



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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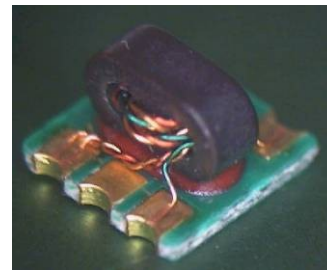
Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Features

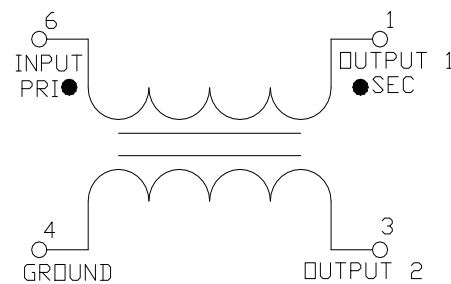
- Surface Mount
- 1:1 Impedance
- Excellent MoCA band performance
- Excellent amplitude and phase balance
- Can be used in both 50Ω and 75Ω systems
- 260°C Reflow Compatible
- RoHS* Compliant, Pb Free
- Available on Tape and Reel.



Description

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



Ordering Information¹

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

1. Reference Application Note M513 for reel size information.

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)

* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

Transformer 1:1 transmission line balun 5 to 3000 MHz

Rev. V6

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			0.4	0.60
	975 - 1525 MHz			0.3	1.00
	1525 - 2150 MHz			0.65	2.30
	2150 - 3000 MHz			2.5	6.00
Input Return Loss	5 - 50 MHz	dB	12	28	—
	50 - 975 MHz		15	23	
	975 - 1525 MHz		13	21	
	1525 - 2150 MHz		6	12	
	2150 - 3000 MHz		3	6	
Amplitude Unbalance (Nominal 0dB)	5 - 50 MHz	dB	—	0.45	± 3.8
	50 - 975 MHz			0.15	± 0.7
	975 - 1525 MHz			0.15	± 0.7
	1525 - 2150 MHz			0.38	± 0.9
	2150 - 3000 MHz			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

Temperature data available on request

Absolute Maximum Ratings

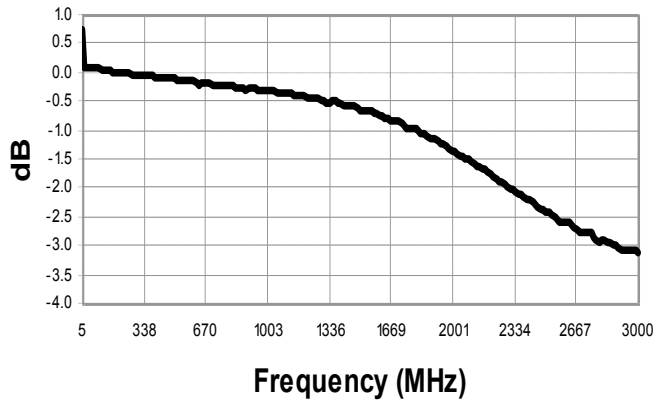
Parameter	Absolute Maximum
Max Input Power	250 mW
DC current	200 mA
Operating Temperature	-40°C to +105°C
Storage Temperature	-40°C to +85°C

Transformer 1:1 transmission line balun 5 to 3000 MHz

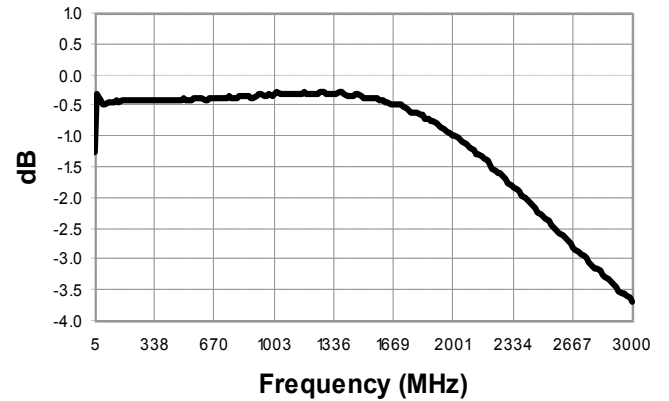
Rev. V6

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

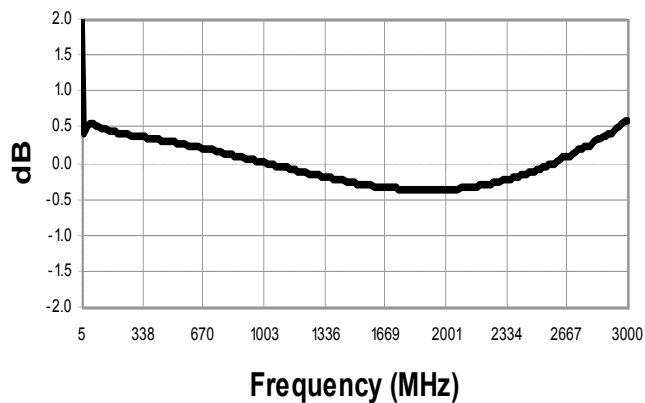
Insertion Loss 1: through pin 6 to pin 1



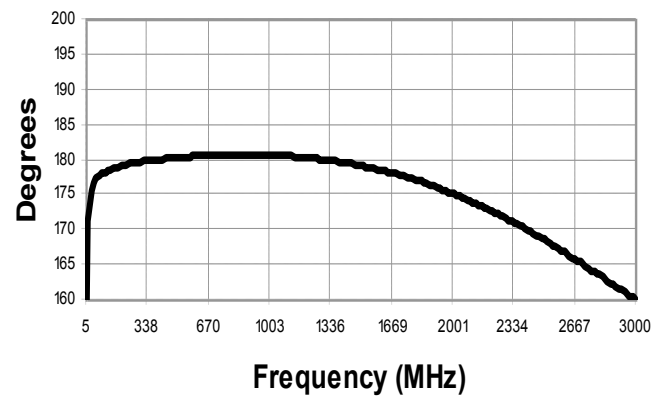
Insertion Loss 2: coupled pin 6 to pin 3



