

# MABA-011040

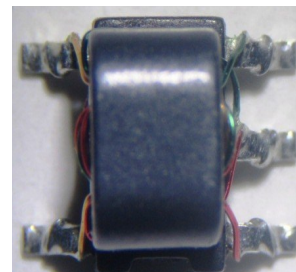


## 1:6 Step up Flux Coupled Balun Transformer 1 - 300 MHz

Rev. V2

### Features

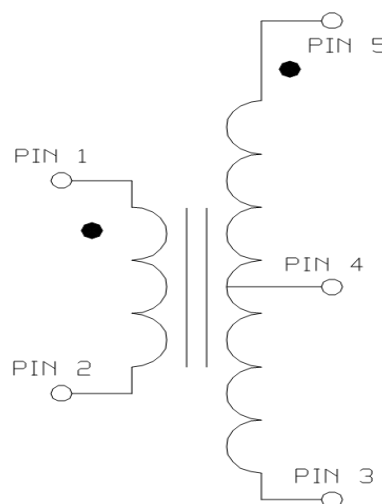
- 1:6 Impedance
- Surface Mount
- Available on Tape and Reel
- RoHS Compliant and Lead free
- 260°C Reflow Compatible
- Excellent temperature stability
- Suitable for all CATV, Broadband and FTTX applications



### Description

MABA-011040 is a 1:6 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-011040	Tape & Reel

### Pin Configuration

Pin No.	Function
1	Primary Dot (ground)
2	Primary (input)
3	Secondary (output 2)
4	Centre tap (ground)
5	Secondary Dot (output 1)

## 1:6 Step up Flux Coupled Balun Transformer 1 - 300 MHz

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

Parameter	Conditions	Units	Min	Typ	Max
Frequency Range	-	MHz	1	-	300
Impedance	-	$\Omega$	-	50	-
Impedance Ratio	-	-	-	1:6	-
Insertion Loss 1 (Pin2 - Pin5)	1 - 5 MHz	dB	-	0.6	1.4
	5 - 150 MHz	dB	-	0.7	1.0
	150 - 300 MHz	dB	-	0.9	1.4
Insertion Loss 2 (Pin2 - Pin3)	1 - 5 MHz	dB	-	0.7	1.2
	5 - 150 MHz	dB	-	0.7	1.0
	150 - 300 MHz	dB	-	0.8	1.1
Amplitude Balance	1 - 300 MHz	dB	-	0.07	$\pm 0.4$
Phase Balance	1 - 150 MHz	$^\circ$	-	0.4	$\pm 2.0$
	150 - 300 MHz	$^\circ$	-	1.0	$\pm 3.5$
Input Return Loss (Pin2)	1 - 5 MHz	dB	13	24	-
	5 - 150 MHz	dB	20	29	-
	150 - 300 MHz	dB	15	24	-

### Recommended Maximum Ratings

Parameter	Units	Min	Max
Input RF Power	mW	-	500
DC Current	mA	-	500
Operating Temperature Range	$^\circ\text{C}$	-40	+125

Full temperature plots available on request

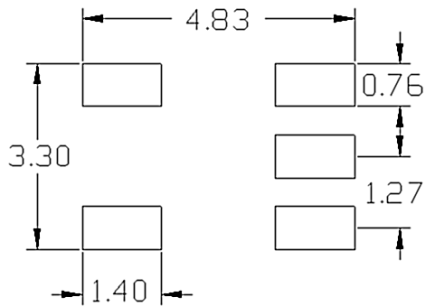
# MABA-011040



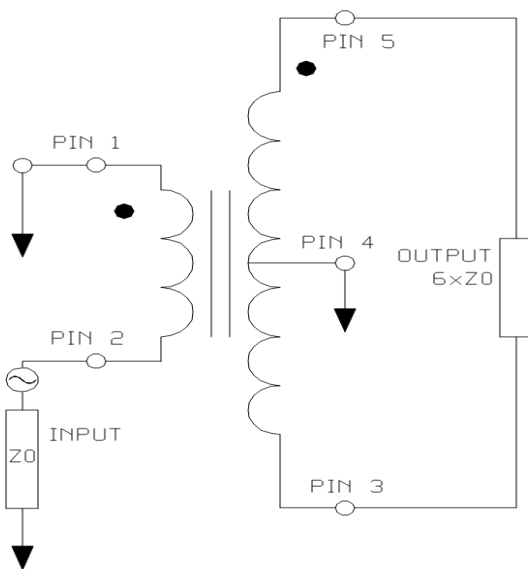
1:6 Step up Flux Coupled Balun Transformer  
1 - 300 MHz

