

2:1 Transmission Line Balun Transformer
5 - 1200MHz

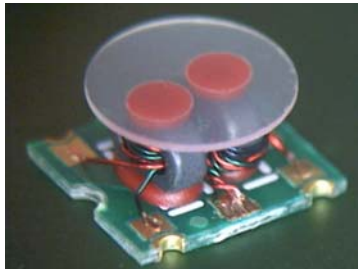
M/A-COM Products
Part Status: Released Rev V1

Features

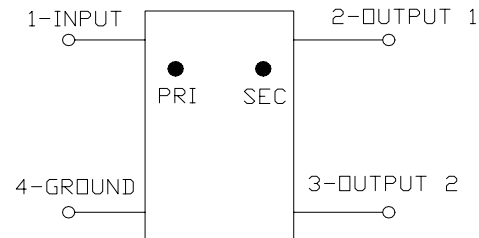
- Surface Mount
- 2:1 Impedance
- 75 Ohm
- Excellent temperature stability
- RoHS Compliant and lead free

Description

M/A-COM's MABA-007681-CT2010 is a 2:1 RF Transmission line transformer in a low cost, surface mount package. Ideally suited for high volume CATV/Broadband applications.



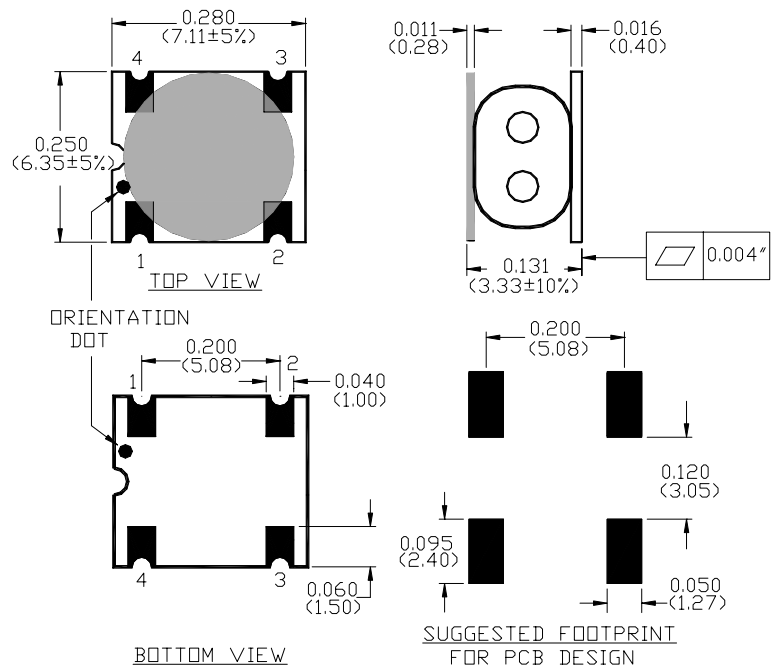
Functional Block Diagram



Pin Configuration

Pin No.	Function
1	Input (PRI dot)
2	Output 1 (SEC dot)
3	Output 2 (SEC)
4	Ground (PRI)

Case Style: SM-118



Unless otherwise stated, dimensions in inches [mm]
Tolerance: .xx ± .02, .xxx ± .010

Ordering Information

Part Number	Description
MABA-007681-CT2010	900 piece reel
MABA-007681-CT20TB	Customer test board

Note: Reference Application Note **M513** for reel size information.

ADVANCED: Data Sheets contain information regarding a product M/A-COM 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 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.

- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

Visit www.macom.com for additional data sheets and product information.

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

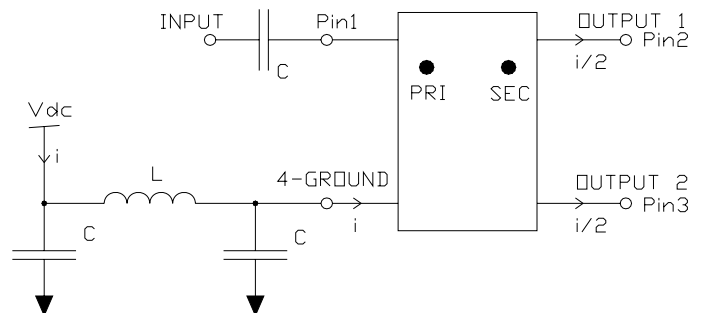
Parameter	Test Conditions	Units	Min	Typ	Max
Insertion Loss 1 Pin 1 to pin 2	5 - 50 MHz	dB	-	0.35	0.50
	50 - 1000 MHz	dB	-	0.60	1.10
	1000 - 1200 MHz	dB	-	0.60	1.40
Insertion Loss 2 Pin 1 to pin 3	5 - 50 MHz	dB	-	0.5	0.70
	50 - 1000 MHz	dB	-	0.9	1.50
	1000 - 1200 MHz	dB	-	1.8	2.20
Amplitude Unbalance	5 - 50 MHz	dB	-	± 0.10	± 0.40
	50 - 1000 MHz	dB	-	± 0.30	± 1.50
	1000 - 1200 MHz	dB	-	± 0.60	± 1.80
Phase Unbalance	5 - 50 MHz	$^\circ$	-	± 0.2	± 1.50
	50 - 1200 MHz	$^\circ$	-	± 3.0	± 7.00
Input Return Loss Single ended	5 - 50 MHz	dB	22	25	-
	50 - 1000 MHz	dB	14	22	-
	1000 - 1200 MHz	dB	8	17	-

Absolute Maximum Ratings ^{1,2}

Parameter	Absolute Maximum
RF Power	250mW
DC current	30mA
Operating Temperature	-40°C to $+85^\circ\text{C}$
Storage Temperature	-40°C to $+85^\circ\text{C}$

- Exceeding any one or combination of these limits may cause permanent damage to this device.
- M/A-COM does not recommend sustained operation near these survivability limits.

