

Transformer 1:1 transmission line balun
5 to 3000 MHz

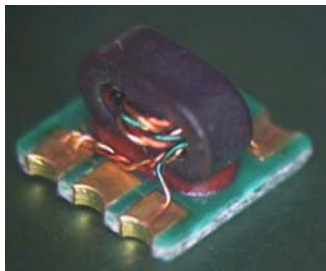
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Features

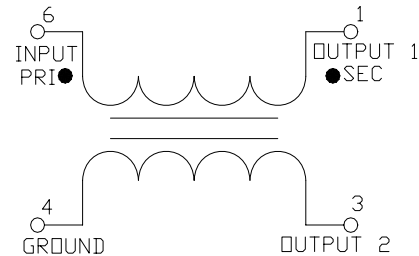
- Surface Mount
- 1:1 Impedance
- Excellent **MoCA** band performance
- Excellent amplitude and phase balance
- Can be used in both 50Ω and 75Ω systems
- 260°C Reflow Compatible and lead free
- RoHS* Compliant
- Available on Tape and Reel.

Description

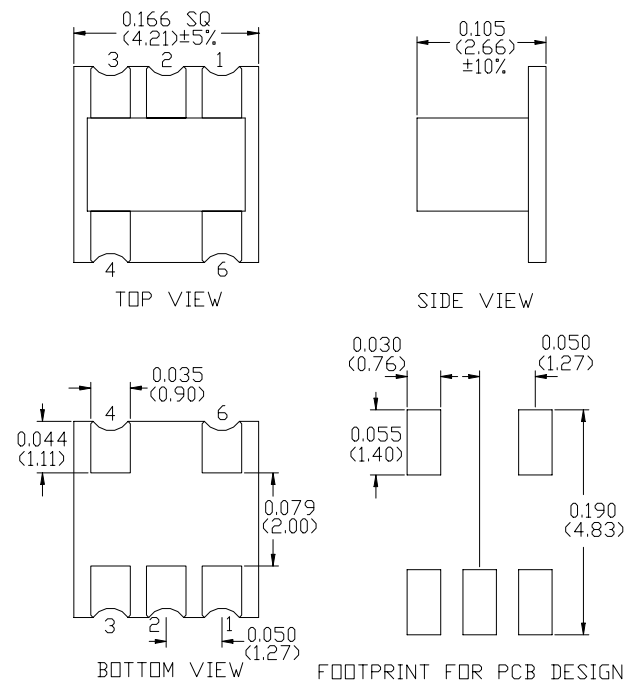
M/A Com's MABA-007871-CT1A40 is a 1:1 RF Transmission Line step up transformer in a low cost, surface mount package. Ideally suited for MoCA band applications.



Schematic



Case Style: SM-164



Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010, except where otherwise stated

Pin Configuration

Pin No.	Function
1	Secondary Dot (Output 1)
2	Not used (Ground)
3	Secondary (Output 2)
4	Primary (Ground)
6	Primary Dot (Input)

Ordering Information

Part Number	Description
MABA-007871-CT1A40	2000 piece reel
MABA-007871-CT1ATB	Customer Test Board

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

* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

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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

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Electrical Specifications: $T_A = 25^{\circ}\text{C}$, $Z_0 = 50\Omega$

Parameter	Test Conditions	Units	Min	Typ	Max
Insertion Loss	5 - 50 MHz	dB	-	0.35	2.50
	50 - 975 MHz	dB	-	0.4	0.60
	975 - 1525 MHz	dB	-	0.3	1.00
	1525 - 2150 MHz	dB	-	0.65	2.30
	2150 - 3000 MHz	dB	-	2.5	6.00
Input Return Loss	5 - 50 MHz	dB	12	28	-
	50 - 975 MHz	dB	15	23	-
	975 - 1525 MHz	dB	13	21	-
	1525 - 2150 MHz	dB	6	12	-
	2150 - 3000 MHz	dB	3	6	-
Amplitude Unbalance (Nominal 0dB)	5 - 50 MHz	dB	-	0.45	± 3.8
	50 - 975 MHz	dB	-	0.15	± 0.7
	975 - 1525 MHz	dB	-	0.15	± 0.7
	1525 - 2150 MHz	dB	-	0.38	± 0.9
	2150 - 3000 MHz	dB	-	0.05	1.6
Phase Unbalance (Nominal 180°)	5 - 50 MHz	°	-	6.5	± 50
	50 - 975 MHz	°	-	0.1	± 5
	975 - 1525 MHz	°	-	0.1	± 4
	1525 - 2150 MHz	°	-	3	± 12
	2150 - 3000 MHz	°	-	13	35

Absolute Maximum Ratings ^{1,2}

Parameter	Absolute Maximum
Max Input Power	250mW
DC current	200mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°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.

