

MABA-007681-CT2010



Transformer, 1:2 Transmission Line Balun
5 MHz - 1200 MHz

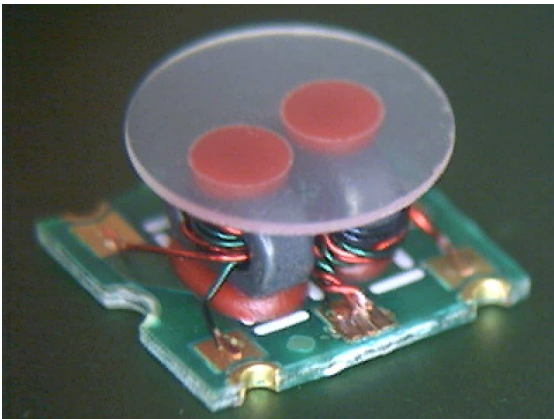
Rev. V4

Features

- ◆ 1:2 impedance ratio
- ◆ Transmission line Transformer
- ◆ Surface mount
- ◆ Available on tape and reel
- ◆ 260°C reflow compatible
- ◆ RoHS Compliant and Pb free
- ◆ Excellent temperature stability
- ◆ Can be used on 50Ω and 75Ω systems

Description

M/A-COM’s MABA-007681-CT2010 is a 1:2 RF transmission line Transformer in a low cost surface mount package. Ideally suited for high volume CATV/Broadband application.



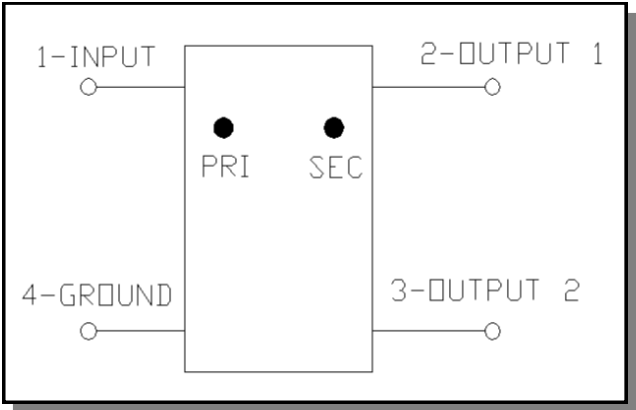
Ordering Information

Part Number	Description
MABA-007681-CT2010	Tape & Reel
MABA-007681-CT20TB	Customer Evaluation Board

Pin Configuration

Pin No.	Function
1	Input (PRI dot)
2	Output 1 (SEC dot)
3	Output 2 (SEC)
4	Ground (PRI)

Schematic



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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				1:2	
Insertion Loss 1 (Pin 1 to pin 2)	5 - 50 MHz	dB	-	0.35	0.50
	50 - 1000 MHz	dB	-	0.60	1.10
	1000 - 1200 MHz	dB	-	0.60	1.40
Insertion Loss 2 (Pin 1 to pin 3)	5 - 50 MHz	dB	-	0.5	0.70
	50 - 1000 MHz	dB	-	0.9	1.50
	1000 - 1200 MHz	dB	-	1.8	2.20
Amplitude Balance	5 - 50 MHz	dB	-	± 0.10	± 0.40
	50 - 1000 MHz	dB	-	± 0.30	± 1.50
	1000 - 1200 MHz	dB	-	± 0.60	± 1.80
Phase Balance	5 - 50 MHz	$^\circ$	-	± 0.2	± 1.50
	50 - 1200 MHz	$^\circ$	-	± 3.0	± 7.00
Input Return Loss (Pin 1)	5 - 50 MHz	dB	22	25	-
	50 - 1000 MHz	dB	14	22	-
	1000 - 1200 MHz	dB	8	17	-

Absolute Maximum Ratings

Parameter	Units	Min	Max
Input Power	mW		250
DC Current	mA		600
Operating Temperature Range	$^\circ\text{C}$	-40	+85
Storage Temperature Range	$^\circ\text{C}$	-55	+125

Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	900
Reel Size	mm	330
Tape Width	mm	16.00
Pitch	mm	12.00
Ao	mm	6.70
Bo	mm	7.50
Ko	mm	3.60
Orientation	-	F33
Reference Application Note ANI-019 for orienta-		

