

## 1:1 Flux Coupled BalBal Transformer with separated center taps

Rev. V2

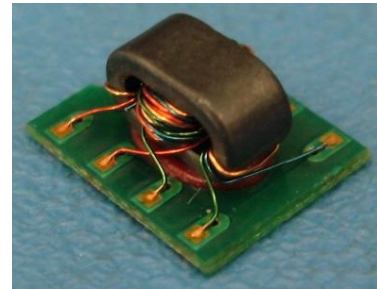
### Features

- Surface Mount
- 1:1 Impedance
- 75 Ohm
- RoHS Compliant

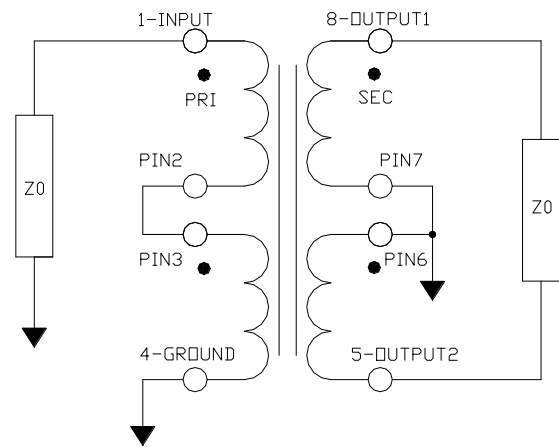
### Description

MABA-009412-CF1BC0 is a 1:1 BalBal flux coupled transformer in a low cost surface mount package. The 4 coils on this core are routed to separate pins on the carrier, so it may be configured for many different circuits.

Ideally suited for high volume CATV application.



### Schematic



### Ordering Information

Part Number	Package
MABA-009412-CF1BC0	500 pieces per reel
MABA-009412-CF1BTB	Customer test board

### Pin Configuration

Pin Number	Function
1	Coil 1 dot (input)
2	Coil 1 (short to 3)
3	Coil 2 dot (short to 2)
4	Coil 2 (ground)
5	Coil 3 (output 2)
6	Coil 3 dot (ground)
7	Coil 4 (ground)
8	Coil 4 dot (output 1)

\* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

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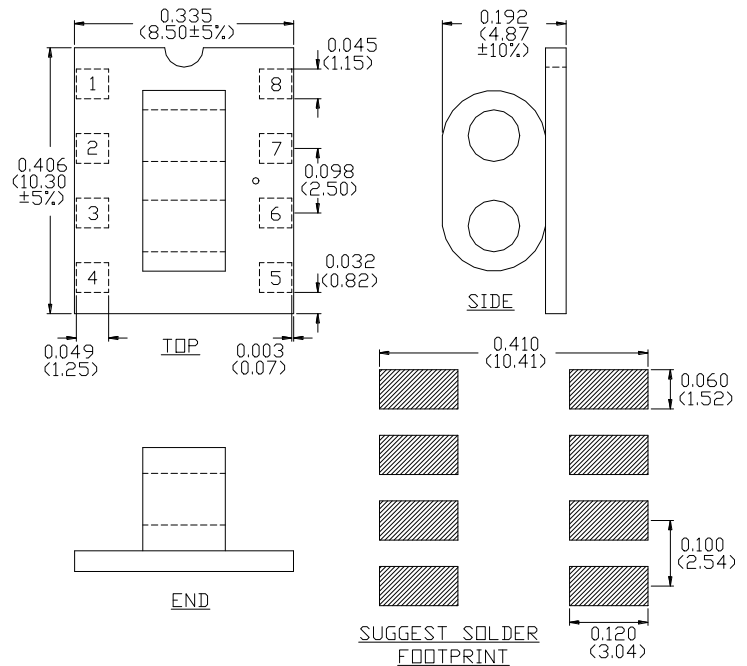
Electrical Specifications:  $T_A = 25^\circ\text{C}$ , 0dBm,  $Z_0 = 75\Omega$

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Frequency Range	1 - 50 MHz		—	—	—
Insertion Loss 1 (Pin 1 to Pin 8)	1 - 25 MHz	dB	—	0.2	0.4
	25 - 50 MHz			0.5	
Insertion Loss 2 (Pin 1 to Pin 5)	1 - 25 MHz	dB	—	0.2	0.4
	25 - 50 MHz			0.3	
Amplitude Un-Balance	1 - 25 MHz	dB	—	$\pm 0.04$	$\pm 0.2$
	25 - 50 MHz			$\pm 0.23$	
Phase Un-Balance	1 - 50 MHz	$^\circ$	—	$\pm 0.6$	$\pm 3.0$
Input Return Loss (Pin 1)	1 - 10 MHz	dB	20	25	—
	10 - 25 MHz		16	22	
	25 - 50MHz		12	17	

### Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Power	250 mW
DC Current	30 mA
Operating Temperature	$-40^\circ\text{C}$ to $+85^\circ\text{C}$
Storage Temperature	$-40^\circ\text{C}$ to $+85^\circ\text{C}$

