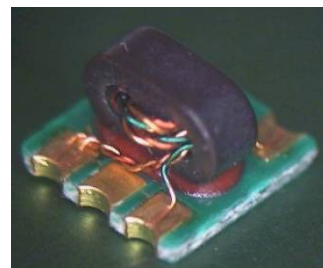


Features

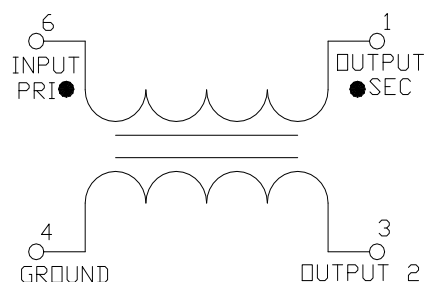
- Surface Mount
- 1:1 Impedance
- Excellent MoCA band performance
- Excellent amplitude and phase balance
- Can be used in both 50Ω and 75Ω systems
- 260°C Reflow Compatible
- RoHS* Compliant, Pb Free
- Available on Tape and Reel.



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

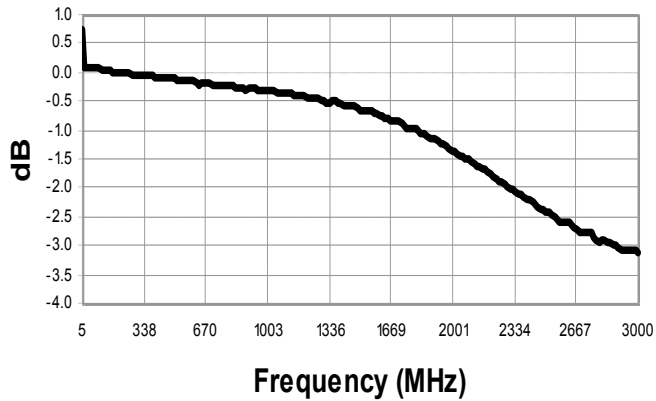
Parameter	Absolute Maximum
Max Input Power	250 mW
DC current	200 mA
Operating Temperature	-40°C to +105°C
Storage Temperature	-40°C to +85°C

**Transformer 1:1 transmission line balun
5 to 3000 MHz**

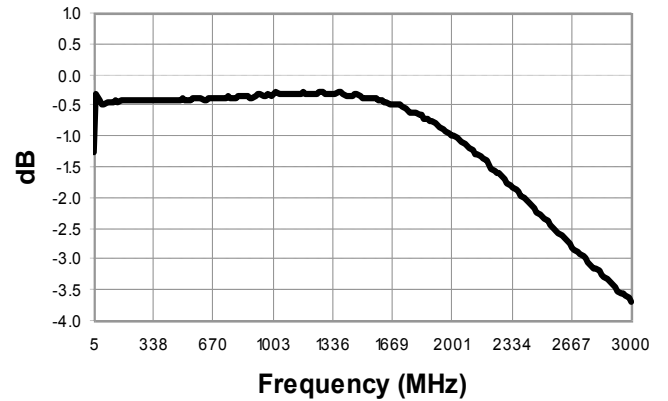
Rev. V6

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

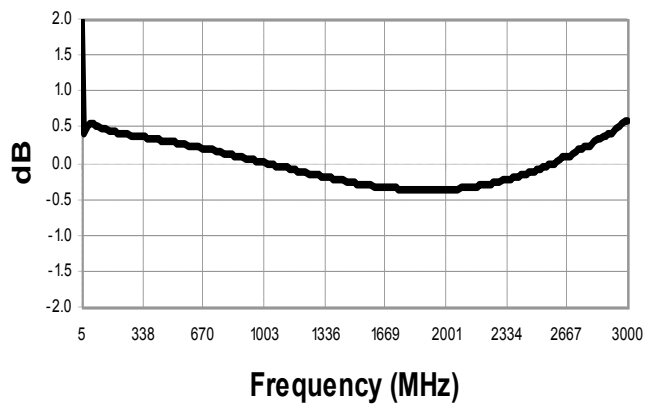
Insertion Loss 1: through pin 6 to pin 1



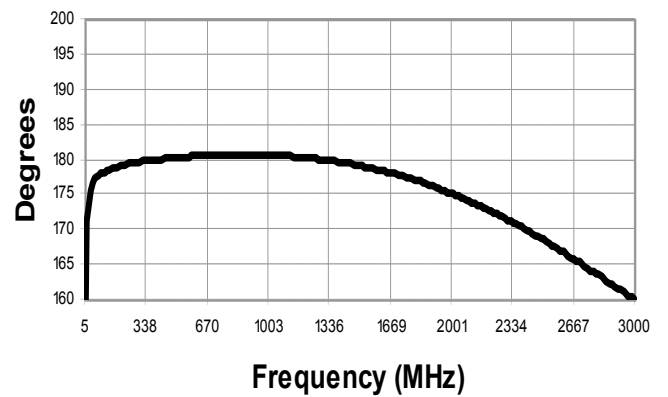
Insertion Loss 2: coupled pin 6 to pin 3