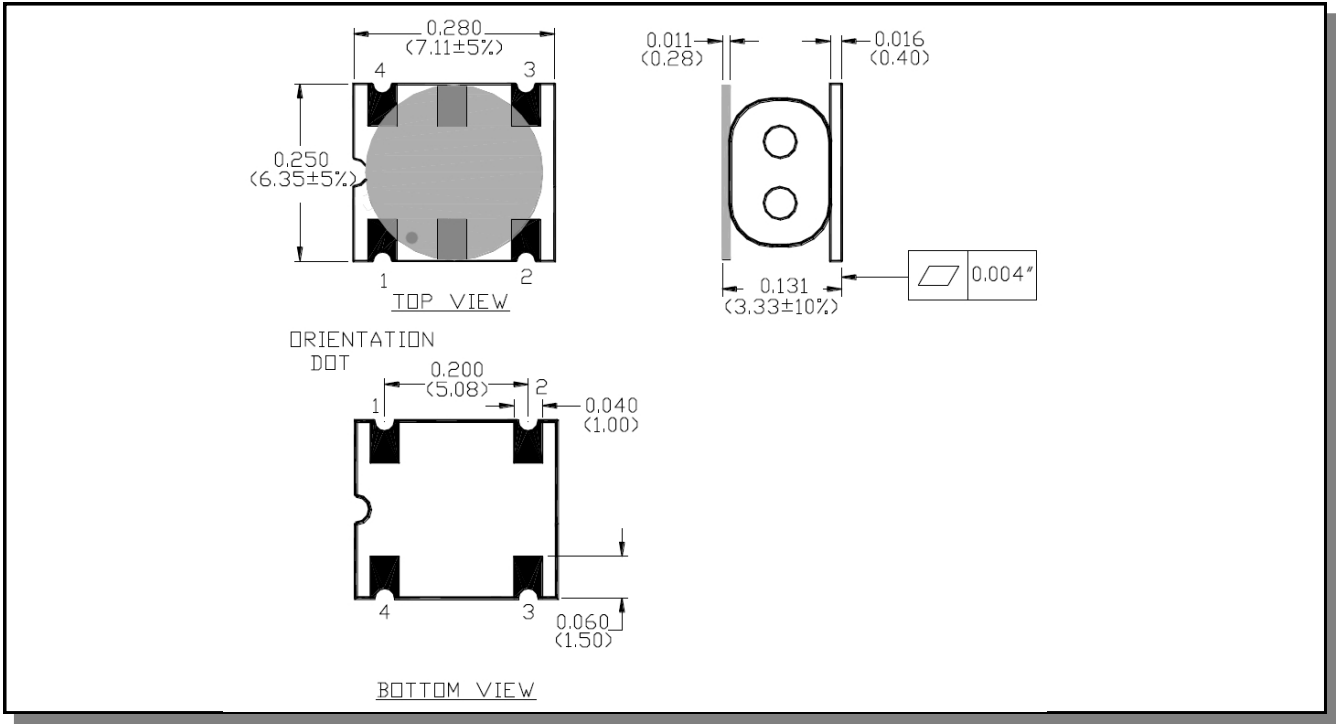
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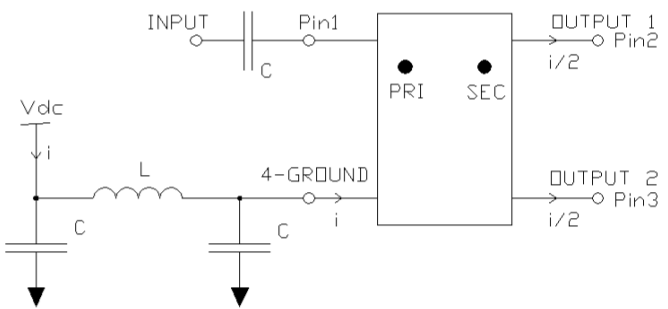
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Outline Drawing



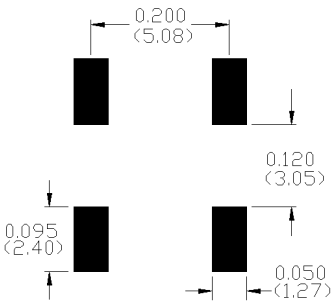
- 1. Dimensions in mm.
- 2. Tolerance: ±0.2mm unless otherwise noted.
- 3. Model number and lot code are printed on the reel.
- 4. Plating finish: ENIG on both sides, 0.05 to 0.1 µm gold over 3 to 6 µm nickel

