

MABA-010321-CT1A42

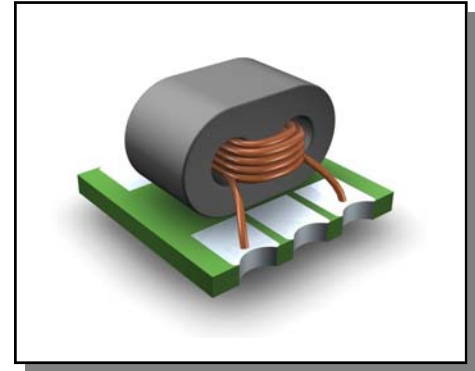


1:1 Transmission Line Transformer with tertiary winding
50 - 1200 MHz

Rev. V1

Features

- ◆ 1:1 Impedance
- ◆ Surface mount
- ◆ Excellent amplitude and phase balance
- ◆ 260°C reflow compatible
- ◆ RoHS Compliant and Pb free
- ◆ Suitable for all CATV, Broadband and FTTx applications.
- ◆ Available on tape and reel.



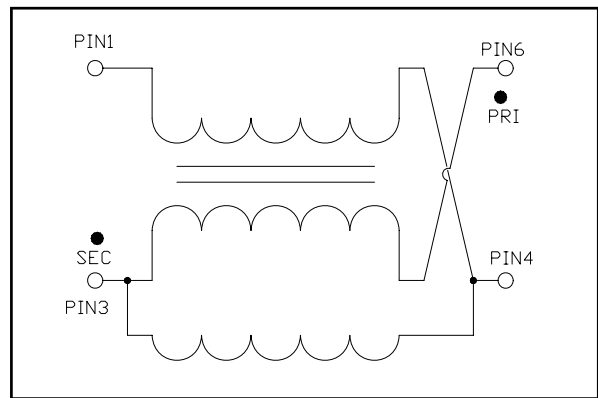
Electrical Specifications: $Z_0 = 75\Omega$, $T_A = 25^\circ\text{C}$, $P_{in} = 0\text{dBm}$

Parameter	Conditions	Units	Min	Typ	Max
Frequency Range		MHz	5		1200
Impedance		Ω		75	
Impedance Ratio		dB		1:1	
Insertion Loss 1: Pin 6-3 (Through)	50 - 150 MHz	dB	-	0.2	0.4
	150 - 500 MHz	dB	-	0.5	0.6
	500 - 870 MHz	dB	-	0.8	0.95
	870 - 1200 MHz	dB	-	1.3	1.65
Insertion Loss 1: Pin 6-1 (Coupled)	50 - 350 MHz	dB	-	0.5	0.6
	350-1200 MHz	dB	-	0.7	1.1
Amplitude Balance	50 - 500 MHz	dB	-	0.2	± 0.35
	500-1000 MHz	dB	-	0.4	± 0.65
	1000-1200 MHz	dB	-	0.6	± 0.95
Phase Balance	50 - 500 MHz	$^\circ$	-	0.9	± 2.0
	500-1000 MHz	$^\circ$	-	3.1	± 6.0
	1000-1200 MHz	$^\circ$	-	6.7	± 10.0
Input Return Loss	50 - 150 MHz	dB	20	22	-
	150 - 700 MHz	dB	13	16	-
	700 - 1200 MHz	dB	8	11	-

Pin Configuration

Pin No.	Function
1	Output 2
2	Not used (ground)
3	Output 1
4	Ground
5	Not used (ground)
6	Input