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## PCB layout



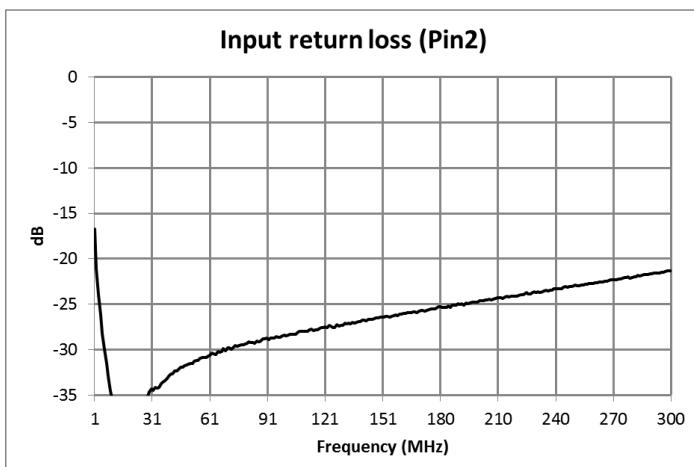
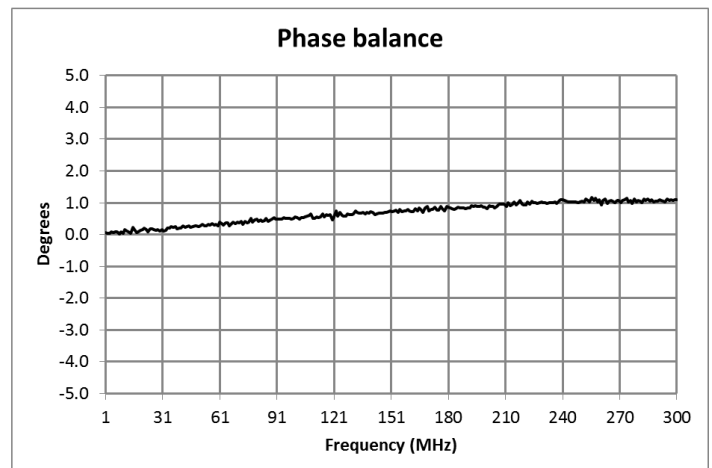
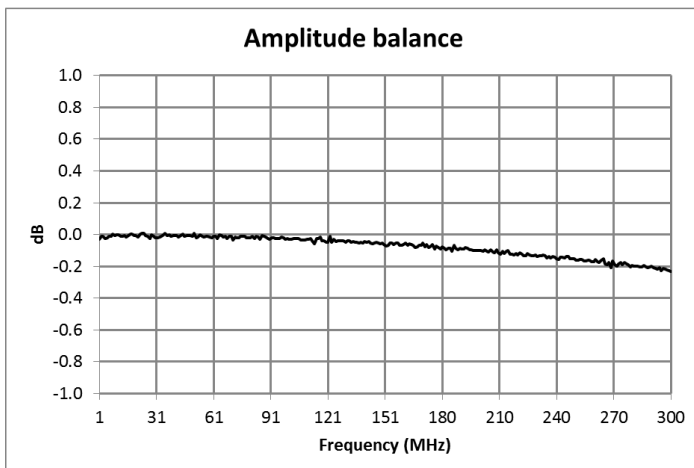
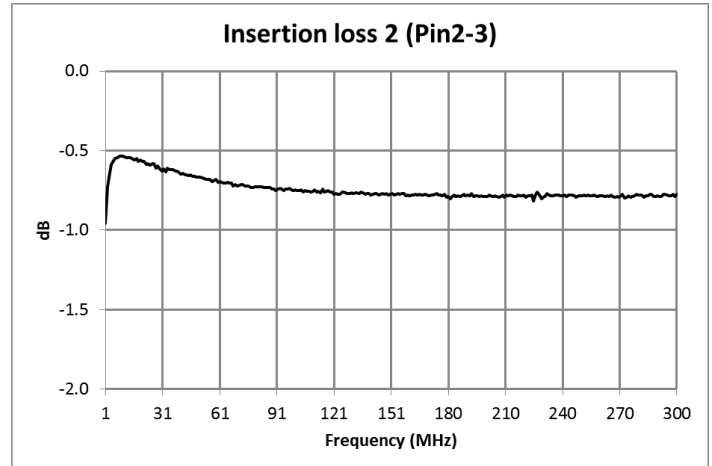
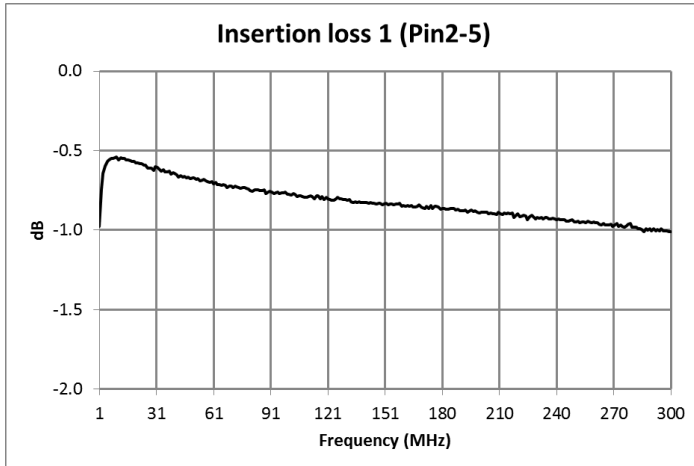
## Application Schematic



