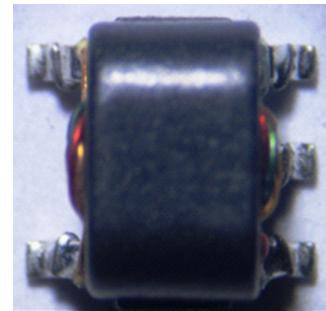


## Balun transformer, 1:2 step up flux coupled 1 – 300 MHz

V1

### Features

- 1:2 impedance
- Surface mount
- Available on tape and reel
- 260° reflow compatible
- RoHS compliant and Pb free
- Excellent temperature stability
- Suitable for all CATV, Broadband and FTTX applications

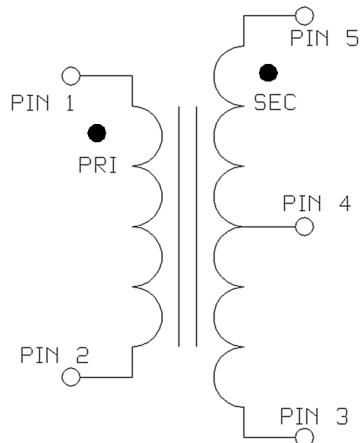


### Description

MACOM's MABA-011062 is a 1:2 flux coupled transformer.

This transformer is ideally suited for DOCSIS 3.0x upstream applications due to its high power and temperature performance.

### Functional Schematic



### Ordering Information

Part Number	Package
MABA-011062	Tape & Reel
MABA-011062-TB	Customer Test Board

### Pin Configuration

Pin No.	Function
1	Primary Dot (input)
2	Primary (ground)
3	Secondary (output1)
4	Center tap (ground)
5	Secondary Dot (output2)

Balun transformer, 1:2 step up flux coupled  
1 – 300 MHz

V1

**Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75 \Omega$ ,  $P_{\text{in}} = 0\text{dBm}$**

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Frequency Range		MHz	1		300
Impedance		$\Omega$		75	
Impedance Ratio				1:2	
Insertion Loss 1 (Pin1 - Pin3)	1 - 300 MHz	dB	-	0.5	0.8
Insertion Loss 2 (Pin1 - Pin5)	1 - 200 MHz 200 - 300 MHz	dB dB	- -	0.5 0.7	0.8 1.0
Amplitude Balance	1 - 180 MHz 180 - 300 MHz	dB dB	- -	0.03 0.2	$\pm 0.2$ $\pm 0.5$
Phase Balance (ref value 180°)	1 - 150 MHz 150 - 300 MHz	° °	- -	0.5 1.0	$\pm 2.0$ $\pm 4.0$
Input Return Loss (Pin1)	1 - 5 MHz 5 - 300 MHz	dB dB	14 17	18 19	- -

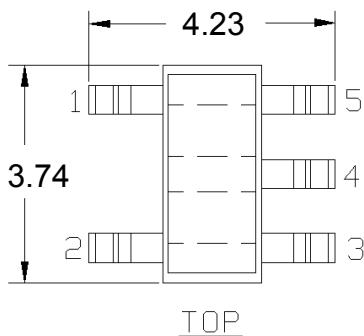
### Recommended Maximum Ratings

Parameter	Units	Min	Max
Input Power	mW		2000
DC Current	mA		1500
Operating Temperature Range	°C	-40	+125

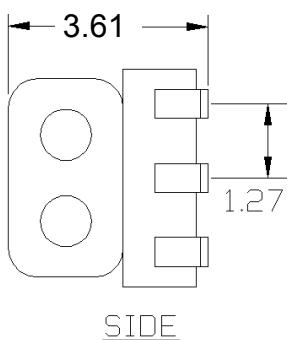
Full temperature plots available on request

