

1.33:1 Transmission Line Balun Transformer 5 - 1000 MHz

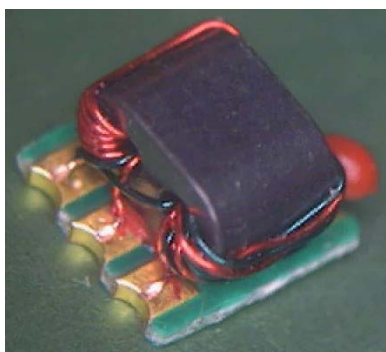
M/A-COM Products
Part Status: ETRR Rev. V1

Features

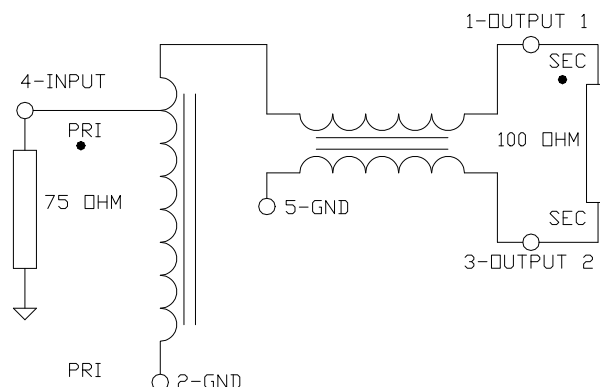
- Surface Mount
- 1.33:1 Impedance
- 75Ω single ended to 100Ω Balance
- RoHS Compliant
- Available on Tape and Reel

Description

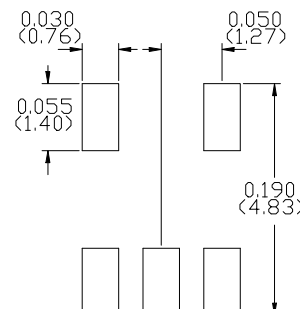
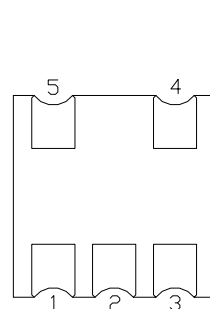
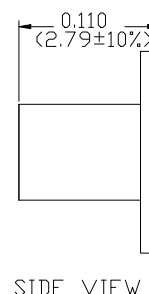
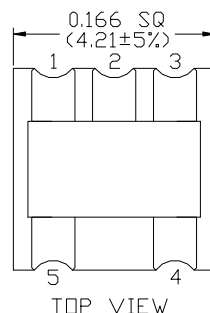
M/A-COM's MABA-009092-CT1A40 is a 1.33:1 RF Transmission Line Balun Transformer in a low cost surface mount package. Ideally suited for high volume CATV/Broadband applications.



Schematic



Case Style SM-164



Pin Configuration

Function	Pin Number
Secondary Dot (output 1)	1
Primary (ground)	2
Secondary (output 2)	3
Primary Dot (Input)	4
(ground)	5

Ordering Information

Parameter	Package
MABA-009092-CT1A40	2000
MABA-009092-CT1ATB	Customer Test Board

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

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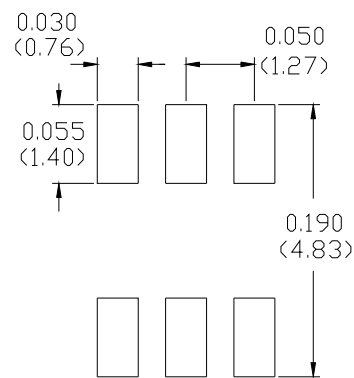
Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Frequency Range	5 – 1000 MHz				
Insertion Loss 1 (Pin 4 to Pin 1)	5 – 50 MHz	dB	–	0.3	0.4
	50 – 870 MHz	dB	–	0.6	1.8
	870 – 1000 MHz	dB	–	1.75	2.4
Insertion Loss 2 (Pin 4 to Pin 3)	5 – 50 MHz	dB	–	0.94	1.4
	50 – 870 MHz	dB	–	0.7	1.2
	870 – 1000 MHz	dB	–	1.0	1.5
Amplitude Balance	5 – 50 MHz	dB	–	0.7	± 1.3
	50 – 870 MHz	dB	–	0.13	± 1.0
	870 – 1000 MHz	dB	–	0.74	± 1.4
Phase Balance	5 – 50 MHz	$^\circ$	–	4	± 16
	50 – 1000 MHz	$^\circ$	–	5	± 9
Input Return Loss (Pin 4)	5 – 50 MHz	dB	13	23	–
	50 – 400 MHz	dB	17	27	–
	400 – 870 MHz	dB	9	17	–
	870 – 1000 MHz	dB	8	12	–

