

## 1:4 Flux Coupled Transformer 4 - 200 MHz

Rev. V4

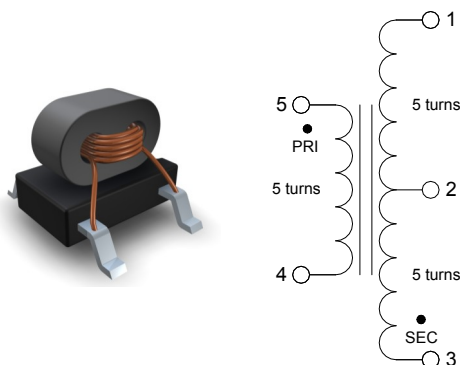
### Features

- 1:4 Impedance Ratio
- Surface Mount Package
- Excellent Amplitude & Phase Balance
- 260°C Reflow Compatible
- RoHS\* Compliant and Pb Free

### Description

The MABA-009600-CF48A0 is a RoHS Compliant 1:4 flux coupled transformer in a surface mount package.

### Schematic



### Pin Configuration

Pin #	Function
1	Secondary
2	Secondary Center Tap
3	Secondary Dot
4	Primary
5	Primary Dot

### Electrical Specifications: Freq. = 4 - 200 MHz, $T_A = 25^\circ\text{C}$ , $Z_0 = 50 \Omega$ , $P_{IN} = 0 \text{ dBm}$

Parameter	Frequency	Units	Min.	Typ.	Max.
Impedance Ratio	—	Ratio	—	1:4	—
Insertion Loss	4 - 65 MHz	dB	—	0.4	0.7
	65 - 200 MHz			0.9	1.5
Amplitude Unbalance	4 - 65 MHz	dB	—	$\pm 0.02$	$\pm 0.1$
	65 - 200 MHz			$\pm 0.2$	$\pm 0.5$
Phase Unbalance	4 - 65 MHz	°	—	$\pm 0.4$	$\pm 2.0$
	65 - 200 MHz			$\pm 2.0$	$\pm 8.0$
Input Return Loss	4 - 65 MHz	dB	15	22	—
	65 - 200 MHz		7	11	

### Ordering Information

Part #	Description
MABA-009600-CF48A0	2000 piece reel
MABA-009600-CF48TB	customer evaluation board

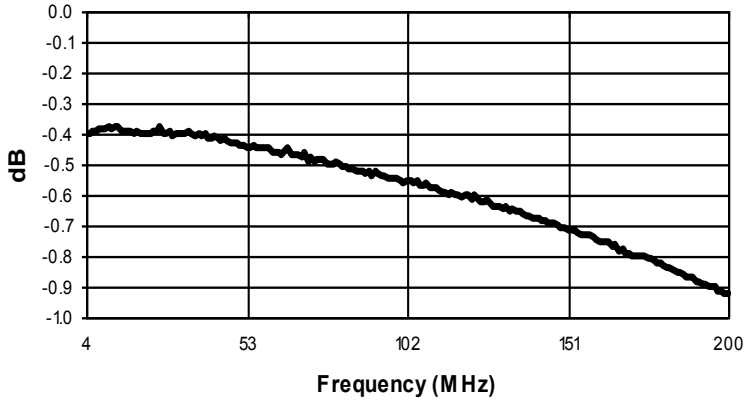
Reference Application Note **M513** for reel size information.

### Absolute Maximum Ratings

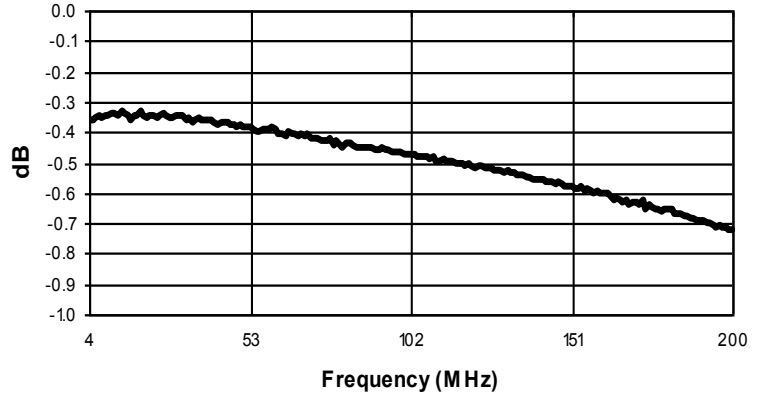
Parameter	Absolute Maximum
RF Power	250 mW
DC Current	200 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

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

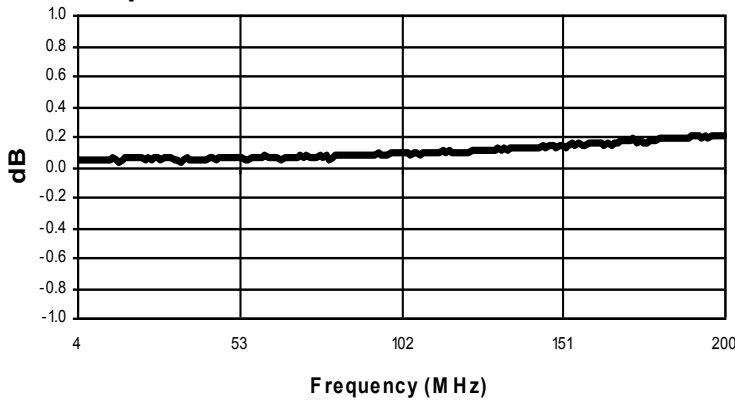
Insertion Loss 1: (Pin 4-1)



