

## 1:3 Flux Coupled Balun Transformer 0.3 - 500 MHz

Rev. V4

### Features

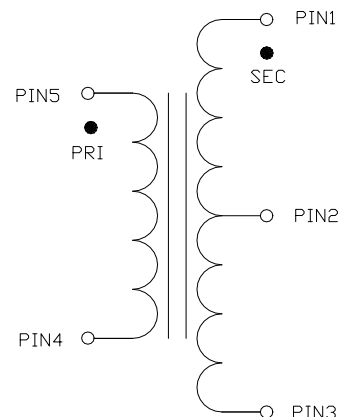
- 1:3 Impedance
- Surface Mount Package
- Centre Tap on Secondary
- 260°C Reflow Compatible
- RoHS\* Compliant and Lead Free
- Available on Tape and Reel

### Description

The MABA-009947-CF3160 is a 1:3 RF flux coupled transformer in a surface mount package.

Ideally suited for broadband CATV applications.

### Schematic



### Pin Configuration

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

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

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Insertion Loss	0.3 - 5 MHz	dB	—	1.2	2.5
	5 - 250 MHz			0.7	0.9
	250 - 500 MHz			1.3	1.9
Amplitude Unbalance (Nominal 0 dB)	0.3 - 100 MHz	dB	—	0.0	$\pm 0.2$
	100 - 250 MHz			0.2	$\pm 0.4$
	250 - 500 MHz			0.6	$\pm 1.5$
Phase Unbalance (Nominal 180°)	0.3 - 100 MHz	°	—	0.0	$\pm 3$
	100 - 250 MHz			0.8	$\pm 6$
	250 - 500 MHz			3.5	$\pm 20$
Input Return Loss	0.3 - 5 MHz	dB	7	11	—
	5 - 250 MHz		18	22	
	250 - 500 MHz		10	15	

### Ordering Information

Part #	Package
MABA-009947-CF3160	2000 piece reel
MABA-009776-CF31TB	Customer Test Board

### Recommended Maximum Ratings

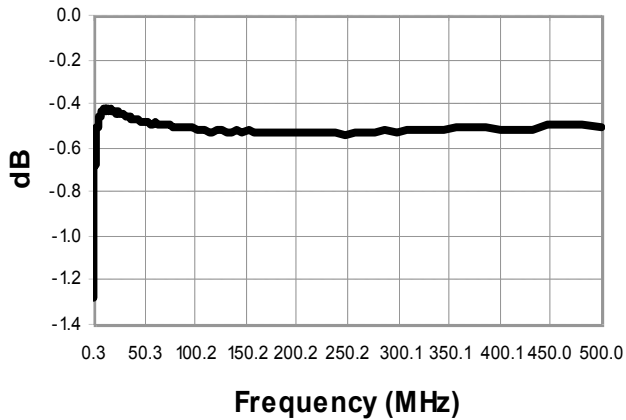
Parameter	Value
RF Power	>250 mW
DC Current	>30 mA
Operating Temperature	-20°C to +85°C
Storage Temperature	-55°C to +100°C

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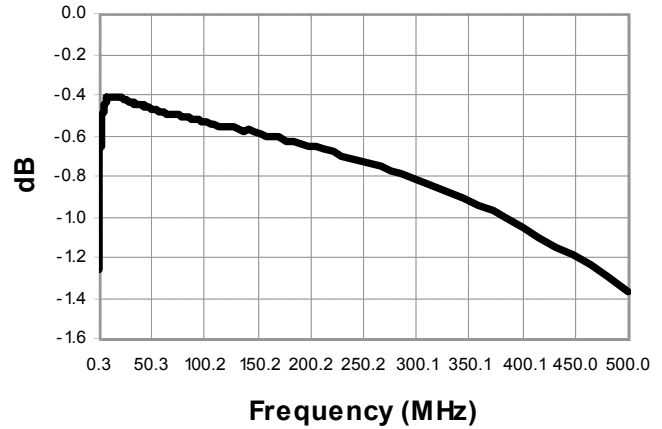
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Typical Performance:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 50 \Omega$ ,  $P_{IN} = 0 \text{ dBm}$

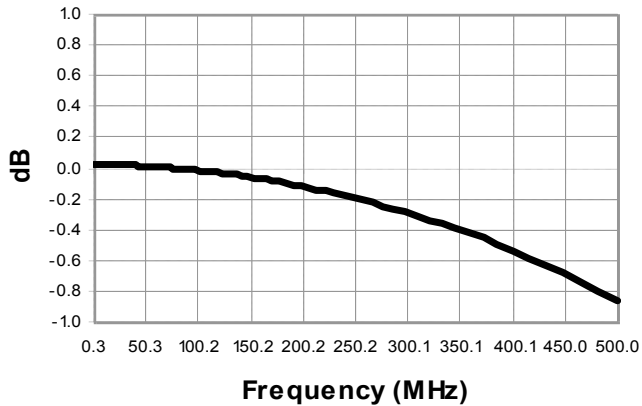
Insertion Loss 1: (Pin 4 to 1)



