MABA-011085

1:1 Transmission Line Balun with Tertiary Winding
5 - 1225 MHz

Rev. V4

Features

- Surface Mount
- 1:1 Impedance
- Available on Tape and Reel
- RoHS Compliant and Pb Free
- 260°C Reflow Compatible
- Excellent Temperature Stability

Description

The MABA-011085 is a 1:1 transmission line balun with tertiary winding in a low cost surface mount package.

Ideally suited for all CATV Broadband and FTTx applications.

Functional Schematic

Pin Configuration

Pin #	Function	Pin #	Function
1	Primary (input)	3	Secondary (output 1)
2	Secondary (output 2)	4	Primary (ground)

Electrical Specifications: Freq. = 5 - 1225 MHz, T_A = 25°C, Z_0 = 75 Ω, P_{IN} = 0 dBm

Parameter	Test Conditions Frequency (MHz)	Units	Min.	Typ.	Max.
Impedance Ratio	—	—	—	1:1	—
Insertion Loss 1 (Pin 1 - Pin 3)	5 - 300 300 - 1000 1000 - 1225	dB	—	0.2 0.4 0.7	0.4 0.8 1.0
Insertion Loss 2 (Pin 1 - Pin 2)	5 - 300 300 - 1000 1000 - 1225	dB	—	0.4 0.6 0.7	0.7 0.9 0.9
Amplitude Balance	5 - 300 300 - 1225	dB	—	0.2 0.1	±0.4 ±0.5
Phase Balance (ref value 180°)	5 - 300 300 - 1225	dB	—	1.0 2.0	±4.0 ±9.0
Input Return Loss (Pin 1)	5 - 300 300 - 1225	dB	23 15	28 23	—

Ordering Information[1]

Part Number	Description
MABA-011085	900 piece reel
MABA-011085-TB	Sample Board

1. All sample boards include 5 loose parts.

Absolute Maximum Ratings[2,3]

Parameter	Absolute Maximum
Input RF Power[4]	2000 mW
DC Current	1500 mA
Operating Temperature	-40°C to +125°C

2. Exceeding any one or combination of these limits may cause permanent damage to this device.
3. MACOM does not recommend sustained operation near these survivability limits.
4. Specified at +25°C only.

MACOM 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 for additional data sheets and product information.

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

Recommended PCB Layout[5,6,7,8]

Layout Option 1 - no dc voltage on tertiary winding

Layout Option 2 - dc voltage on tertiary winding

5. Recommended PCB layout shown above uses 1.6 mm FR4.
6. Grounded coplanar wave guide transmission line.
7. Trace width 0.70 mm.
8. Gap 0.57 mm.

Application Schematics

Option 1 - no dc voltage on tertiary winding

Option 2 - dc voltage on tertiary winding

Parts List

Component	Value	Package
C1	10 nF	0402

MACOM 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 for additional data sheets and product information.

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

Typical Performance Curves: T_A = 25°C, Z_0 = 75 Ω, P_{IN} = 0 dBm

Insertion Loss (pin 1-3)

Insertion Loss (pin 1-2)

Amplitude Balance

Phase Balance

Input Return Loss (pin 1)

Balanced Output Return Loss

3 Full temperature plots available on request.

MACOM 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 for additional data sheets and product information.

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

Part Outline Drawing[9,10,11,12]

9. Dimensions in mm
10. Tolerance: ±0.2 mm unless otherwise noted
11. Model number and lot code are printed on the reel
12. Plating finish: ENIG

Carrier Tape Orientation

Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	900
Reel Size	mm	330
Tape Width	mm	16.00
Pitch	mm	12.00
Orientation	-	F60
Reference Application Note ANI-019 for orientation		

MACOM 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 for additional data sheets and product information.

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

MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM 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 estoppels 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.

ООО «ЛайфЭлектроникс» “LifeElectronics” LLC

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- *Конкурентоспособные цены и скидки постоянным клиентам.*
- *Специальные условия для постоянных клиентов.*
- *Подбор аналогов.*
- *Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.*

- *Приемлемые сроки поставки, возможна ускоренная поставка.*
- *Доставку товара в любую точку России и стран СНГ.*
- *Комплексную поставку.*
- *Работу по проектам и поставку образцов.*
- *Формирование склада под заказчика.*

- *Сертификаты соответствия на поставляемую продукцию (по желанию клиента).*
- *Тестирование поставляемой продукции.*
- *Поставку компонентов, требующих военную и космическую приемку.*
- *Входной контроль качества.*
- *Наличие сертификата ISO.*

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- *Регистрацию проекта у производителя компонентов.*
- *Техническую поддержку проекта.*
- *Защиту от снятия компонента с производства.*
- *Оценку стоимости проекта по компонентам.*
- *Изготовление тестовой платы монтаж и пусконаладочные работы.*

Тел: +7 (812) 336 43 04 (многоканальный)
Email: org@lifeelectronics.ru

www.lifeelectronics.ru