**Balun transformer, 1:2 step up flux coupled  
1 – 300 MHz**

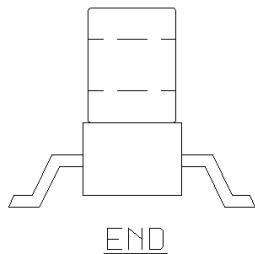
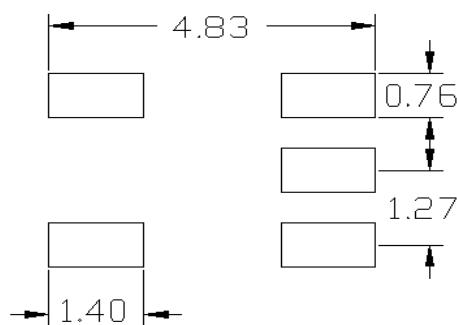
V1

**Outline Drawing**

TOP

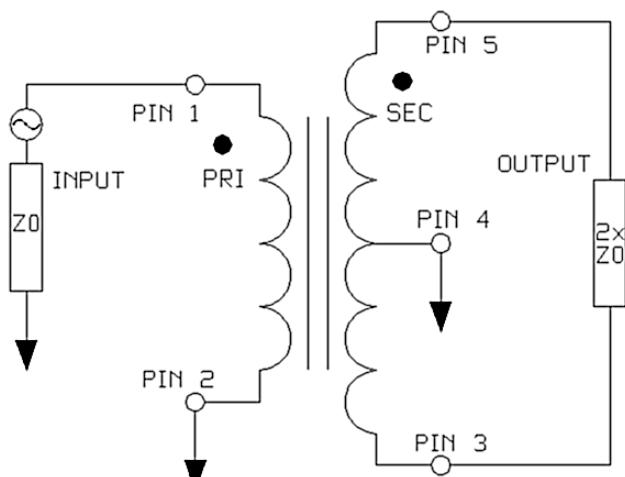


SIDE

**PCB Layout**

END

1. Dimensions in mm.
2. Tolerance:  $\pm 0.2$ mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Lead plating (CuSn6) Lead finish SAC-305.

**Application Schematic****Tape & Reel Information**

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.00
Pitch	mm	8.00
Ao	mm	4.40
Bo	mm	4.00
Ko	mm	3.90
Orientation	-	F26

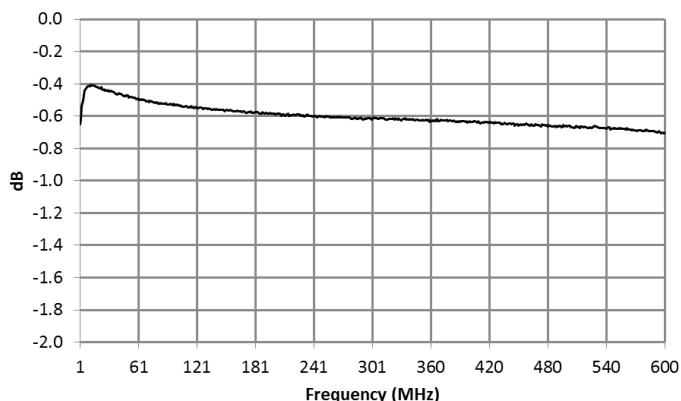
Reference Application Note ANI-019 for orientation

