

Balun Transformer, 1:1 Transmission Line 50 - 1200 MHz

Rev. V3

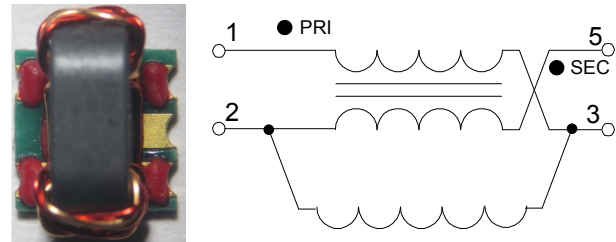
Features

- Surface Mount Package
- 1:1 Impedance Ratio
- Excellent Temperature Stability
- RoHS Compliant and Pb Free
- 260° Reflow Compatible
- Available on Tape and Reel

Description

The MABA-011058 is a 1:1 RF transmission line transformer in a low cost surface mount package. Ideally suited for high volume CATV/Broadband application. Suitable for use in 50 Ω and 75 Ω systems.

Functional Schematic



Pin Configuration

| Pin # | Function | Pin # | Function |
|-------|-------------|-------|---------------|
| 1 | Primary Dot | 4 | No Connection |
| 2 | Primary | 5 | Secondary Dot |
| 3 | Secondary | | |

Electrical Specifications: Freq. = 50 - 1200 MHz, $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$, $P_{IN} = 0 \text{ dBm}$

| Parameter | Frequency Test Conditions (MHz) | Units | Min. | Typ. | Max. |
|---|---------------------------------|-------|------|------|------|
| Impedance Ratio | — | — | — | 1:1 | — |
| Insertion Loss 1 Through (Pin 1 - Pin 3) | 50 | dB | — | 0.2 | 0.4 |
| | 870 | | | 0.6 | 0.8 |
| | 1002 | | | 0.7 | 0.9 |
| | 1200 | | | 0.9 | 1.1 |
| Insertion Loss 2 Coupled (Pin 1 - Pin 5) | 50 | dB | — | 0.4 | 0.5 |
| | 870 | | | 0.4 | 0.5 |
| | 1002 | | | 0.4 | 0.5 |
| | 1200 | | | 0.4 | 0.6 |
| Amplitude Balance | 50 - 870 | dB | — | 0.05 | 0.5 |
| | 870 - 1002 | | | 0.3 | 0.7 |
| | 1002 - 1200 | | | 0.4 | 0.8 |
| Phase Balance (ref. value 180°) | 50 - 1002 | ° | — | 0.2 | 4.0 |
| | 1002 - 1200 | | | 1.8 | 5.0 |
| Input Return Loss (Pin 1) | 50 - 500 | dB | 21 | 29 | — |
| | 500 - 1002 | | 17 | 27 | |
| | 1002 - 1200 | | 16 | 24 | |

Ordering Information

| Part Number | Package |
|----------------|---------------------|
| MABA-011058 | Tape & Reel |
| MABA-011058-TB | Customer Test Board |

