

# MABA-010129-CT4A40



Transformer, 1:4 Transmission Line Transformer  
5 to 1200 MHz

Rev. V2

## Features

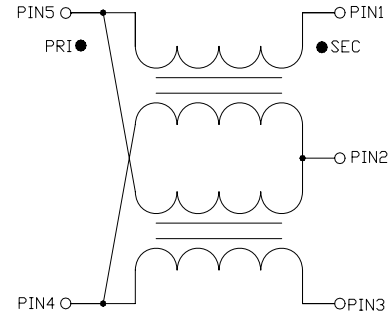
- 1:4 Impedance ratio
- Surface mount
- Available on tape and reel
- 260°C reflow compatible
- RoHS\* compliant and lead free
- Excellent temperature stability
- Excellent amplitude and phase balance
- Can be used in both 50Ω and 75Ω systems

## Description

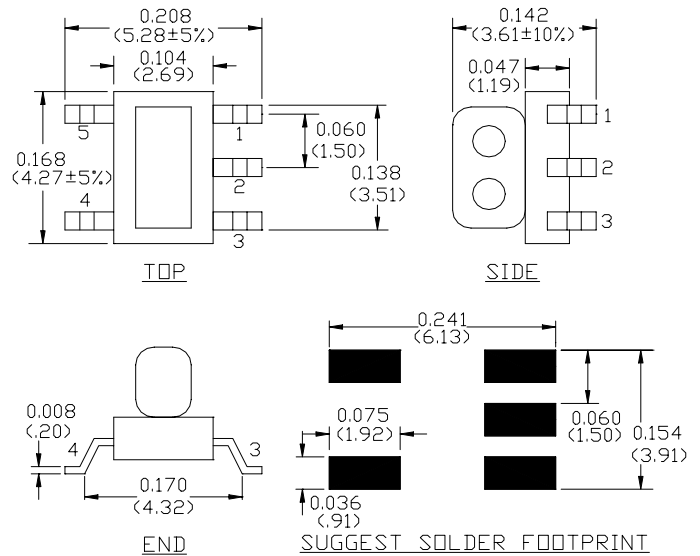
M/ACom Technology Solutions MABA-010129-CT4A40 is a 1:4 RF transmission line transformer in a low cost, surface mount package. Ideally suited for broadband CATV applications.



## Schematic



## Component dimensions



## Pin Configuration

Pin no.	Function
1	Secondary Dot
2	Secondary Centre Tap
3	Secondary
4	Primary
5	Primary Dot

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

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

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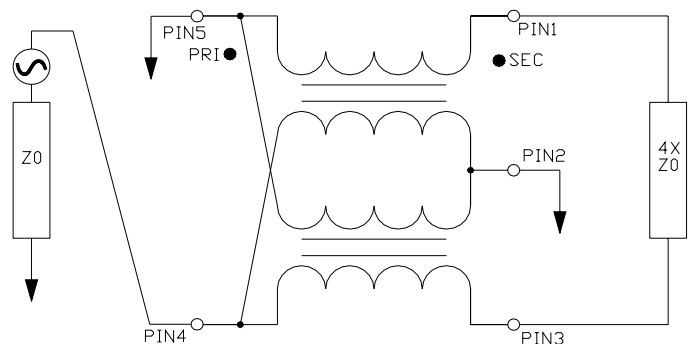
**Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $0\text{dBm}$ ,  $Z_0 = 50\Omega$ ,  $P_{in} = 0\text{dBm}$**

