

## 4:1 Step down Flux Coupled Balun Transformer 5 – 300 MHz

Rev. V2

### Features

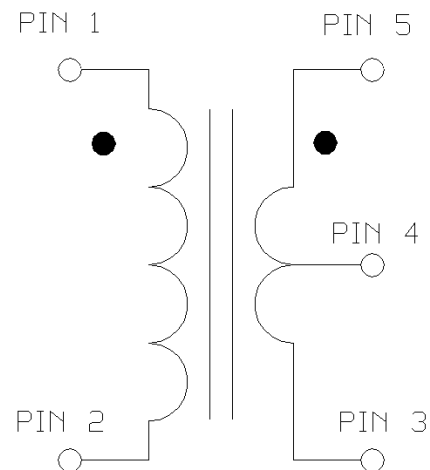
- 4:1 impedance
- Surface mount
- Available on tape and reel
- 260° reflow compatible
- RoHS compliant and Pb free
- Excellent temperature stability
- Suitable for all CATV, Broadband and FTTX applications



### Description

MABA-011064 is a 4:1 flux coupled transformer. This transformer is ideally suited for DOCSIS 3.x upstream applications due to its high power and temperature performance.

### Functional Schematic



### Ordering Information

Part Number	Package
MABA-011064	Tape & Reel
MABA-011064-TB	Customer Test Board

### Pin Configuration

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

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

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Frequency Range	-	MHz	5	-	300
Impedance	-	$\Omega$	-	75	-
Impedance Ratio	-	-	-	4:1	-
Insertion Loss 1 (Pin1 - Pin5)	5 - 50 MHz	dB	-	0.4	0.7
	50 - 150 MHz	dB	-	0.9	2.0
	150 - 300 MHz	dB	-	2.2	4.5
Insertion Loss 2 (Pin1 - Pin3)	5 - 50 MHz	dB	-	0.5	0.9
	50 - 150 MHz	dB	-	1.1	2.2
	150 - 300 MHz	dB	-	2.8	4.9
Amplitude Balance	5 - 50 MHz	dB	-	0.1	$\pm 0.5$
	50 - 150 MHz	dB	-	0.2	$\pm 0.8$
	150 - 300 MHz	dB	-	0.5	$\pm 1.6$
Phase Balance (ref value $180^\circ$ )	5 - 50 MHz	$^\circ$	-	0.8	$\pm 3.0$
	50 - 150 MHz	$^\circ$	-	2.4	$\pm 7.0$
	150 - 300 MHz	$^\circ$	-	3.5	$\pm 10.0$
Input Return Loss (Pin1)	5 - 50 MHz	dB	14	21	-
	50 - 150 MHz	dB	7	12	-
	150 - 300 MHz	dB	3	7	-

### Recommended Maximum Ratings

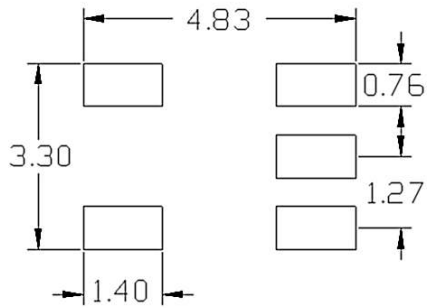
Parameter	Units	Min	Max
Input Power	mW	-	2000
DC Current	mA	-	1500
Operating Temperature Range	$^\circ\text{C}$	-40	+125

Full temperature plots available on request

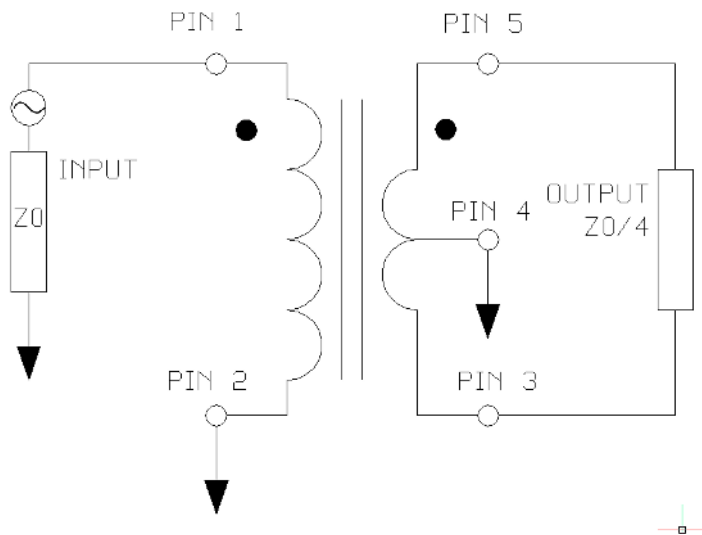
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### PCB Layout



