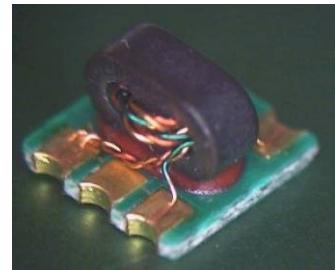


## Transformer 1:1 transmission line balun 5 to 3000 MHz

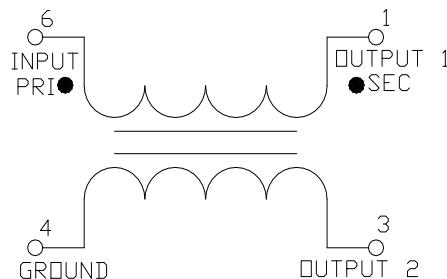
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### Features

- 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
- RoHS\* Compliant, Pb Free
- Available on Tape and Reel.



### Schematic



### 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.

### Pin Configuration

### Ordering Information<sup>1</sup>

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 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**

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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 50 - 975 MHz 975 - 1525 MHz 1525 - 2150 MHz 2150 - 3000 MHz	dB	—	0.35 0.4 0.3 0.65 2.5	2.50 0.60 1.00 2.30 6.00
Input Return Loss	5 - 50 MHz 50 - 975 MHz 975 - 1525 MHz 1525 - 2150 MHz 2150 - 3000 MHz	dB	12 15 13 6 3	28 23 21 12 6	—
Amplitude Unbalance (Nominal 0dB)	5 - 50 MHz 50 - 975 MHz 975 - 1525 MHz 1525 - 2150 MHz 2150 - 3000 MHz	dB	—	0.45 0.15 0.15 0.38 0.05	$\pm 3.8$ $\pm 0.7$ $\pm 0.7$ $\pm 0.9$ 1.6
Phase Unbalance (Nominal 180°)	5 - 50 MHz 50 - 975 MHz 975 - 1525 MHz 1525 - 2150 MHz 2150 - 3000 MHz	°	—	6.5 0.1 0.1 3 13	$\pm 50$ $\pm 5$ $\pm 4$ $\pm 12$ 35

Temperature data available on request

**Absolute Maximum Ratings**

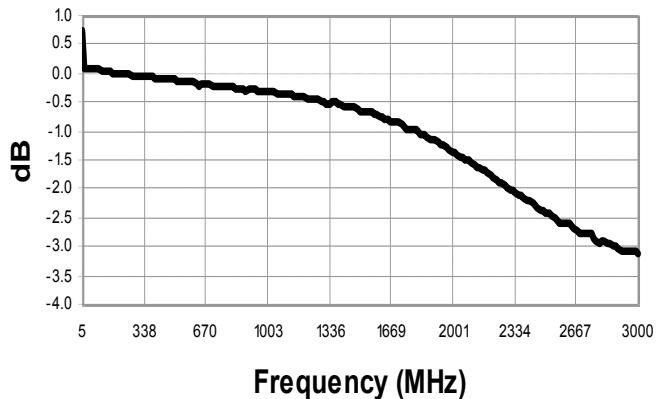
Parameter	Absolute Maximum
Max Input Power	250 mW
DC current	200 mA
Operating Temperature	-40°C to +105°C
Storage Temperature	-40°C to +85°C

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

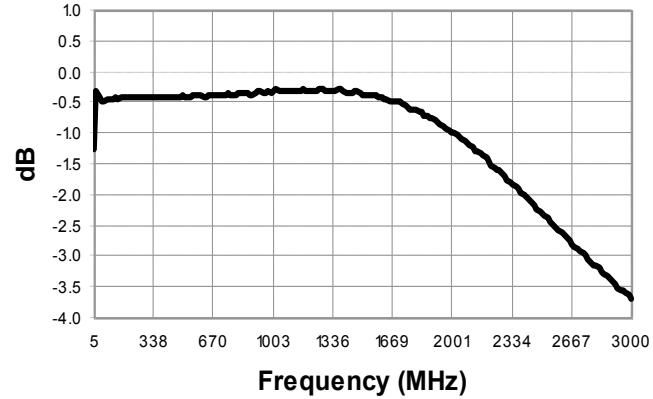
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Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 50 \Omega$

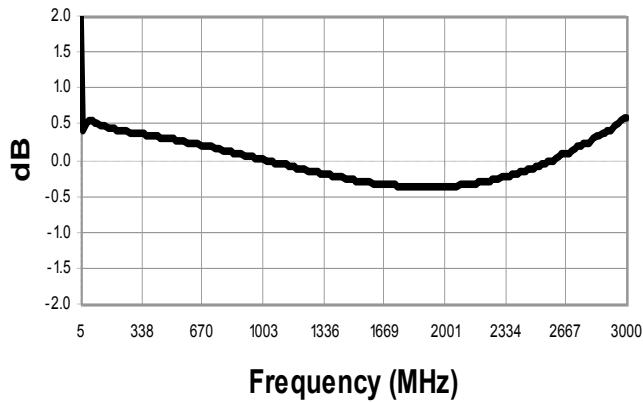
### Insertion Loss 1: through pin 6 to pin 1