Parameter	Frequency	Units	Min	Typ	Max
Insertion Loss 1 (Pin 4 to Pin 1)	5 - 50MHz	dB	-	0.5	0.7
	50 - 879MHz	dB	-	0.7	1.5
	879 - 1200MHz	dB	-	1.2	2.0
Insertion Loss 2 (Pin 4 to Pin 3)	5 - 50MHz	dB	-	0.5	0.7
	50 - 879MHz	dB	-	0.6	1.2
	879 - 1200MHz	dB	-	0.8	1.6
Amplitude Balance (Nominal 0dB)	5 - 500MHz	dB	-	0.05	$\pm 0.6$
	500 - 1200MHz	dB	-	0.23	$\pm 2.1$
Phase Balance (Nominal $180^\circ$ )	5 - 500MHz	$^\circ$	-	1.4	$\pm 6$
	500 - 1000MHz	$^\circ$	-	2.8	$\pm 8$
	1000 - 1200MHz	$^\circ$	-	0.2	$\pm 22$
Input Return Loss (Pin4)	5 - 50 MHz	dB	20	25	-
	50 - 500 MHz	dB	15	23	-
	500 - 1200 MHz	dB	11	16	-

## Recommended Maximum Ratings

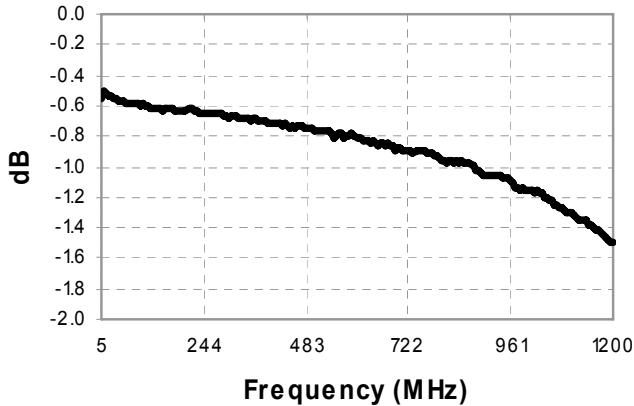
Parameter	Value
Input power	At least +28dBm (631mW)
DC current (tested at 5V)	At least 600mA
Operating Temperature	$-40^\circ\text{C}$ to $+85^\circ\text{C}$
Storage Temperature	$-55^\circ\text{C}$ to $+100^\circ\text{C}$

## Application Circuit

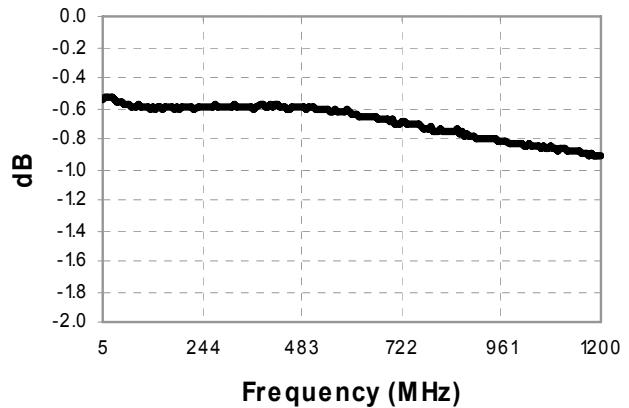


Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $0\text{dBm}$ ,  $Z_0 = 50\Omega$ ,  $P_{in} = 0\text{dBm}$

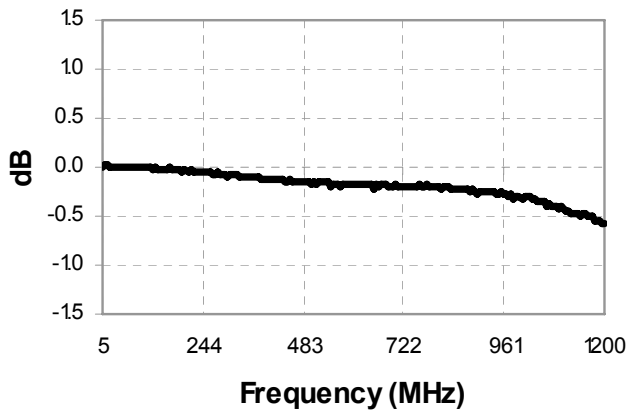
### Insertion Loss 1: (Pin 4 to 1)



