

**9:1 Transmission Line Step-up Transformer  
5-220MHz**

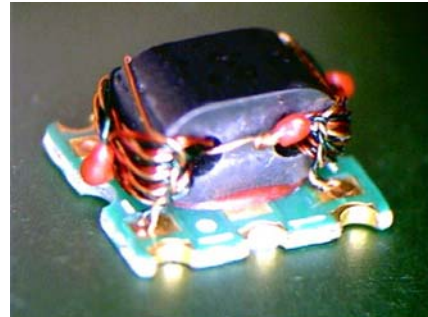
**MABA-007488-CT9550  
V1P**

**Features**

- Surface Mount
- 9:1 Impedance
- Excellent amplitude and phase balance
- Can be used in both 50 Ω and 75 Ω systems
- 260°C Reflow Compatible
- RoHS\* Compliant
- RoHS version of MABAES0022
- Available on Tape and Reel. Reel quantity 900

**Description**

M/ACom's MABA-007488-CT9550 is a 9:1 Transmission Line step up transformer in a low cost, surface mount package. Ideally suited for high volume



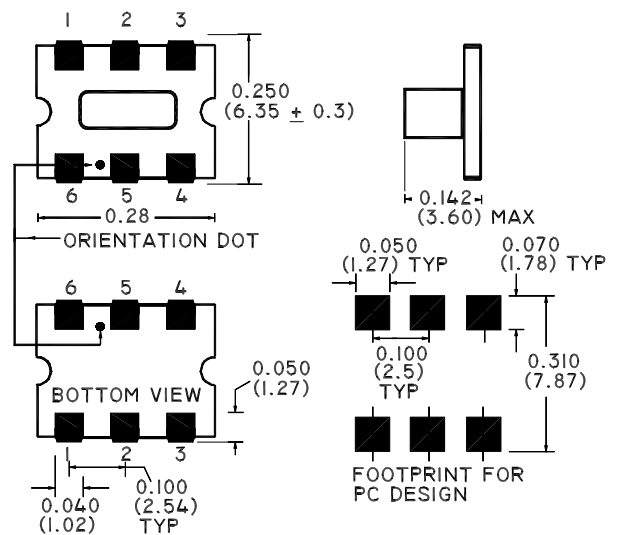
**Pin Configuration**

Function	Config 1 Pin No.	Config 2 Pin No.
Input	6	4
Output 1	1	3
Output 2	3	1
Ground	4	6
Not connected	2,5	2,5

**Ordering Information**

Part Number	Package
MABA-007488-CT9550TR	900 piece reel
MABA-007488-CT95TB	Customer Test Board

**Case Style: SM-55**



Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010

Note: Reference Application Note **M513** for reel size information.

\* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

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

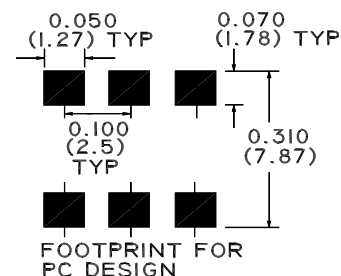
Parameter	Units	Typical	Minimum	Maximum
Frequency Range 5-220	MHz			
Insertion Loss 1 {From Pin 6 to 1 & From Pin 4 to 3} (Short Connections)				
5 - 155 MHz	dB	0.2	—	0.5
155-220 MHz	dB	0.8	—	1.0
Amplitude Imbalance 1				
5 - 55 MHz	dB	0.03	—	0.2
55 -155 MHz	dB	0.04	—	0.3
155 -220 MHz	dB	0.14	—	0.5
Phase Imbalance 1				
5-55 MHz	°	0.5	—	1.0
55 -155 MHz	°	1.1	—	2.0
155 -220 MHz	°	1.5	—	2.5
Insertion Loss 2 {From Pin 6 to 3 & From Pin 4 to 1} (Cross connections)				
5 - 55 MHz	dB	0.8	—	1.0
55-100 MHz	dB	1.0	—	1.2
100-220 MHz	dB	1.4	—	1.8
Amplitude Imbalance 2				
5 - 55 MHz	dB	0.03	—	0.2
55 -155 MHz	dB	0.04	—	0.3
155 -220 MHz	dB	0.14	—	0.5
Phase Imbalance 2				
5-55 MHz	°	1.0	—	2.0
55 -100 MHz	°	1.4	—	3.0
100 -220 MHz	°	2.5	—	4.0
Input Return Loss	dB	10	8	—

**Absolute Maximum Ratings <sup>1,2</sup>**

Parameter	Absolute Maximum
Max Input Power	250mW
DC current	30mA
Operating Temperature	-20°C to +85°C
Storage Temperature	-55°C to +100°C

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.