### Case Style SM-193



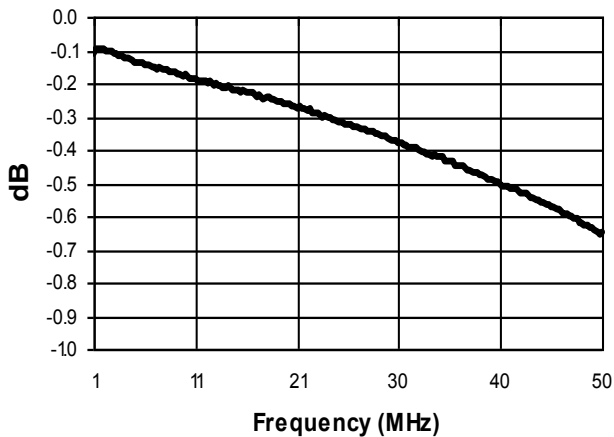
Dimensions are inches (millimeters)  $\pm 0.015$  (0.38) unless otherwise specified.

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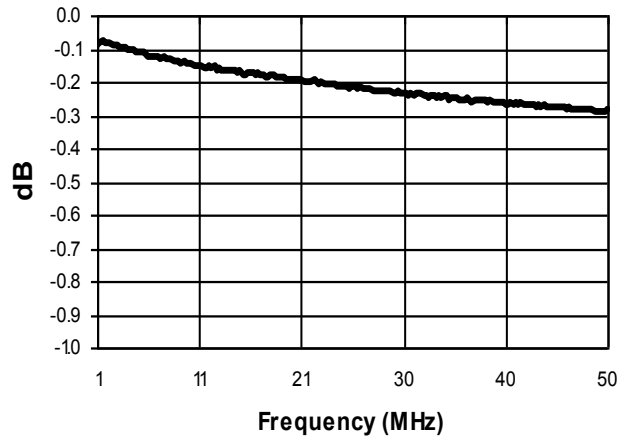
Rev. V2

Typical Performance:  $T_A = 25^\circ\text{C}$ , 0dBm,  $Z_0 = 75\Omega$

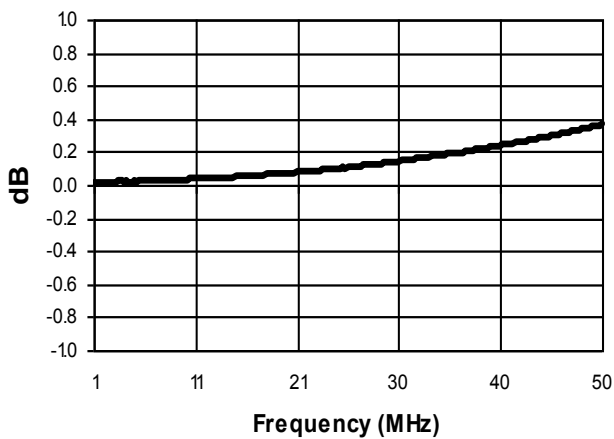
Insertion Loss 1 (Pin 1 - Pin 8)



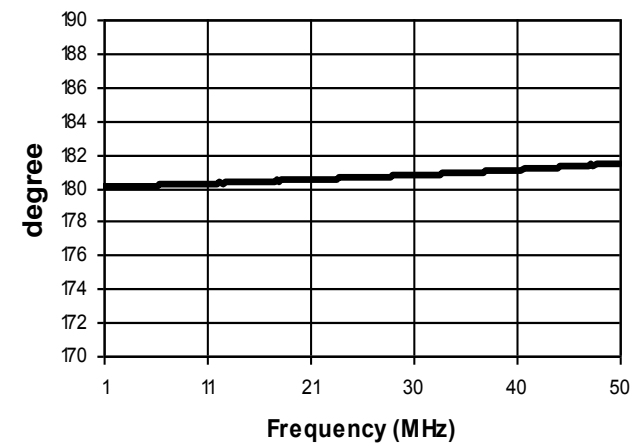
Insertion Loss 2 (Pin 1 - Pin 5)



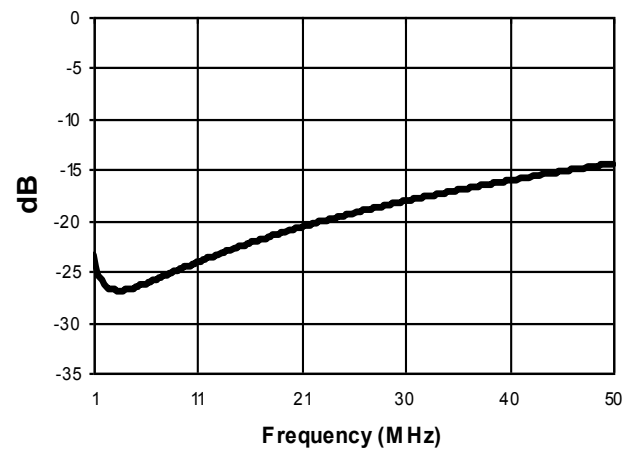
Amplitude Balance



Phase Balance



Return Loss: Input (Pin 5)



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