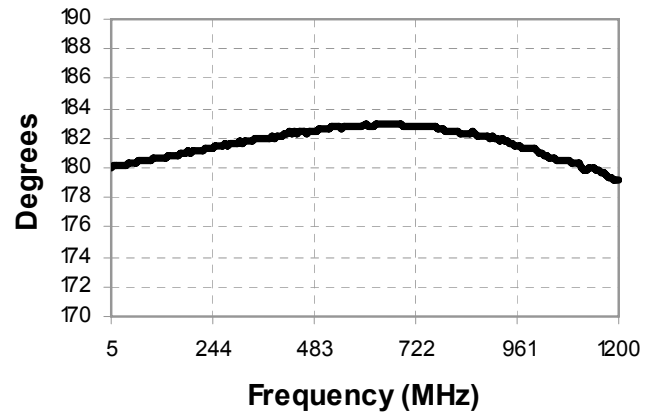
### Insertion Loss 2: (Pin 4 to 3)



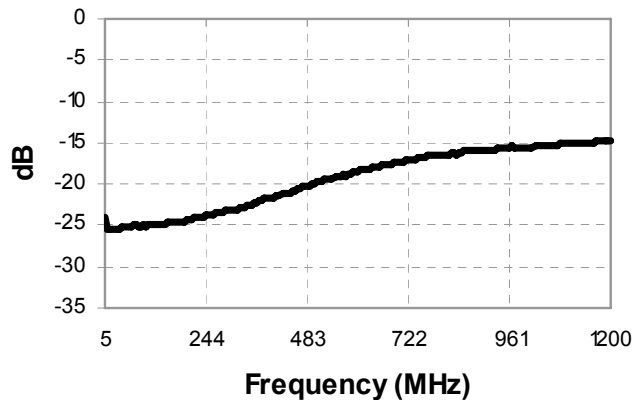
### Amplitude Balance



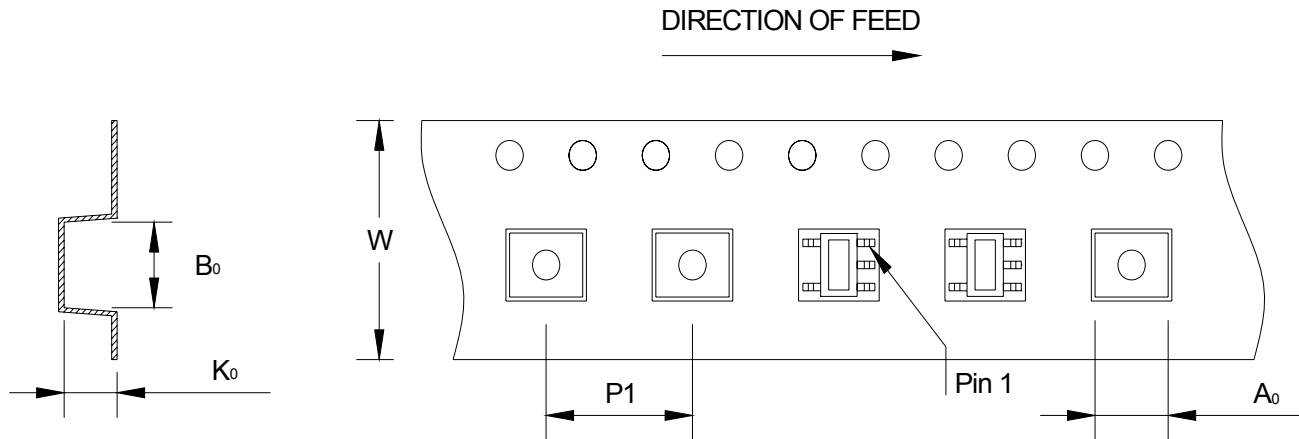
### Phase Balance



### Return Loss: Input (Pin 4)



## Tape & Reel Information



Item	Dimension
A <sub>0</sub>	5.9mm +/- 0.1mm
B <sub>0</sub>	4.55mm +/- 0.1mm
K <sub>0</sub>	3.8mm +/- 0.1mm
W	12.0mm +/- 0.3mm
P1	8.00mm +/- 0.1mm

## Ordering Information

Part number	Description
MABA-010129-CT4A40	2000 piece reel