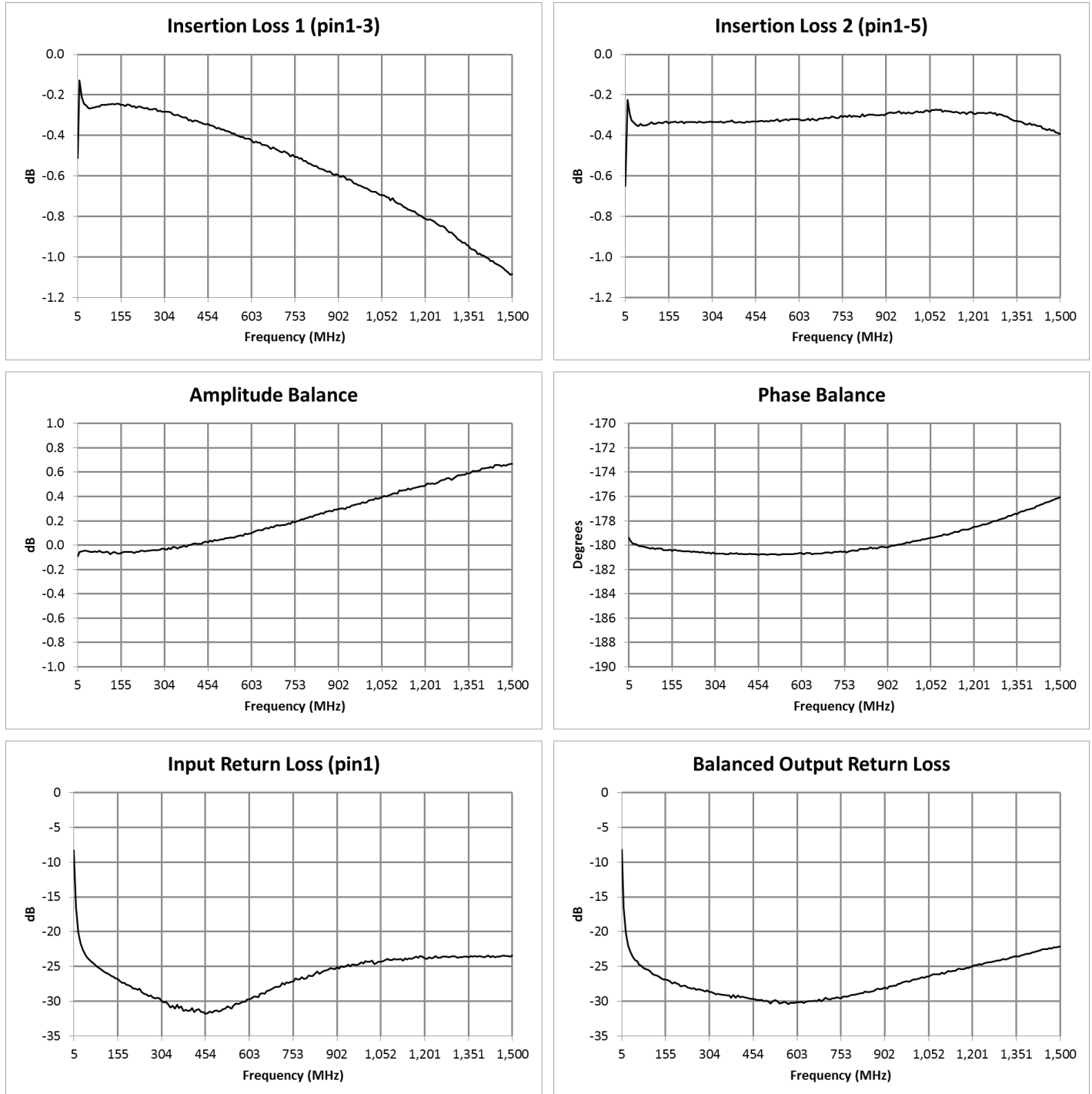
Recommended Maximum Ratings

| Parameter | Rating |
|-----------------------|----------------|
| Input Power | 500 mW |
| DC Current | 500 mA |
| Operating Temperature | -40°C to +85°C |

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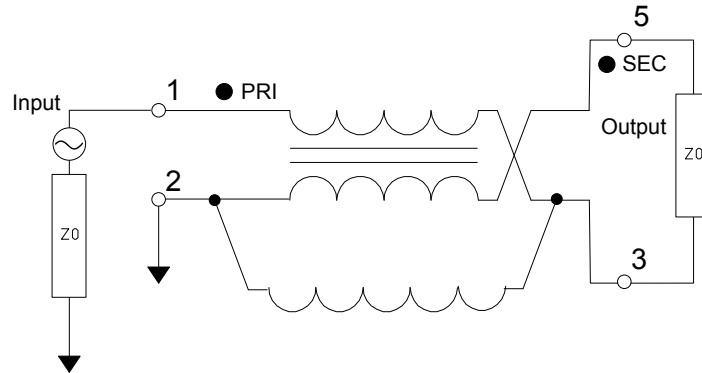
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Typical Performance Curves: $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$, $P_{IN} = 0 \text{ dBm}$

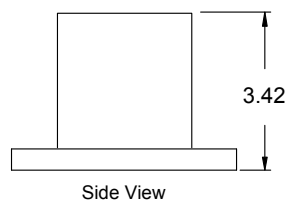
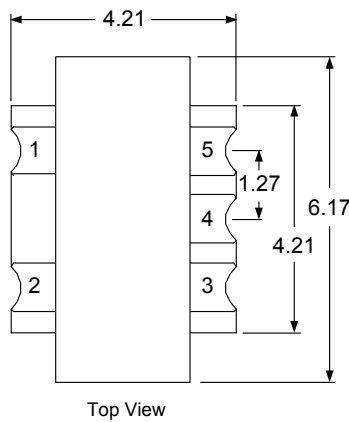


Full temperature plots available on request

Application Schematic

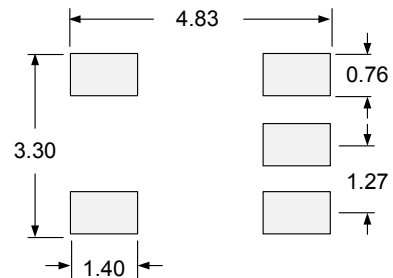


Outline Drawing



1. Dimensions in mm.
2. Tolerance: ± 0.2 mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Lead plating ENIG.

PCB Layout



Tape & Reel Information

| Parameter | Units | Value |
|--|-------|-------|
| Qty per reel | - | 2000 |
| Reel Size | mm | 330 |
| Tape Width | mm | 16.00 |
| Pitch | mm | 8.00 |
| Ao | mm | 4.40 |
| Bo | mm | 6.50 |
| Ko | mm | 3.60 |
| Orientation | - | F31 |
| Reference Application Note ANI-019 for orientation | | |

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