

# 1:1 Flux Coupled UnUn 5 - 300 MHz



MABA-011147

Rev. V1

## Features

- 1:1 Impedance
- Surface Mount Technology
- Available on Tape & Reel
- 260° reflow compatible
- Excellent temperature stability
- RoHS\* Compliant and Pb free

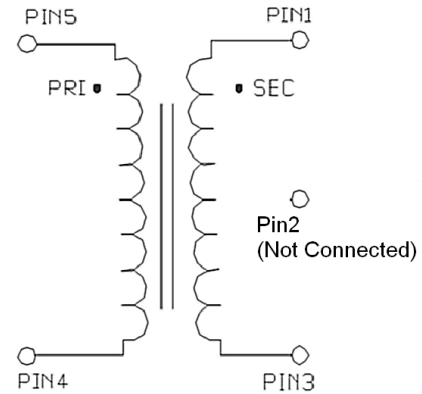
## Applications

- Suitable for all CATV, Broadband and FTTX applications

## Description

The MABA-011147 is a 1:1 Flux coupled UnUn transformer.

## Functional Schematic



## Ordering Information<sup>1,2</sup>

Part Number	Package
MABA-011147	bulk
MABA-011147-TB	Sample Board

1. Reference Application Note M513 for reel size information.
2. All sample boards include 5 loose parts.

## Pin Configuration<sup>3</sup>

Pin #	Function
1,4	Ground
2	Not Connected
3	Output
5	Input

3. MACOM recommends connecting unused package pins to ground.
4. The exposed pad centered on the package bottom must be connected to RF, DC and thermal ground.

\* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

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**Electrical Specifications: Freq. = 5 - 300 MHz,  $T_A = +25^\circ\text{C}$ ,  $P_{IN} = 0 \text{ dBm}$ ,  $Z_0 = 50 \Omega$**

Parameter	Test Conditions Frequency (MHz)	Units	Min.	Typ.	Max.
Impedance	—	$\Omega$	—	75	—
Impedance Ratio	—	ratio	—	1:1	—
Insertion Loss (Pin5 - Pin3)	5 - 75	dB	—	0.23	-0.35
	75 - 120			0.29	-0.40
	120 - 204			0.34	-0.45
	204 - 300			0.37	-0.55
Extended Phase (Pin5 - Pin3)	5 - 75	°	1	-5	-17
	75 - 120		1	-13	-25
	120 - 204		1	-20	-40
	204 - 300		-22	-30	-57
Input Return Loss (Pin5)	5 - 75	dB	-27	37	—
	75 - 120		-23	31	
	120 - 204		-19	26	
	204 - 300		-16	24	
Output Return Loss (Pin3)	5 - 75	dB	-27	34	—
	75 - 120		-24	32	
	120 - 204		-19	28	
	204 - 300		-16	25	

### Recommended Maximum Ratings

Parameter	Units
Input Power	2 W
Operating Temperature	-40°C to +85°C

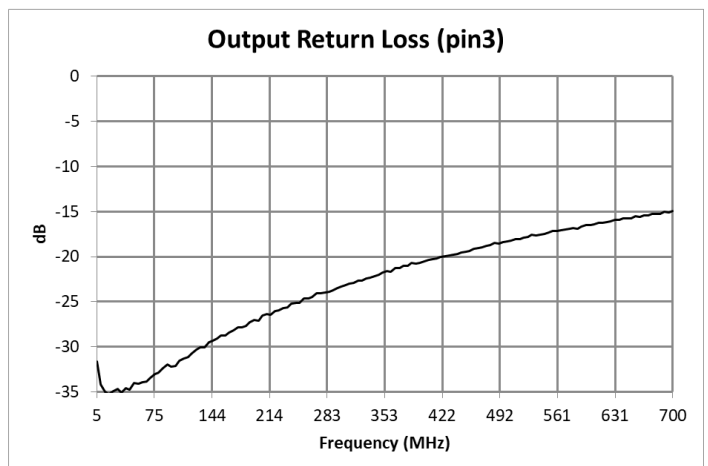
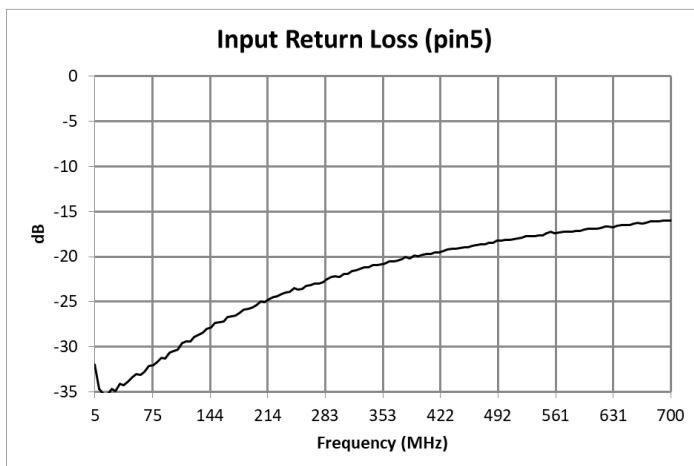
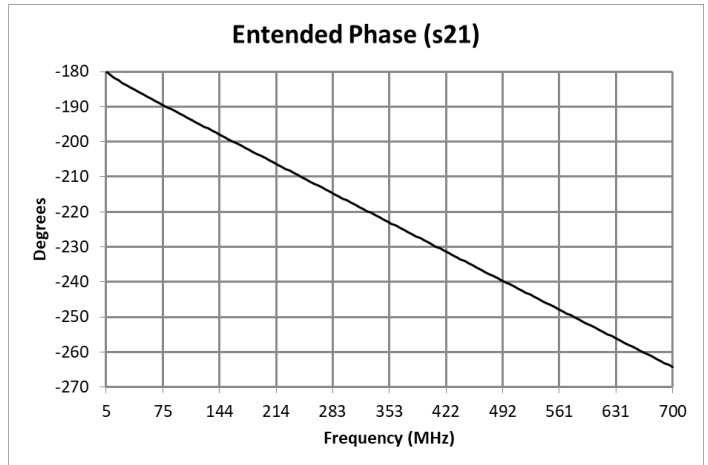
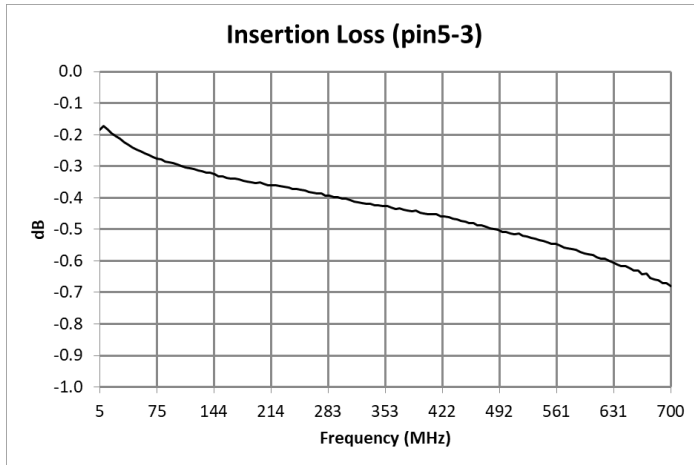
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Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $P_{IN} = 0 \text{ dBm}$ ,  $Z_0 = 75 \Omega$