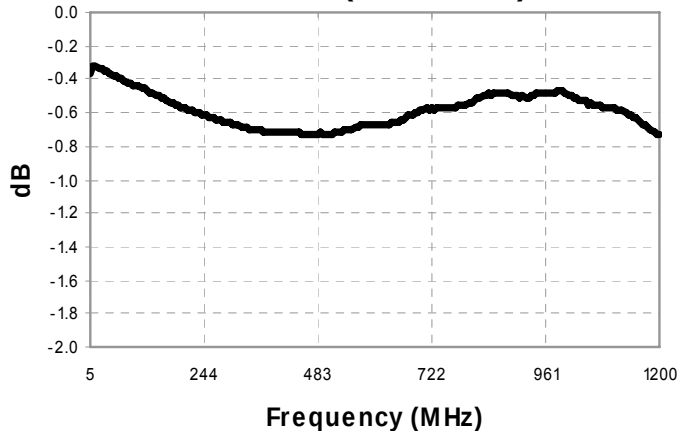
Recommended DC bias circuit



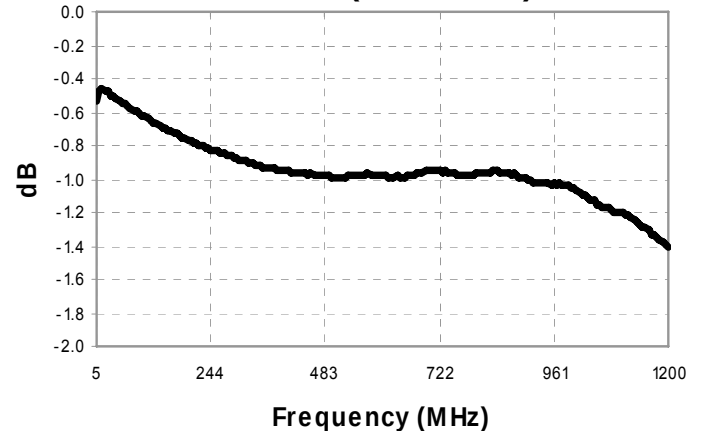
Cap/Ind	5-50MHz	50-1200MHz
C	100nF	10nF
L	10 μH	1 μH

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

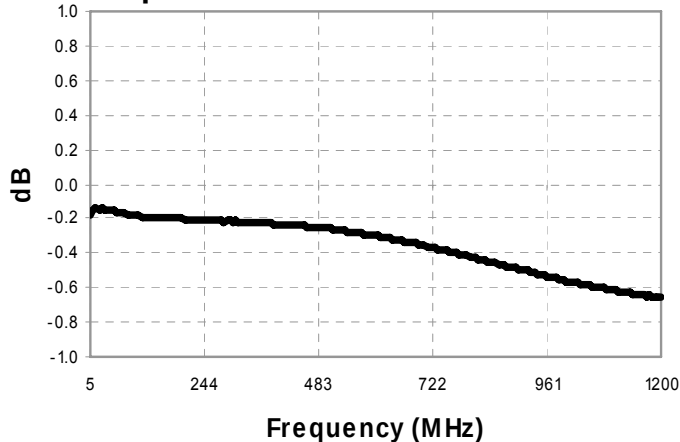
Insertion Loss 1 (Pin1 - Pin2)



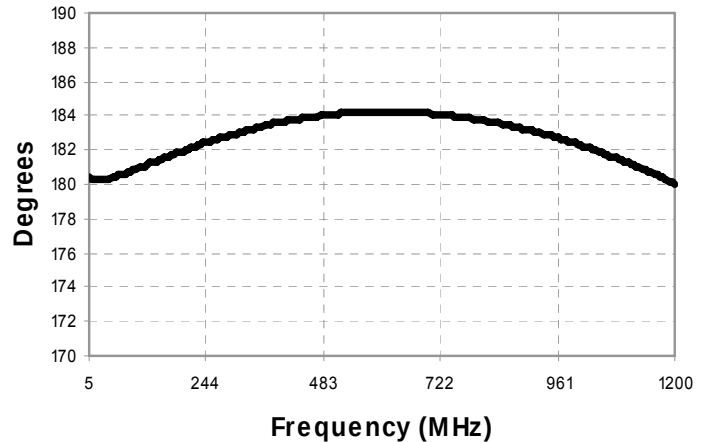
Insertion Loss 2 (Pin1 - Pin3)



Amplitude Balance



Phase Balance



Return Loss: Input