Schematic



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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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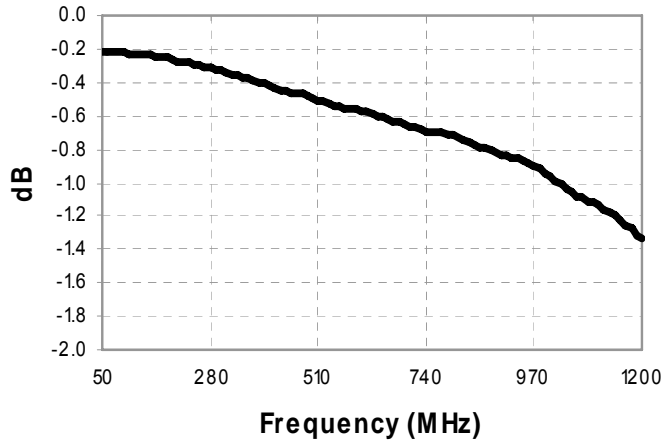
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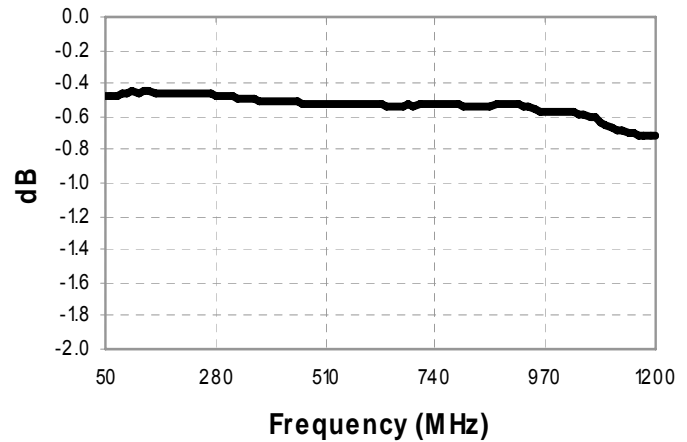
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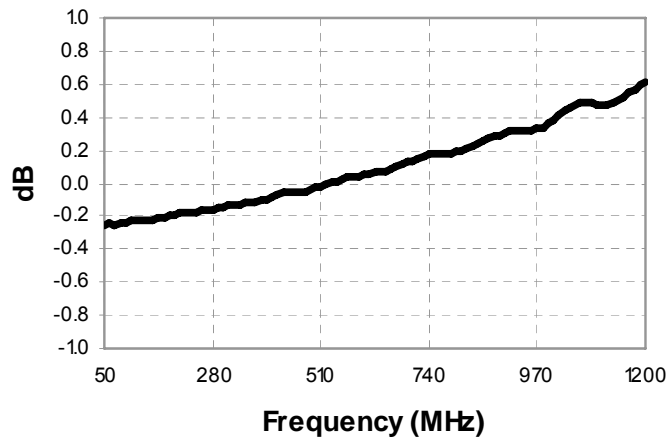
Insertion Loss1: (pin6 - pin3)



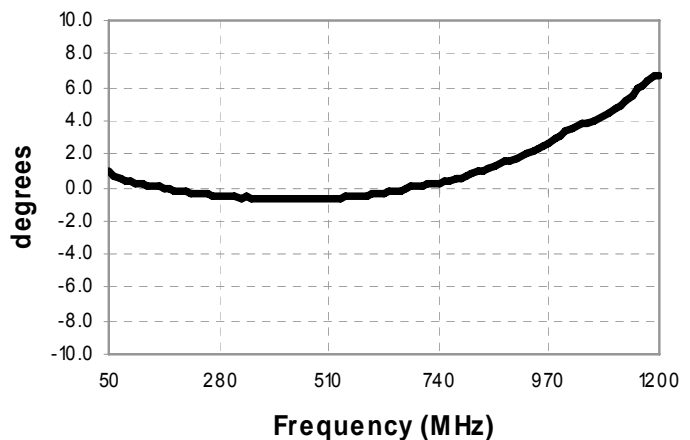
Insertion Loss2: (pin6 - pin1)