Full temperature plots available on request

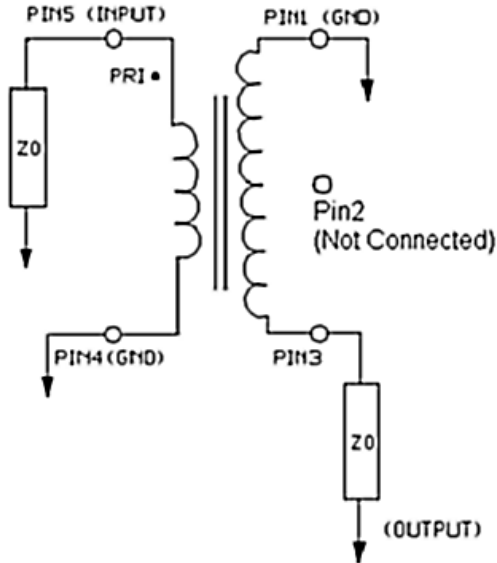
# 1:1 Flux Coupled UnUn 5 - 300 MHz



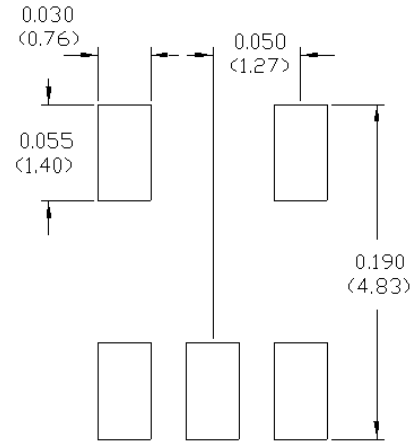
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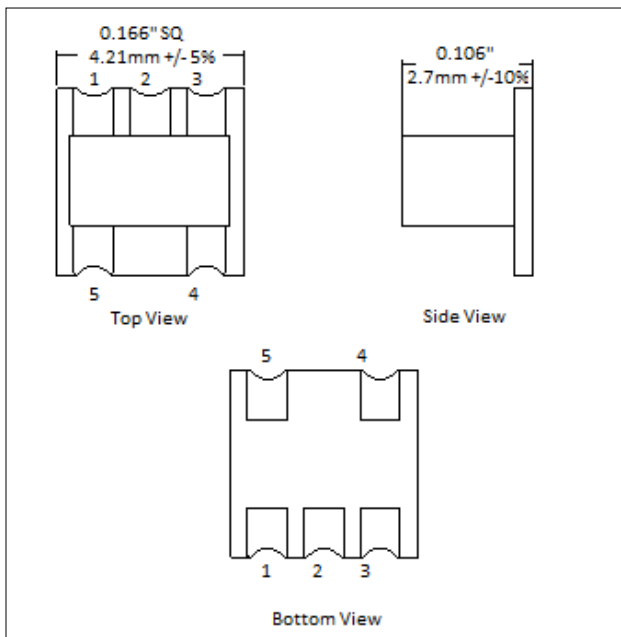
## Application Circuit



## PCB Layout



## Outline Drawing

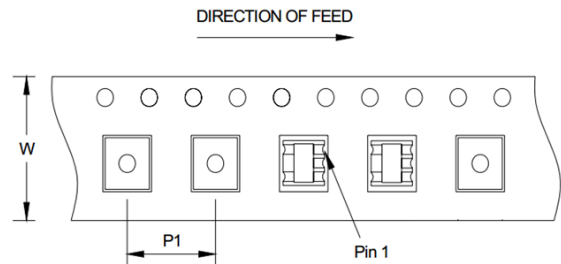


1. Dimensions in mm.
2. Tolerance:  $\pm 0.2$  mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Lead plating: ENIG.

## Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.00
Pitch	mm	8.00
Orientation	-	F31
Reference Application Note ANI-019 for orientation		

## Carrier Tape Orientation



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