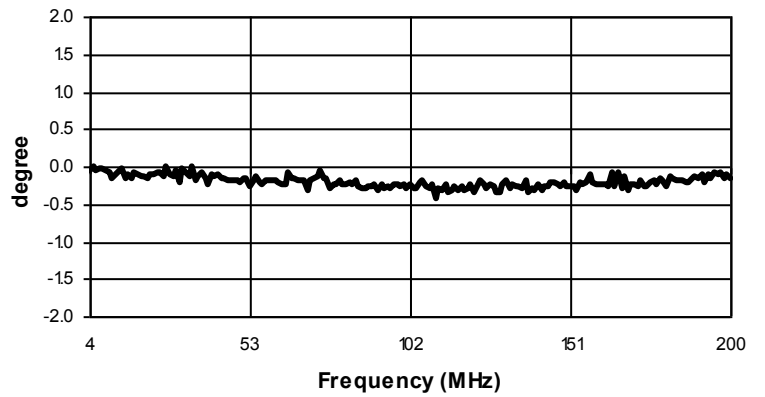
Insertion Loss 2: (Pin 4-3)



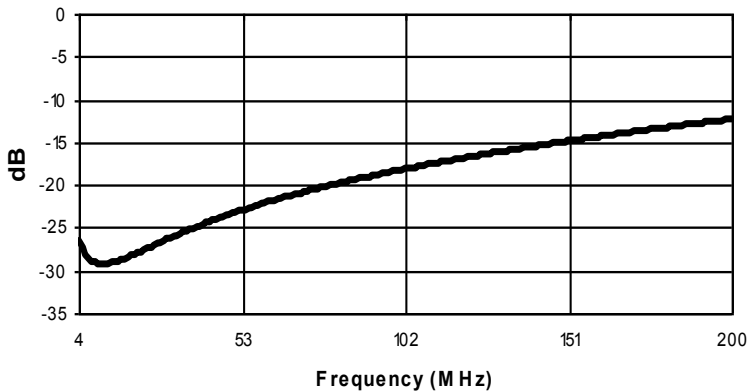
Amplitude Balance:



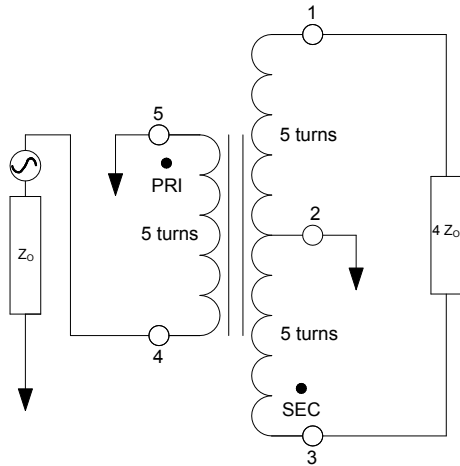
Phase Balance:



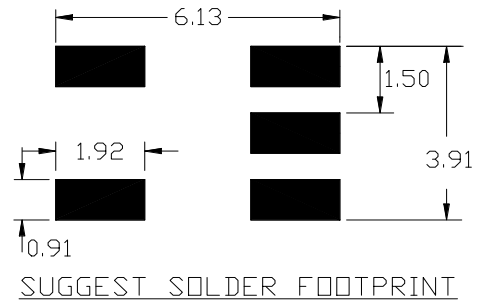
Input Return Loss: (Pin 4)



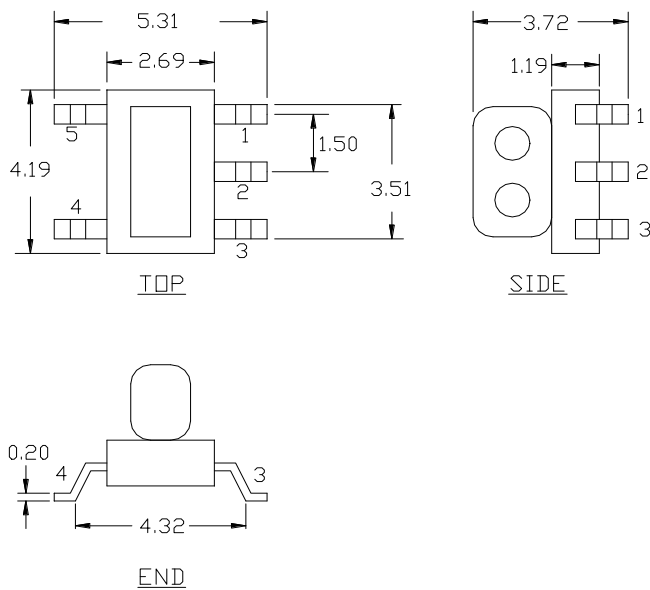
## Application Circuit



## Recommended Footprint



## Outline Drawing



## Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel size	mm	330
Tape width (W)	mm	12.0
Pitch (P <sub>1</sub> )	mm	8.0
A <sub>0</sub>	mm	5.60
B <sub>0</sub>	mm	4.50
K <sub>0</sub>	mm	4.00
Orientation	-	F26
Reference Application note ANI-019 for orientation		

1. Dimensions in mm.
2. Tolerance: ±0.2 mm unless otherwise noted.
3. Model number and lot code printed on reel.
4. Plating finish: CuSn6

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