## Balun transformer, 1:2 step up flux coupled 1 – 300 MHz

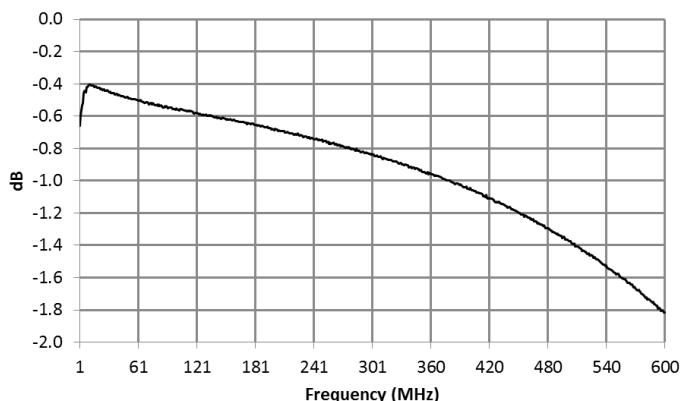
V1

### Typical Performance Curves

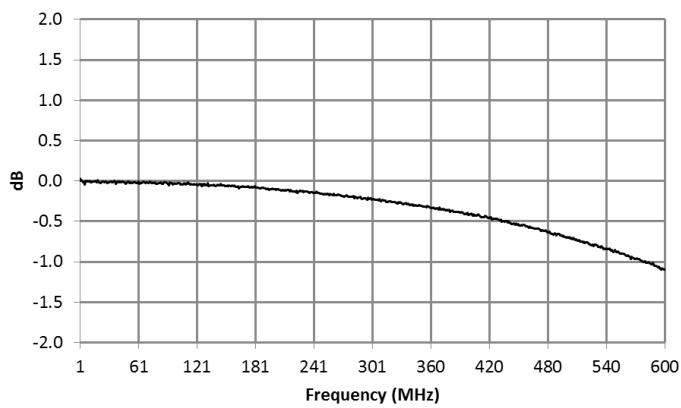
Insertion Loss (pin1-3)



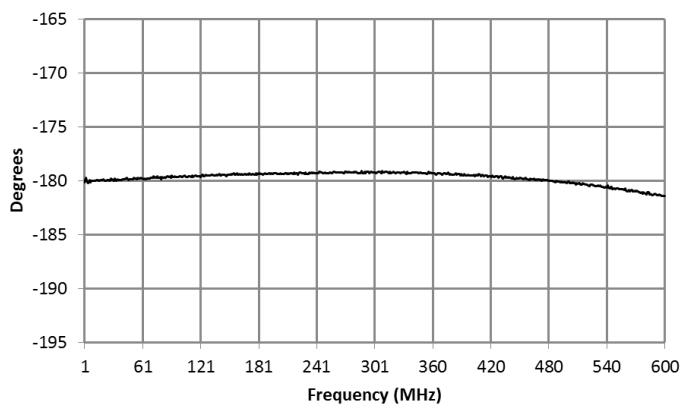
Insertion Loss (pin1-5)



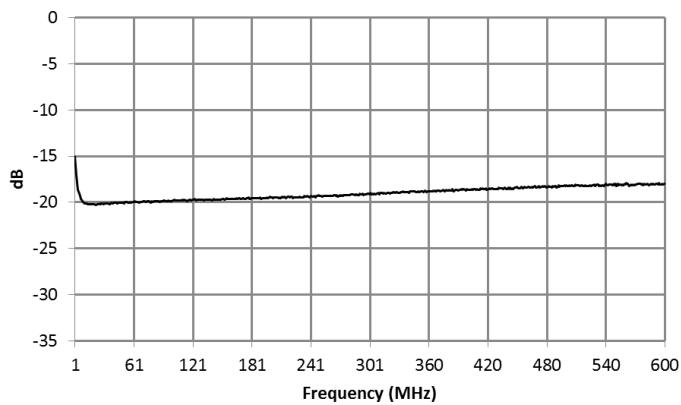
Amplitude Balance



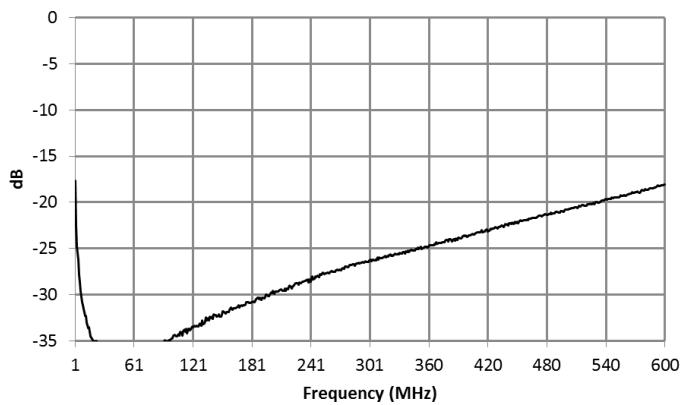
Phase Balance



Input Return Loss (pin1)



Balanced Output Return Loss



Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75 \Omega$ ,  $P_{\text{in}} = 0\text{dBm}$

**Balun transformer, 1:2 step up flux coupled  
1 – 300 MHz**

V1

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