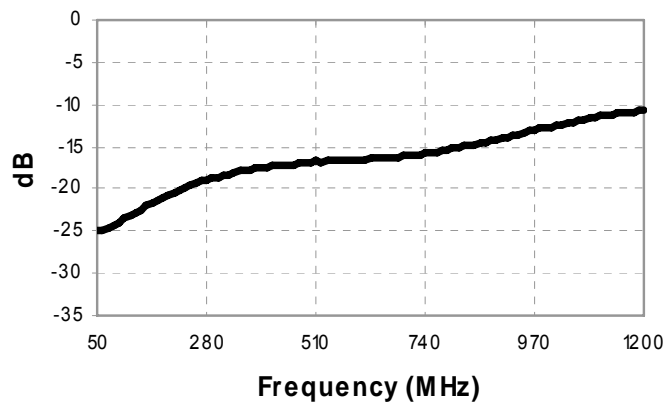
Amplitude Balance



Phase Balance

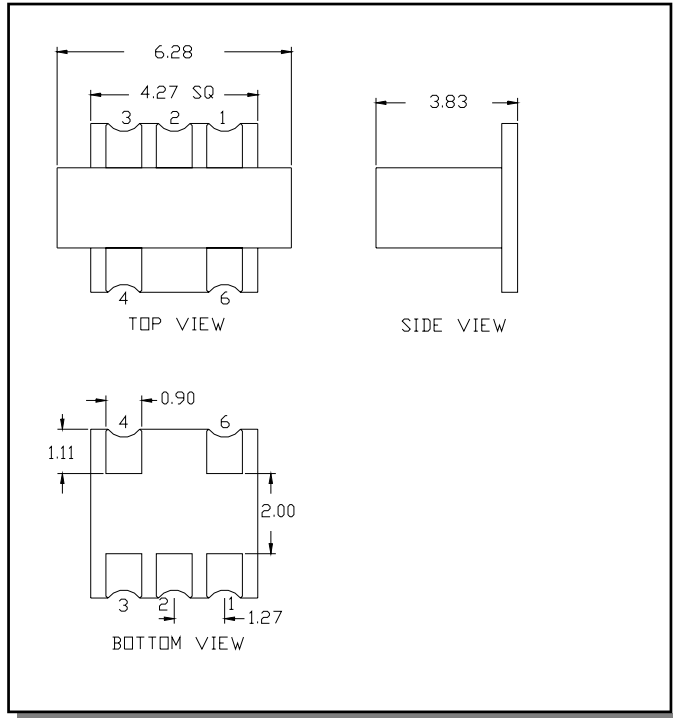


Return Loss: Input (pin6)

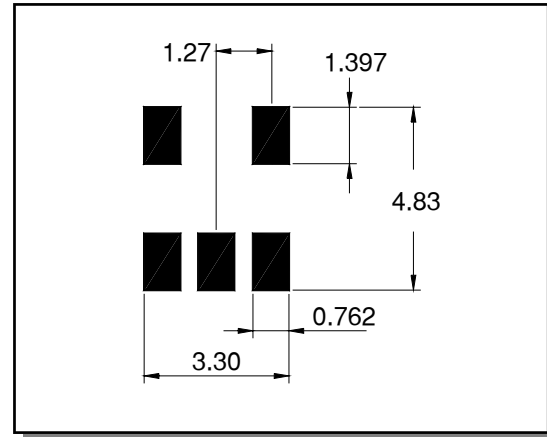


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Outline Drawing

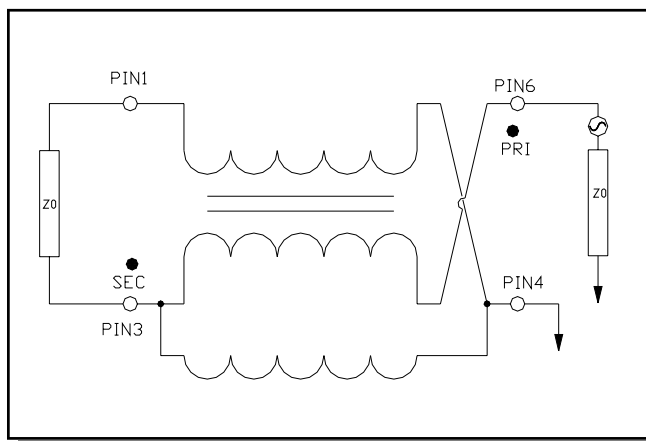


Recommended Footprint

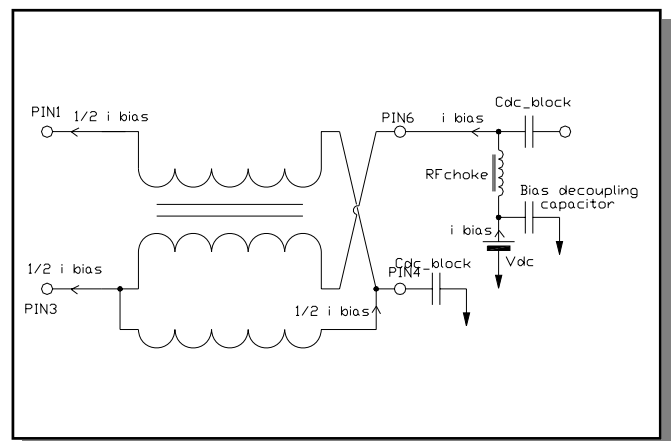


1. Dimensions in mm.
2. Tolerance: $\pm 0.2\text{mm}$ unless otherwise noted.
3. Model number and lot code printed on reel.
4. Plating finish: ENIG on both sides, 0.05 to 0.1 μm gold over 3 to 6 μm nickel

Application Circuit



DC Bias Application Circuit



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Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel size	mm	330
Tape width (W)	mm	16.0
Pitch (P ₁)	mm	8.0
A ₀	mm	4.5
B ₀	mm	6.7
K ₀	mm	4.2
Orientation	-	F5
Reference Application note ANI-019 for orientation		

Ordering Information

Part Number	Description
MABA-010321-CT1A42	Tape & Reel

Recommended Maximum Ratings

Parameter	Units	Min	Max
Input Power	mW		250
DC Current	mA		500
Operating Temperature Range	°C	-40	+85
Storage Temperature Range	°C	-55	+100

Temperature data available on request

ECO History

Rev	Date	Description	ECO
V1	25 Nov 2010	Released	20101977