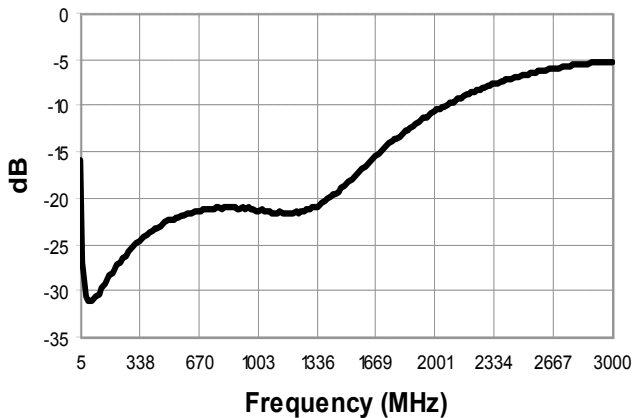
Amplitude Balance



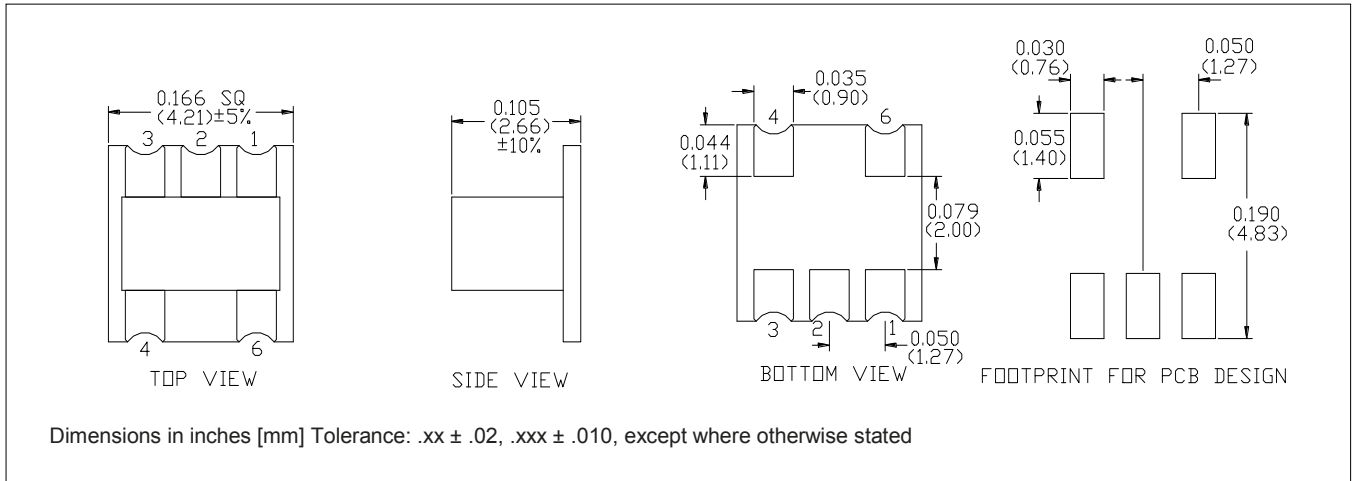
Phase Balance



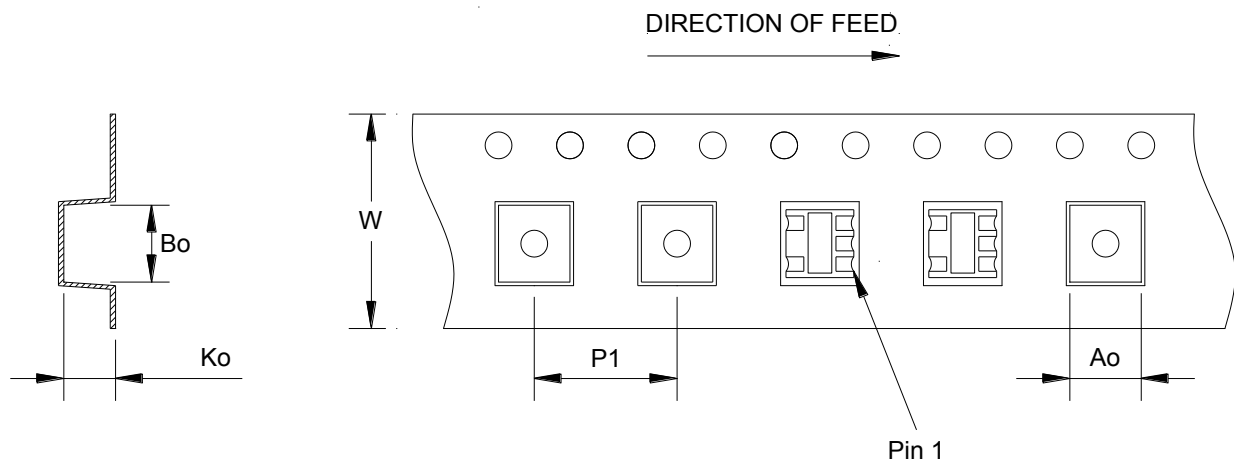
Input Return Loss



Case Style:



Tape & Reel Information



Item	Dimension
Ao	4.50mm +/- 0.1mm
Bo	4.50mm +/- 0.1mm
Ko	2.73mm +/- 0.1mm
W	12.00mm +/- 0.3mm
P1	8.00mm +/- 0.1mm

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