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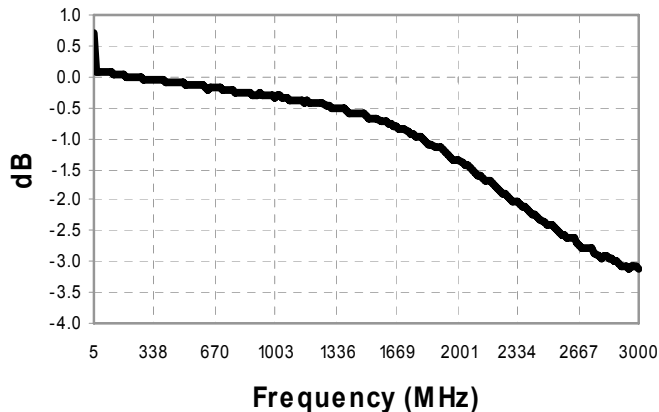
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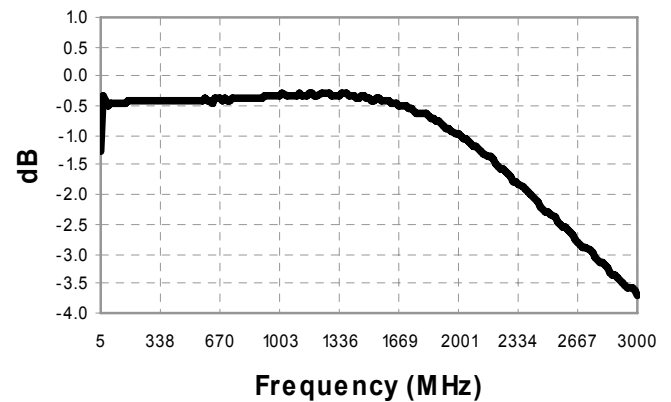
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Typical Performance Curves: $T_A = 25^\circ\text{C}$, $Z_0 = 50\Omega$

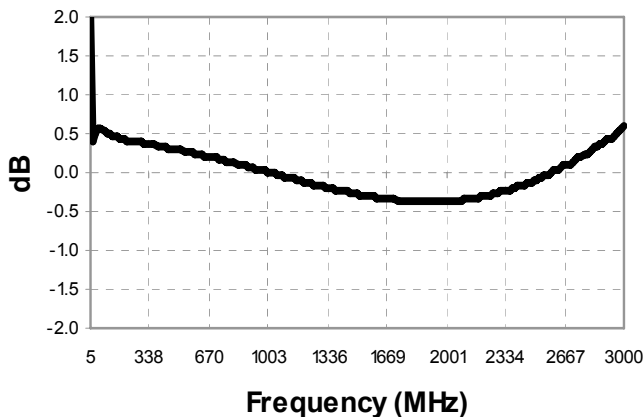
Insertion Loss 1: through pin 6 to pin 1



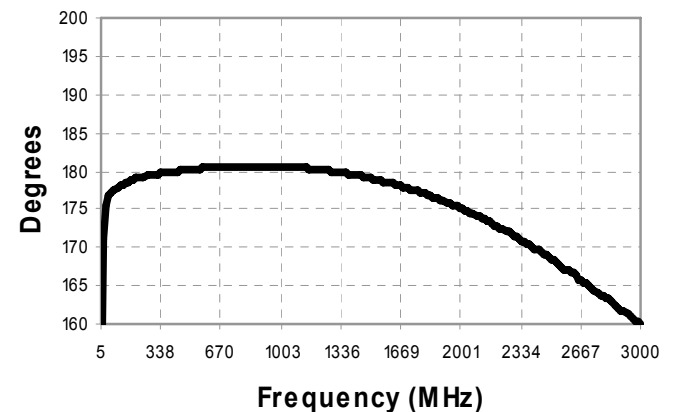
Insertion Loss 2: coupled pin 6 to pin 3



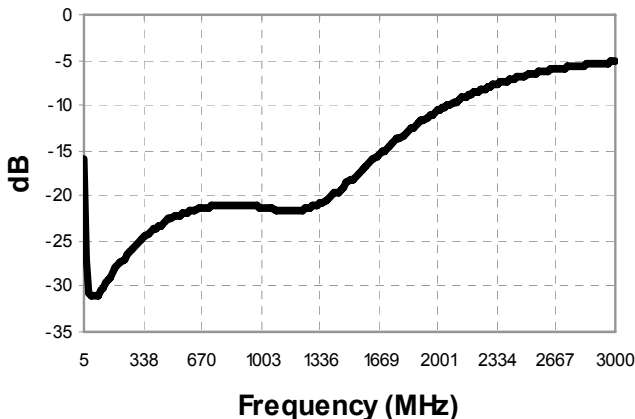
Amplitude Balance



Phase Balance



Input Return Loss



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