Absolute Maximum Ratings

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

Recommended PCB Configuration



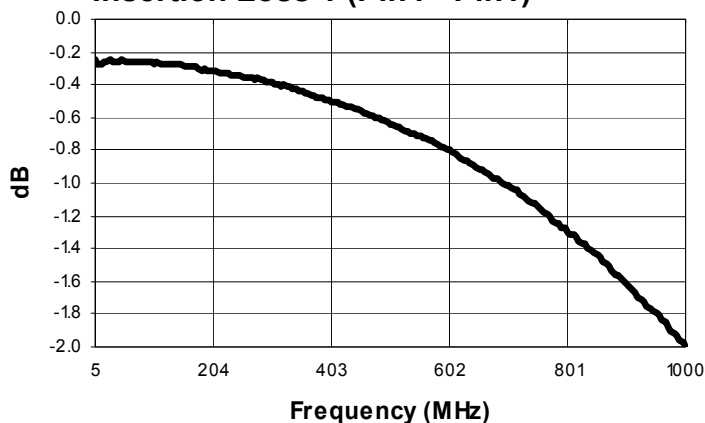
FOOTPRINT FOR PCB DESIGN

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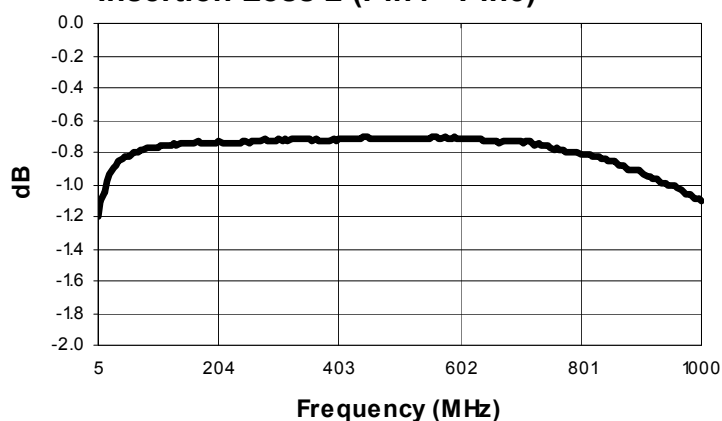
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Typical Performance: $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$ ¹

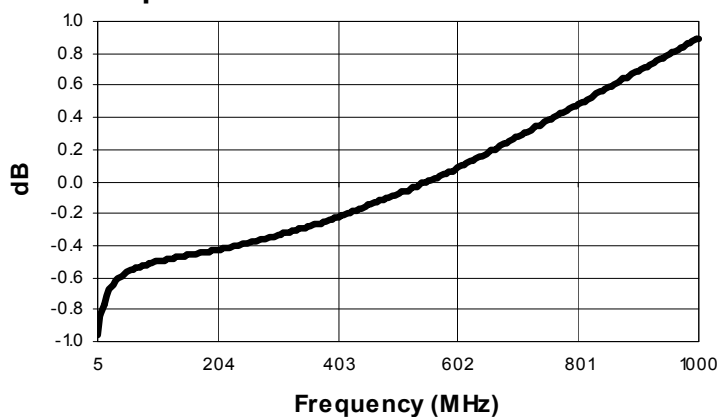
Insertion Loss 1 (Pin4 - Pin1)



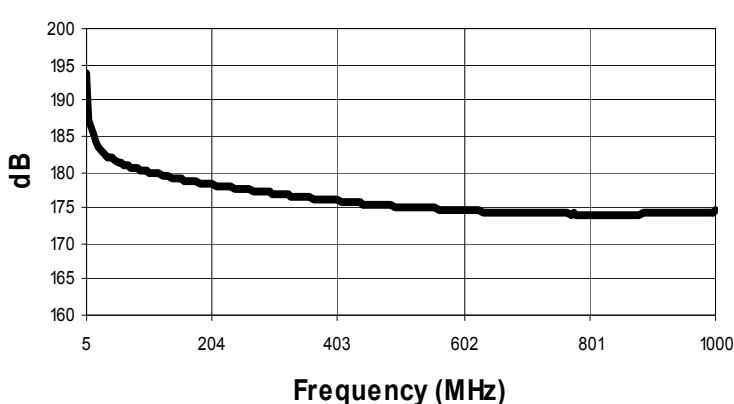
Insertion Loss 2 (Pin4 - Pin3)



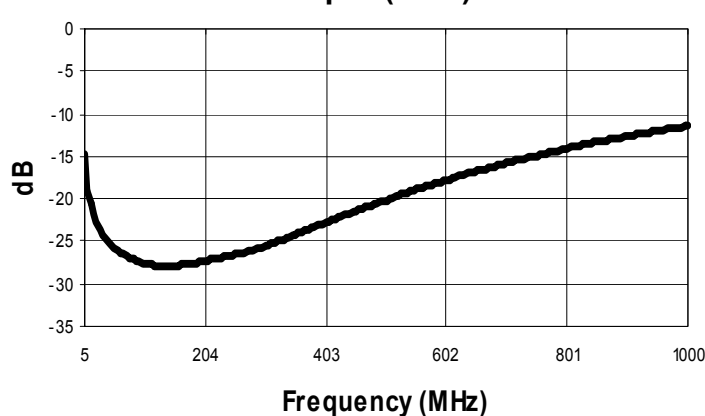
Amplitude Balance



Phase Balance



Return Loss: Input (Pin4)



ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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