Recommended DC bias circuit

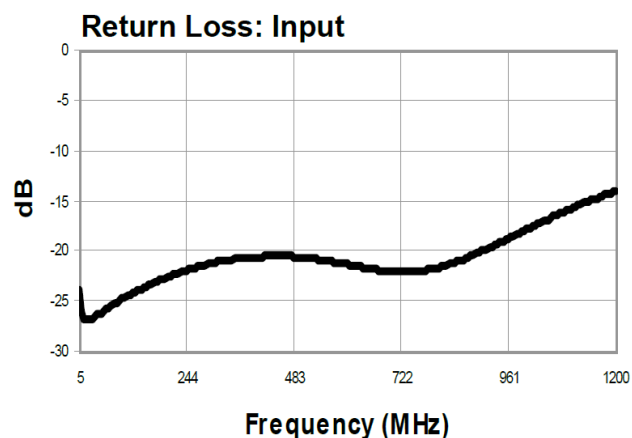
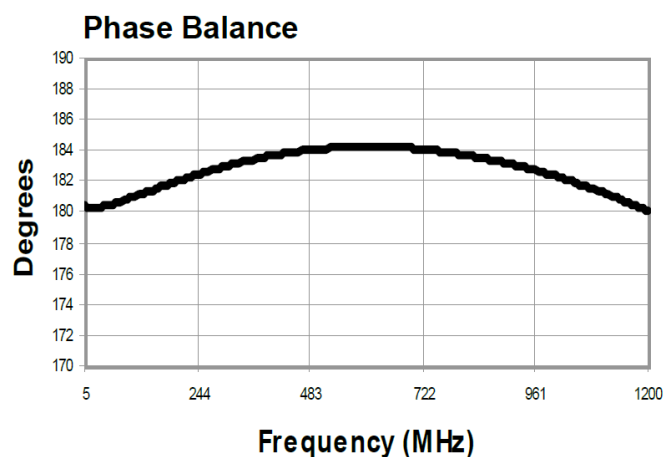
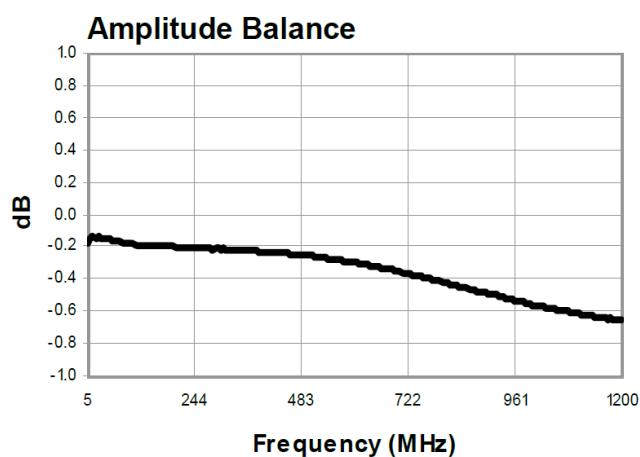
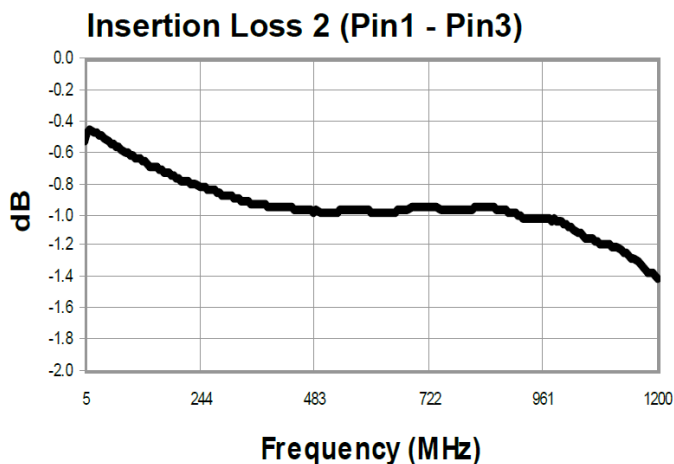
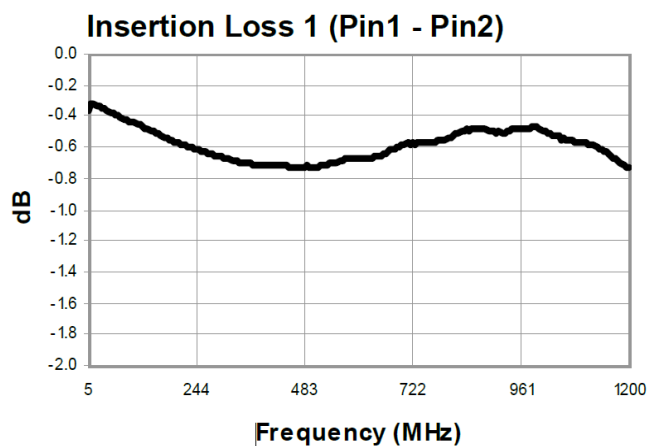


Cap/Ind	5-50MHz	50-1200MHz
C	100nF	10nF
L	10µH	1µH

Recommended Footprint



Typical Performance Curves



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