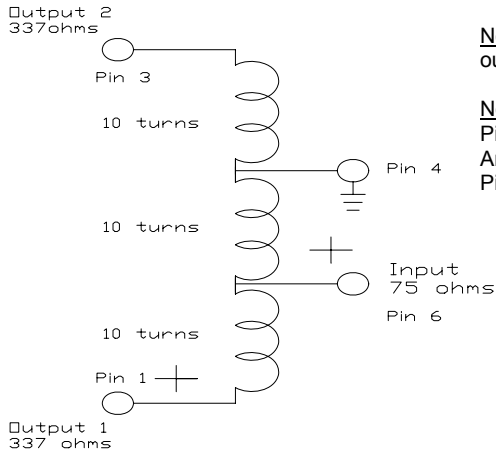
**Recommended PCB Configuration**



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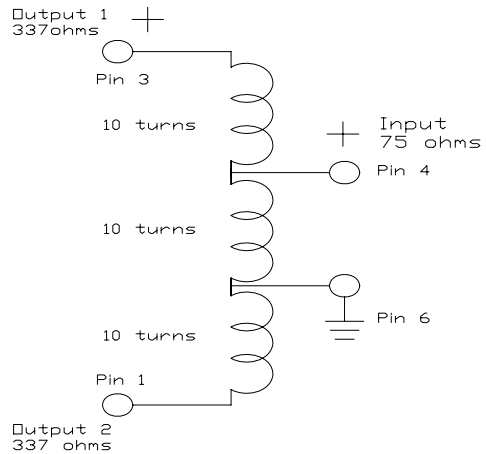
**Schematic for Config 1**



**Note:** Terminate unused output

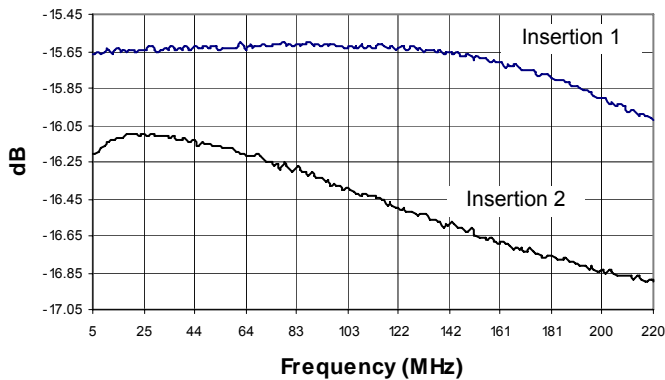
**Note:** When Pin 4 is the I/P  
Pin 6 is ground  
And when Pin 6 is the I/P  
Pin 4 is ground.

**Schematic for Config 2**

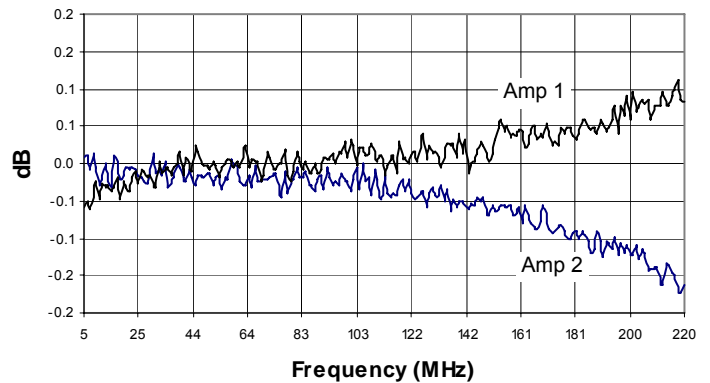


**Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$**

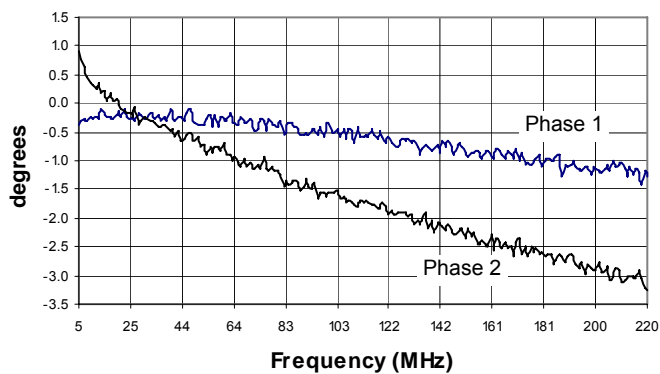
**Insertion Loss 1 & 2 (Reference Value -15.45dB)**



**Amplitude Unbalance**



**Phase Balance**



**Input Return Loss**