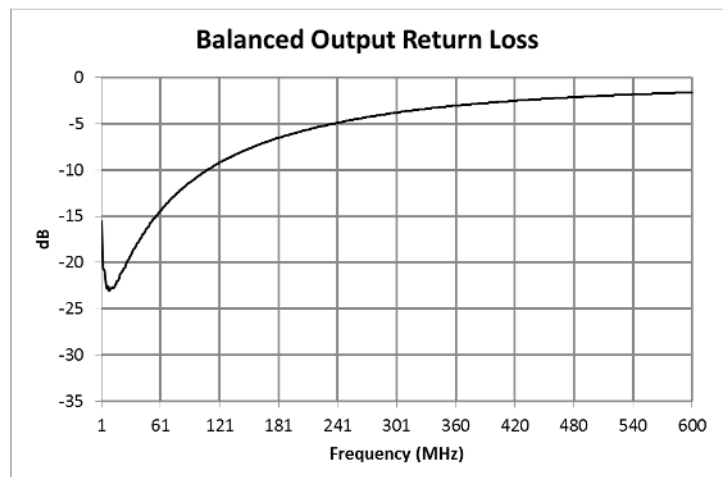
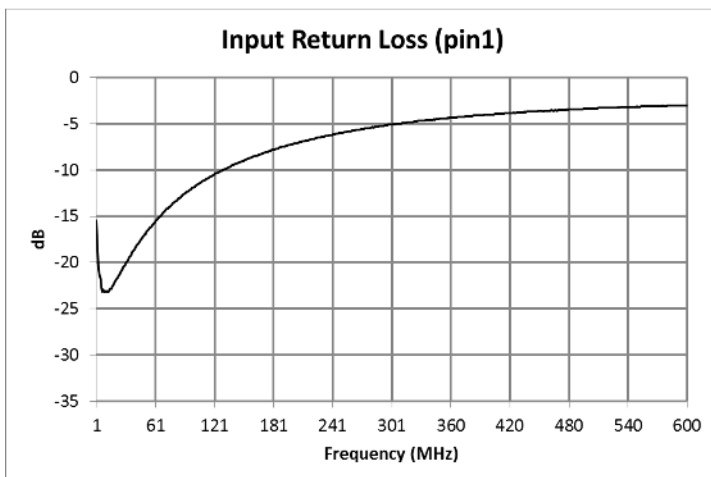
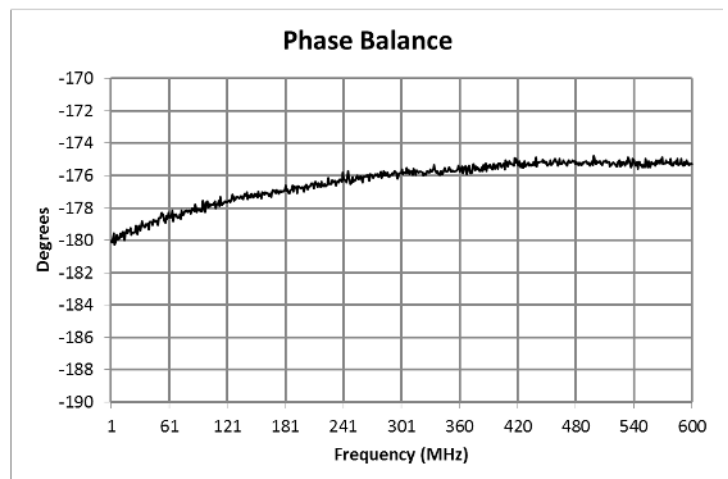
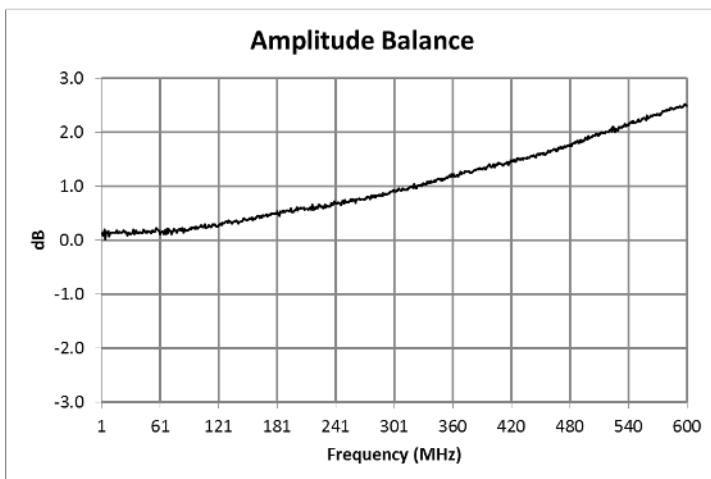
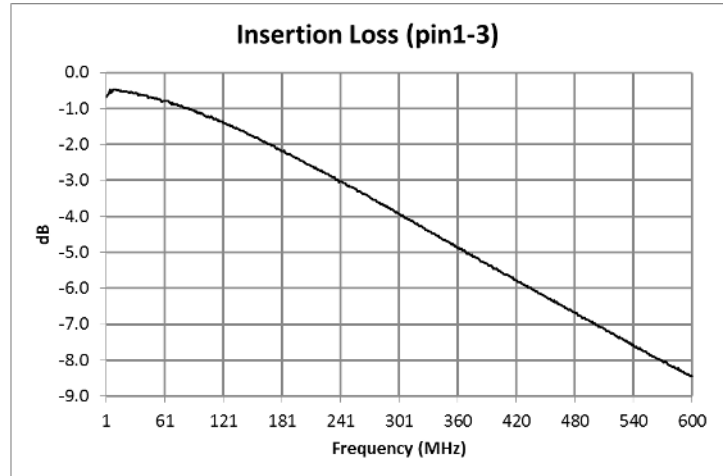
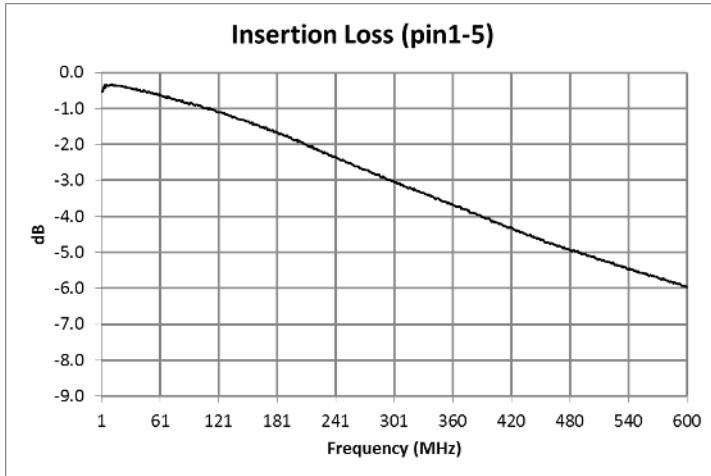
### Application Schematic