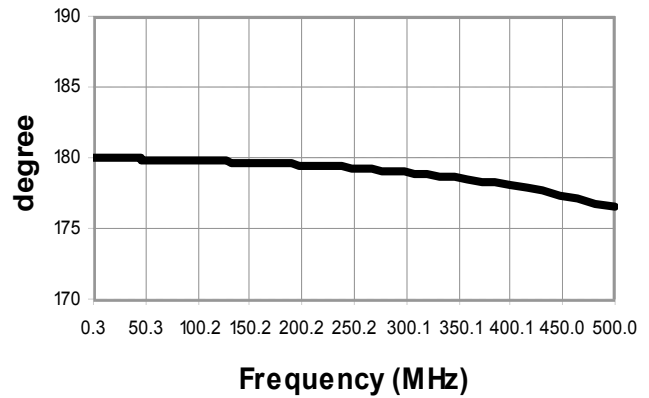
Insertion Loss 2: (Pin 4 to 3)



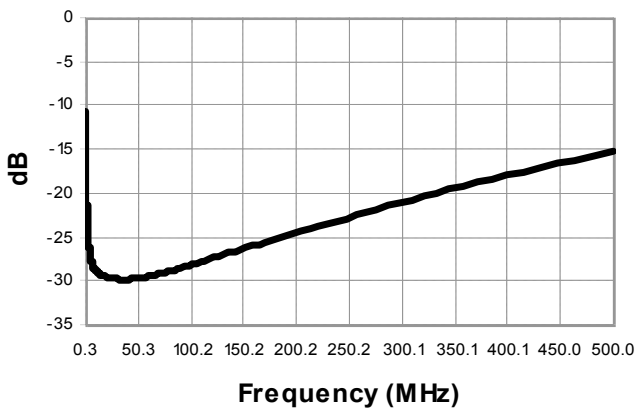
Amplitude Unbalance



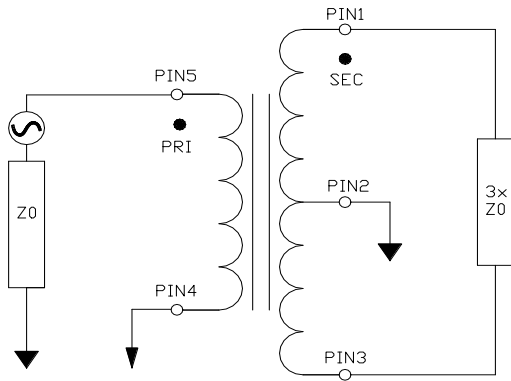
Phase Unbalance



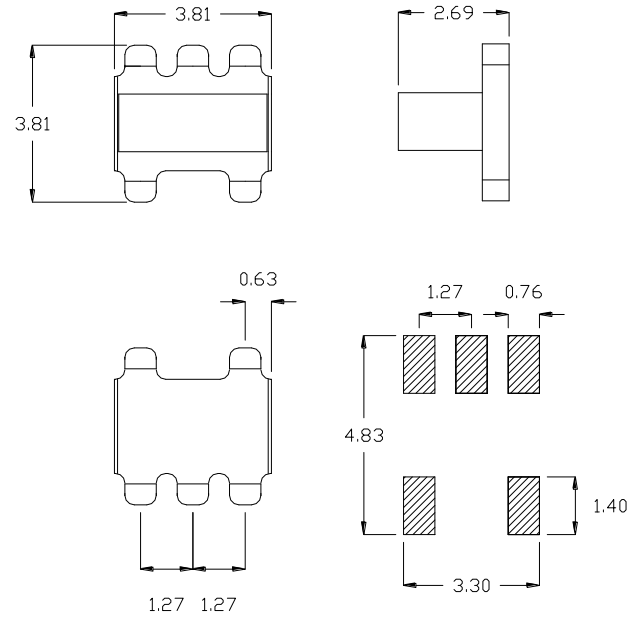
Return Loss: Input (Pin 4)



## Application Circuit

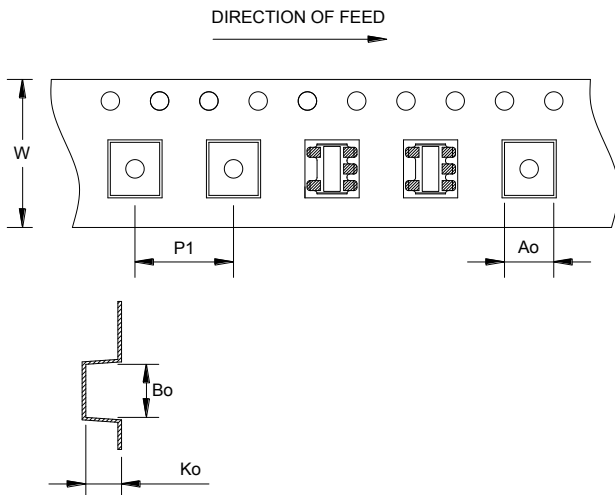


## Outline Drawing



All Dimensions in mm.  
 Tolerance  $\pm 0.20$  mm  
 Drawing not to scale

## Reel Orientation



## Tape & Reel Information

Item	Dimension
Ao	4.00 mm, +/-0.1 mm
Bo	4.00 mm, +/-0.1 mm
Ko	2.90 mm, +/-0.1 mm
W	12.00 mm, +/-0.3 mm
P1	8.00 mm, +/-0.1 mm

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