

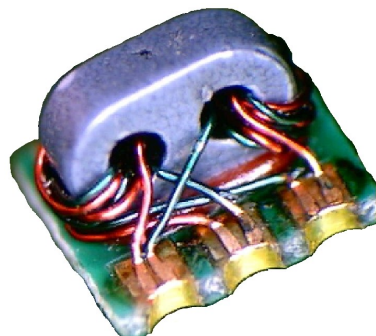
Features

- 1:1 impedance
- Surface mount
- Center tap on secondary
- Available on tape and reel
- 260° reflow compatible
- RoHS compliant and Pb free
-

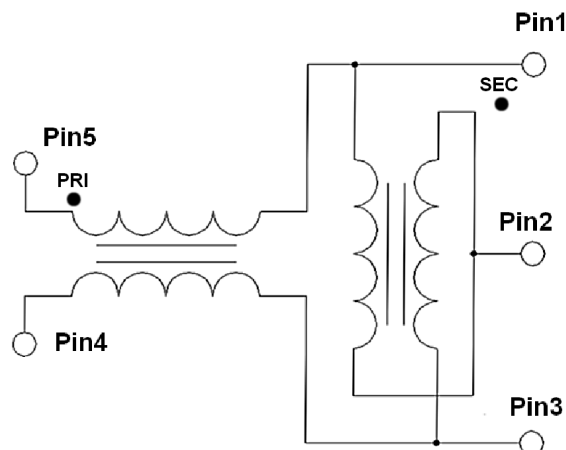
Description

MABACT0040 is a 1:1 transmission line transformer in a low cost surface mount package. Excellent return loss.

Ideally suited for high volume CATV Broadband applications.



Functional Schematic



Ordering Information

| Part Number | Package |
|---------------|---------------------|
| MABACT0040 | Tape & Reel |
| MABACT0040-TB | Customer Test Board |

Pin Configuration

| Pin No. | Function |
|---------|-------------------------------|
| 1 | Secondary Dot (output 1) |
| 2 | Secondary center tap (ground) |
| 3 | Secondary (output 2) |
| 4 | Primary (ground) |
| 5 | Primary Dot (input) |

* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

1:1 Transmission Line Transformer, with center tap 5 – 1218 MHz

Rev. V3

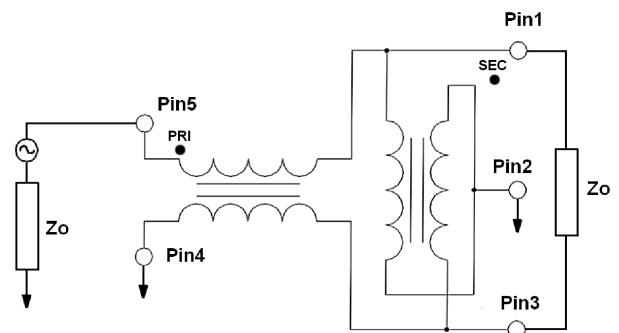
Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$, $P_{in} = 0 \text{ dBm}$

| Parameter | Test Conditions | Units | Min. | Typ. | Max. |
|-------------------------------------------|---------------------------------|----------|------|-------------|------------------------|
| Frequency Range | — | MHz | 5 | — | 1218 |
| Impedance | — | Ω | — | 75 | — |
| Impedance Ratio | — | Ratio | — | 1:1 | — |
| Insertion Loss 1 (Pin5 - Pin1) | 5 - 1218 MHz | dB | — | 1.0 | 1.6 |
| Insertion Loss 2 (Pin5 - Pin3) | 5 - 1218 MHz | dB | — | 1.1 | 1.6 |
| Amplitude Balance | 5 - 1000 MHz 1000 - 1218 MHz | dB dB | — | 0.1 0.07 | ± 0.5 ± 0.7 |
| Phase Balance (ref value 180°) | 5 - 1218 MHz | $^\circ$ | — | 2.5 | ± 10 |
| Input Return Loss (Pin5) | 5 - 1218 MHz | dB | 16 | 22 | — |

Recommended Maximum Ratings

| Parameter | Maximum Rating |
|-----------------------|---------------------------------------------|
| Input Power | 500 mW |
| DC Current | 500 mA |
| Operating Temperature | -40°C to $+105^\circ\text{C}$ |

