

1:1 Flux Coupled BalBal Transformer with separated center taps

Rev. V2

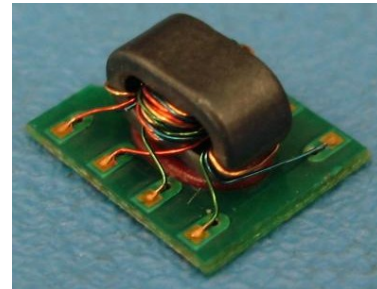
Features

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

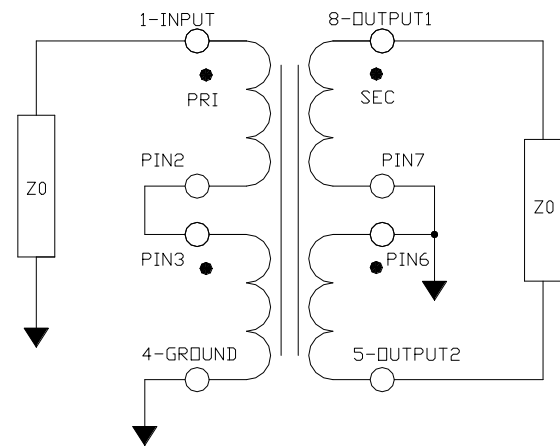
Description

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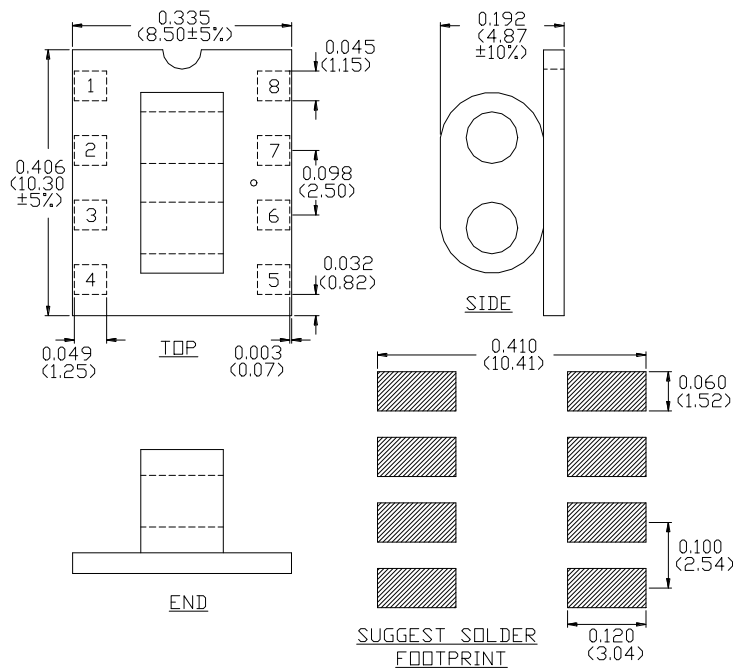
Electrical Specifications: $T_A = 25^\circ\text{C}$, 0dBm, $Z_0 = 75\Omega$

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	—	± 0.04	± 0.2
	25 - 50 MHz			± 0.23	
Phase Un-Balance	1 - 50 MHz	$^\circ$	—	± 0.6	± 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°C to $+85^\circ\text{C}$
Storage Temperature	-40°C to $+85^\circ\text{C}$

Case Style SM-193



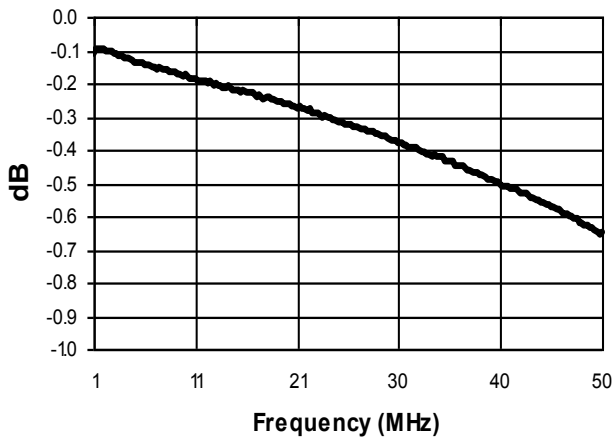
Dimensions are inches (millimeters) ± 0.015 (0.38) unless otherwise specified.

