications:**  $Z_0 = 75\Omega$ ,  $T_A = 25^\circ\text{C}$ ,  $P_{in} = 0\text{dBm}$

Parameter	Conditions	Units	Min	Typ	Max
Insertion Loss	5 - 80 MHz	dB	-	0.35	0.5
	80-200 MHz	dB	-	0.48	1.0
Amplitude Balance	5 - 100 MHz	dB	-	0.02	$\pm 0.2$
	100 - 200 MHz	dB	-	0.14	$\pm 0.5$
Phase Balance	5 - 50 MHz	$^\circ$	-	0.50	$\pm 3$
	50 - 100 MHz	$^\circ$	-	1.95	$\pm 5$
	100 - 200 MHz	$^\circ$	-	4.15	$\pm 10$
Input Return Loss	5 - 100 MHz	dB	22	25.9	-
	100 - 200 MHz	dB	16	18.4	-

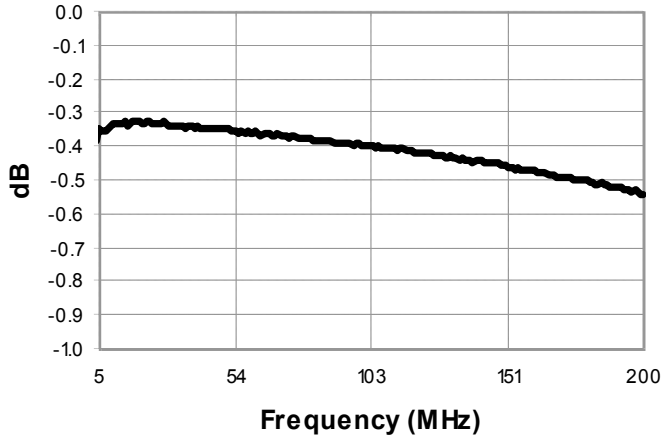
### Pin Configuration

Pin No.	Function
1	Primary (ground)
2	Secondary ground 2
3	Primary Dot (input)
4	Secondary (output 2)
5	Secondary ground 1
6	Secondary Dot (output 1)

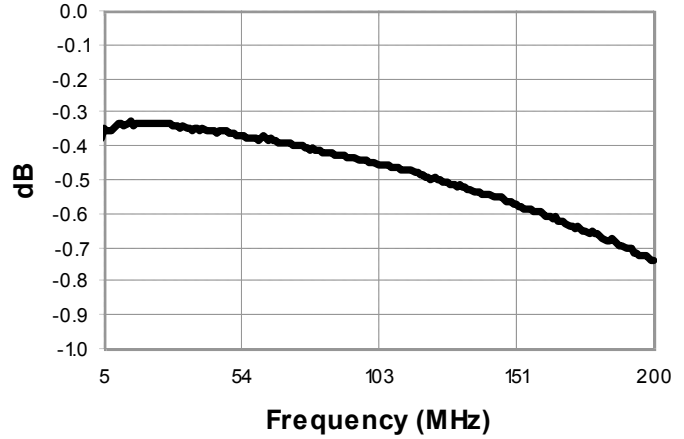
### Schematic



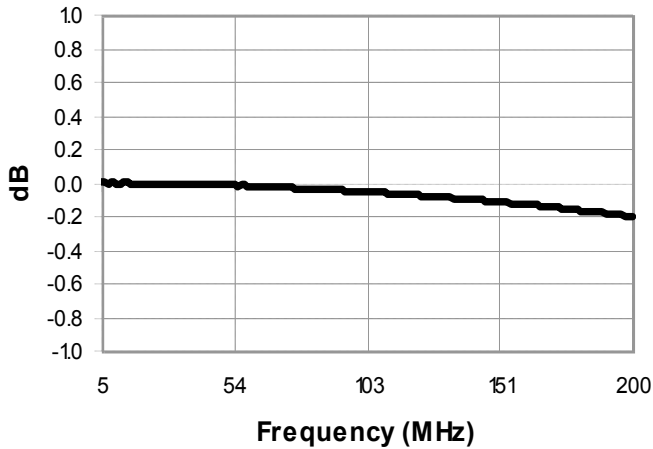
Insertion Loss: (pin3 - pin6)