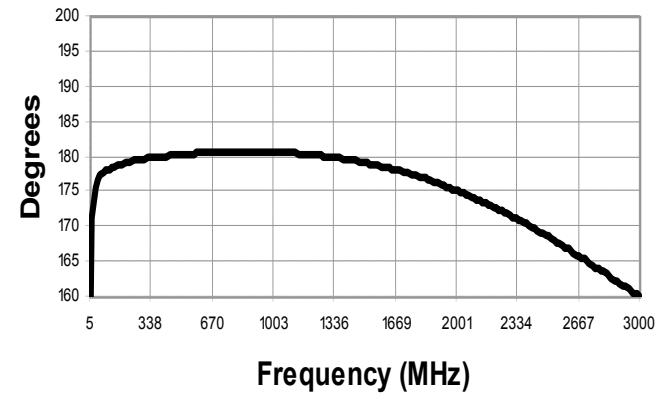
### Insertion Loss 2: coupled pin 6 to pin 3



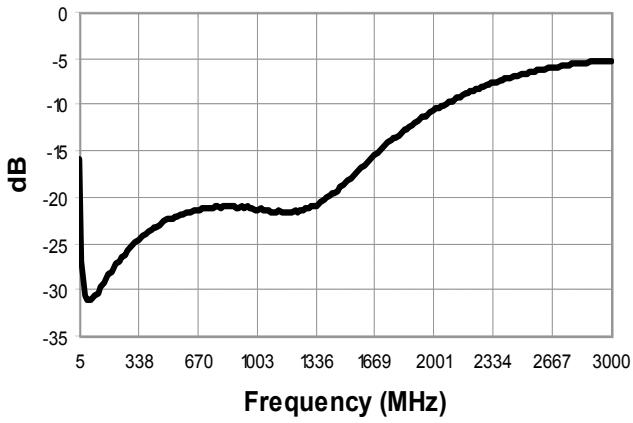
### Amplitude Balance



### Phase Balance



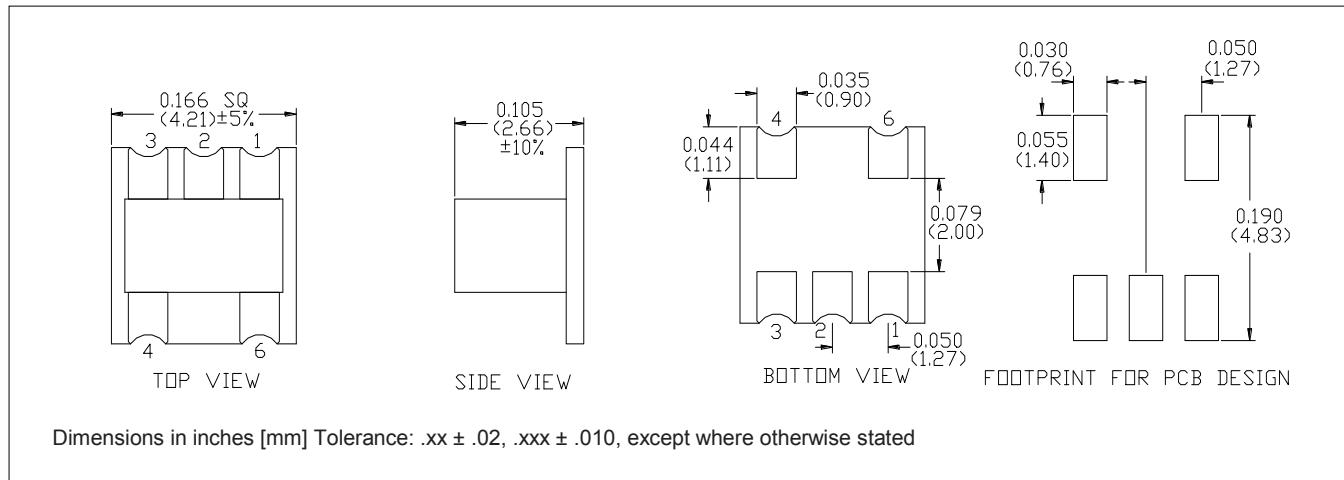
### Input Return Loss



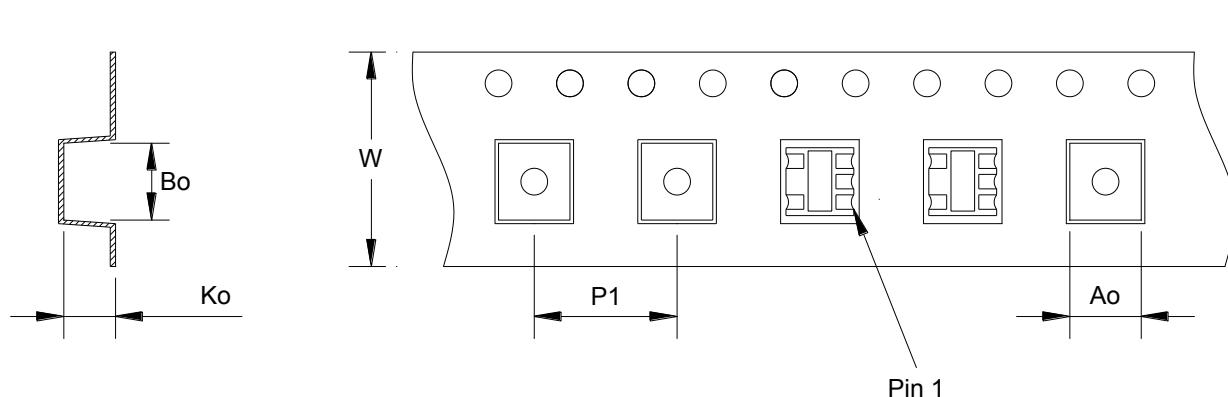
## Transformer 1:1 transmission line balun 5 to 3000 MHz

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### 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

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

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