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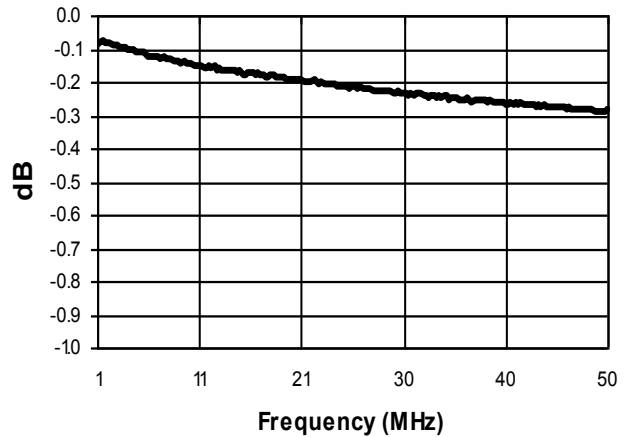
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Typical Performance: $T_A = 25^\circ\text{C}$, 0dBm, $Z_0 = 75\Omega$

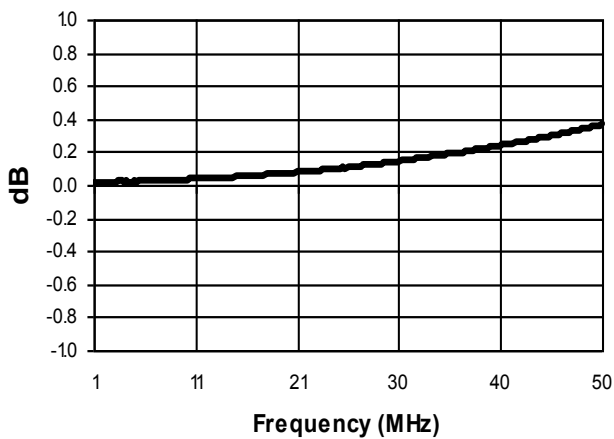
Insertion Loss 1 (Pin 1 - Pin 8)



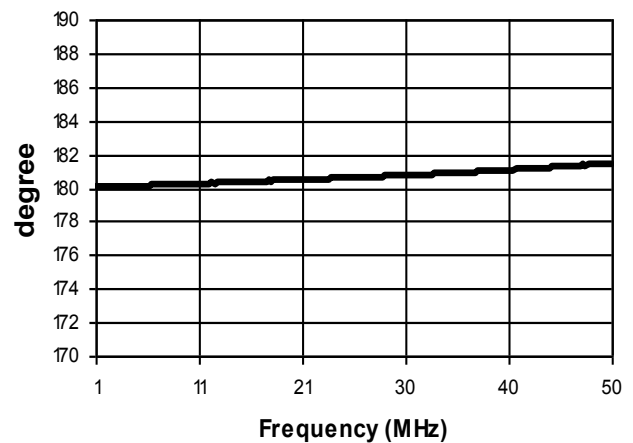
Insertion Loss 2 (Pin 1 - Pin 5)



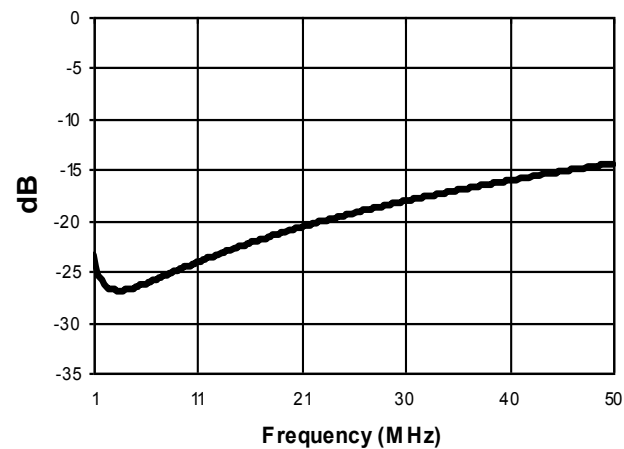
Amplitude Balance



Phase Balance



Return Loss: Input (Pin 5)



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