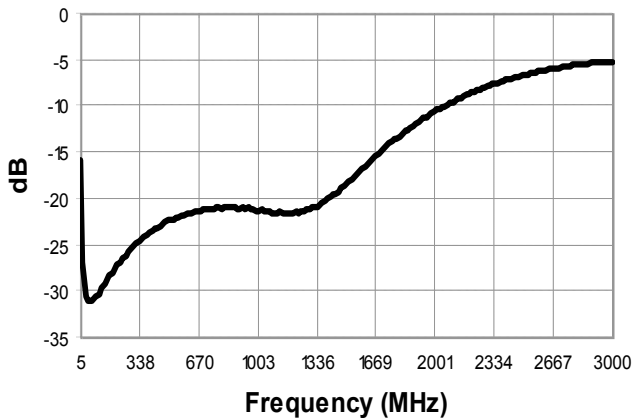
Amplitude Balance



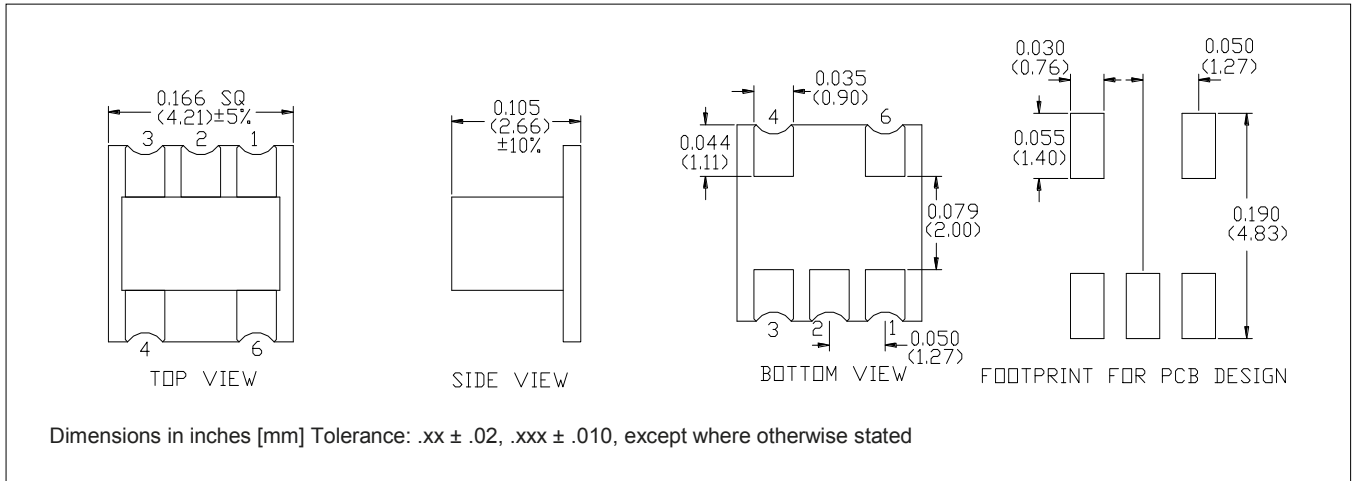
Phase Balance



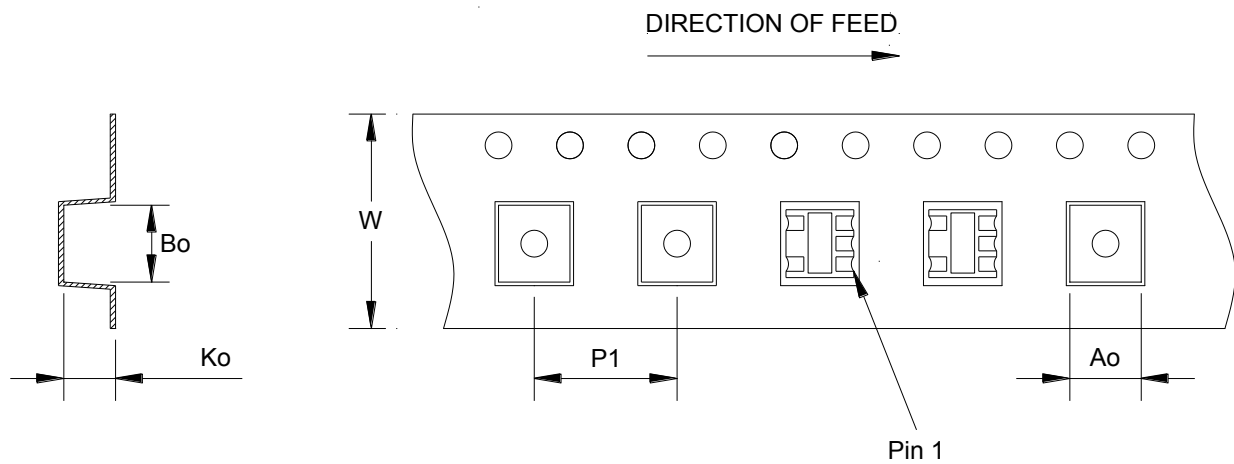
Input Return Loss



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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