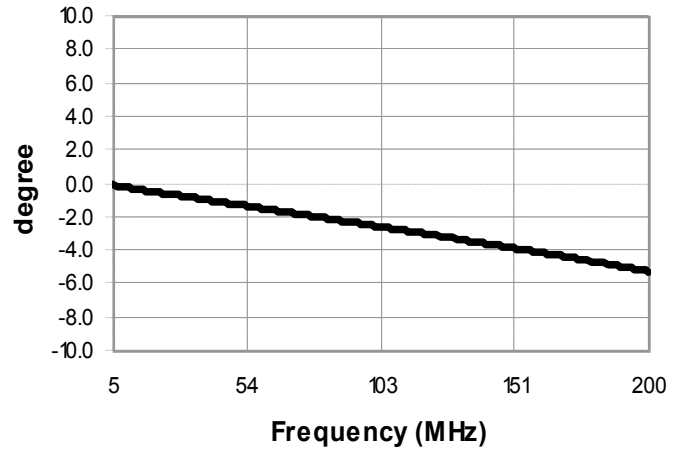
Insertion Loss: (pin3 - pin4)



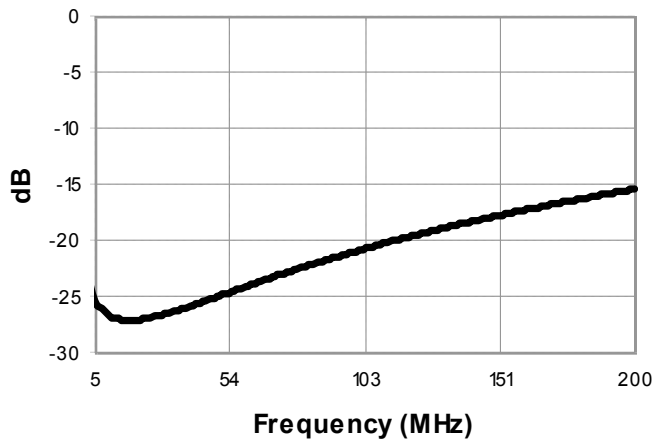
Amplitude Balance



Phase Balance



Return Loss: Input (pin3)



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

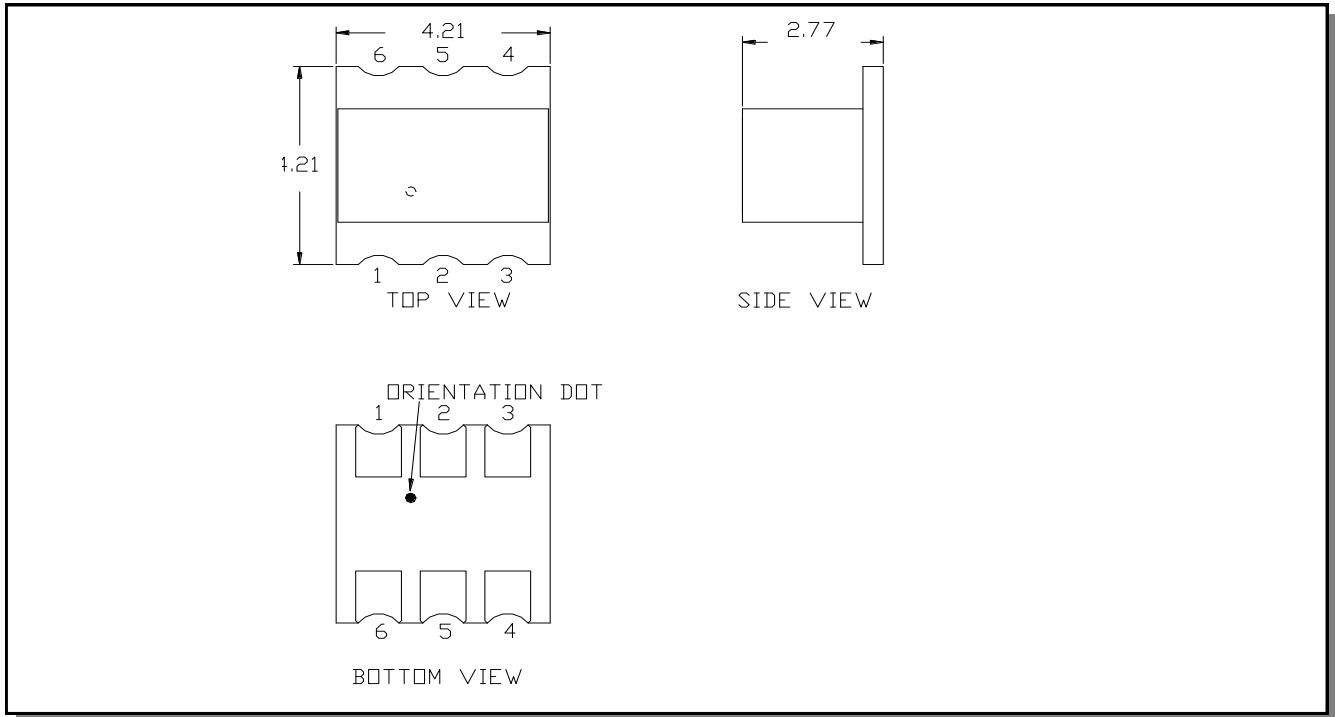
M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit [www.macom.com](http://www.macom.com) for additional data sheets and product information.