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### Typical Performance Curves

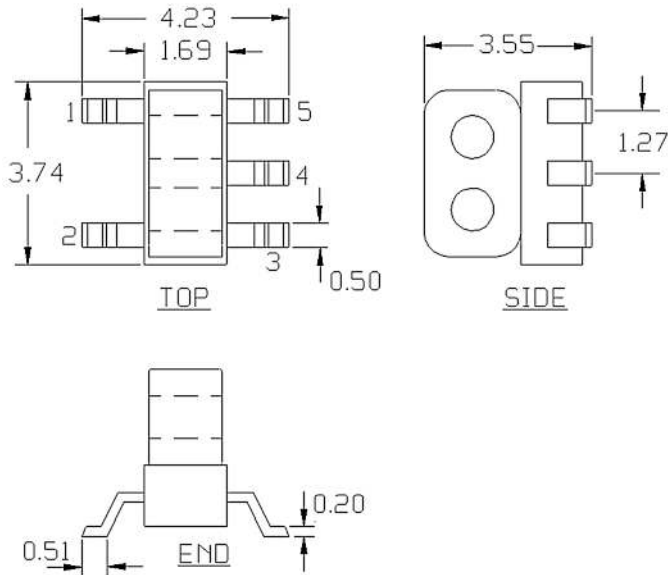


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### Outline Drawing

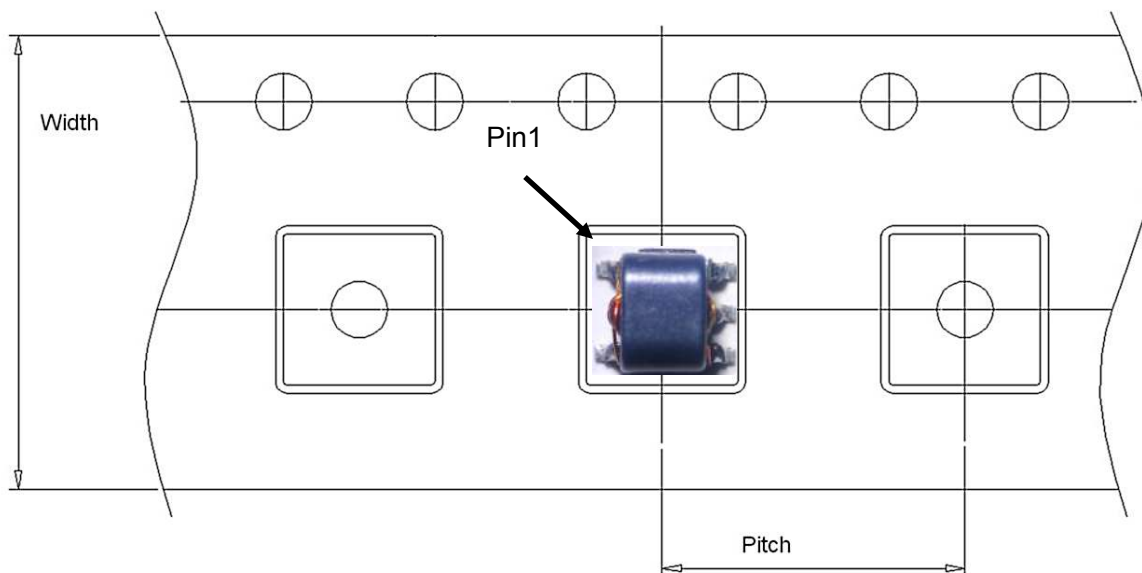


### Tape & Reel Information

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		

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.

### Carrier Tape Orientation



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