## 1:6 Step up Flux Coupled Balun Transformer 1 - 300 MHz

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### Typical Performance Curves

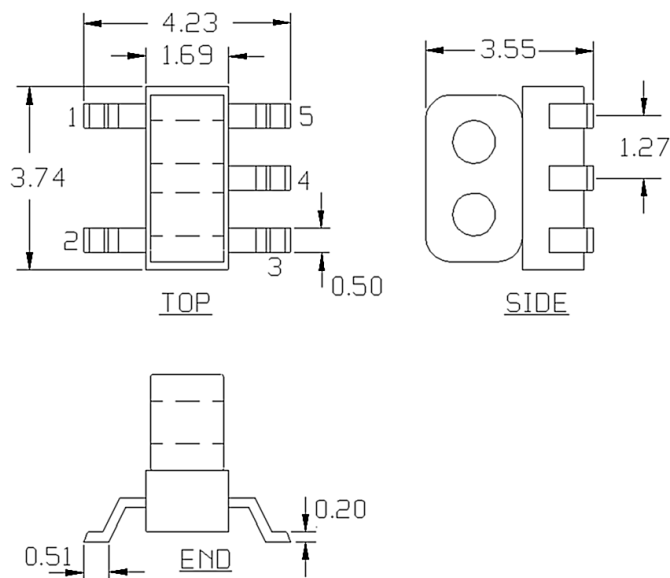


**Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75 \Omega$ ,  $P_{in} = 0\text{dBm}$**

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### Outline Drawing

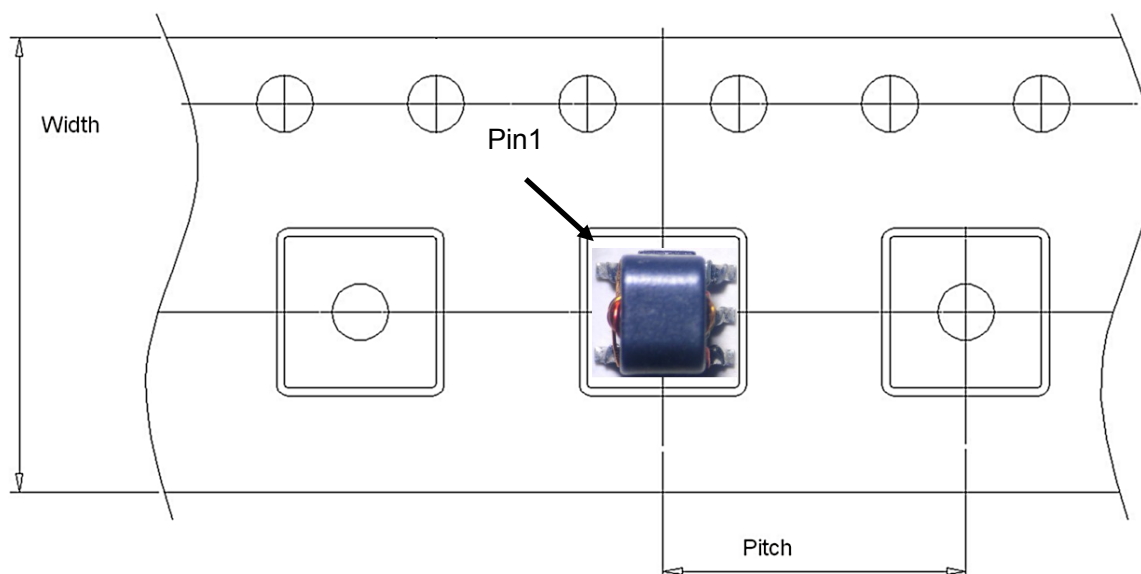


### Tape & Reel Information

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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