For further information and support please visit:  
<https://www.macom.com/support>

## 1:1.78 Step up flux coupled Transformer 5 MHz - 200 MHz

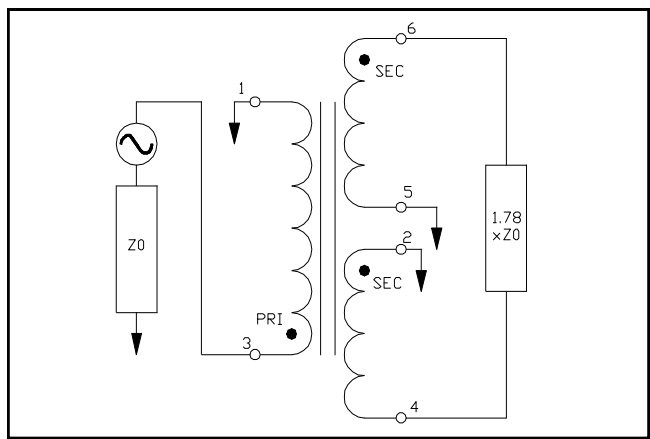
Rev. V3

### Outline Drawing

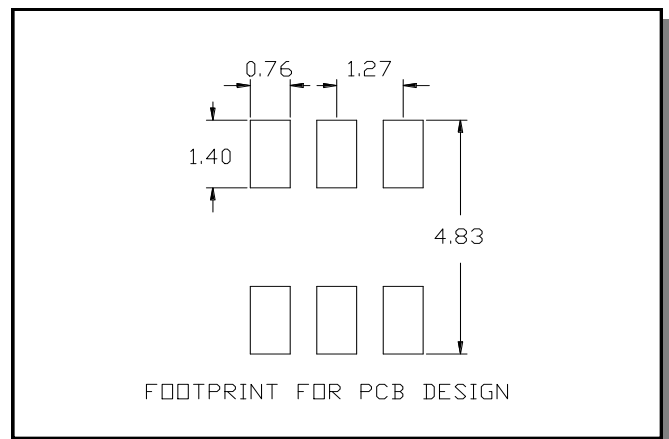


1. Dimensions in mm.
2. Tolerance:  $\pm 0.2\text{mm}$  unless otherwise noted.
3. Model number and lot code printed on reel.
4. Plating finish: Electroless nickel immersion Gold 3 - 5 microns nickel 0.05 - 0.15 microns gold.

### Application Circuit



### Recommended Footprint



## 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	8.0
A <sub>0</sub>	mm	4.55
B <sub>0</sub>	mm	4.75
K <sub>0</sub>	mm	3.1
Orientation	-	F6
Reference Application note ANI-019 for orientation		

## Ordering Information

Part Number	Description
MABA-008482-CF1A40	Tape & Reel
MABA-008482-CF1ATB	Customer Evaluation Board

## Recommended Maximum Ratings

Parameter	Units	Min	Max
Input Power	mW		250
DC Current	mA		30
Operating Temperature Range	°C	-40	+85
Storage Temperature Range	°C	-55	+125

Temperature data available on request

## ECO History

Rev	Date	Description	ECO
V1	8 Nov 2006	New release	20062512
V2	24 Oct 2007	Updated format, changed start freq to 5MHz	20071943
V3	2 Nov 2010	Increased operating temperature to +85 deg C	20101799

M/A-COM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with M/A-COM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.

5

---

M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.  
Visit [www.macom.com](http://www.macom.com) for additional data sheets and product information.