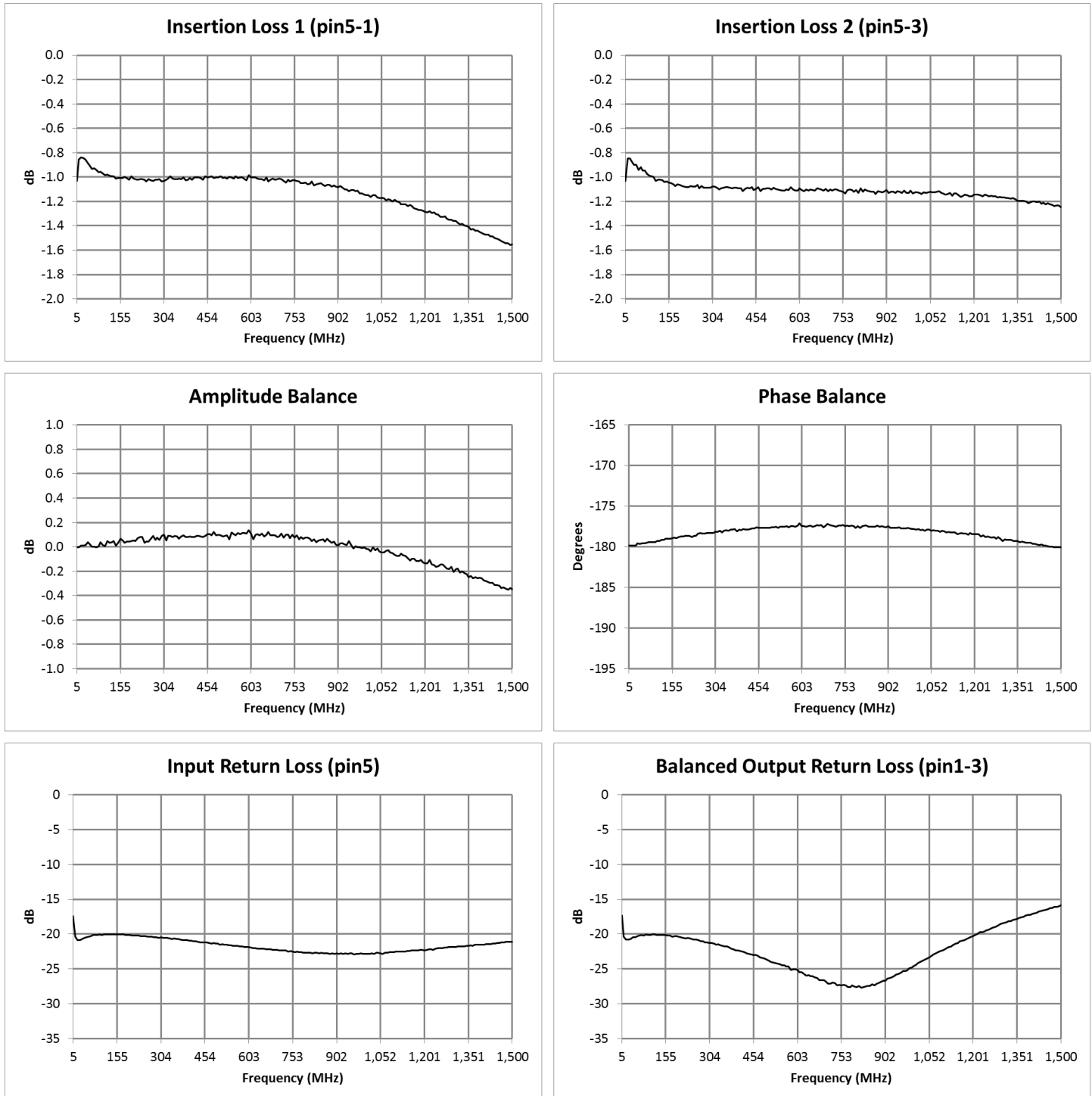
Application Schematic



1:1 Transmission Line Transformer, with center tap 5 – 1218 MHz

Rev. V3

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

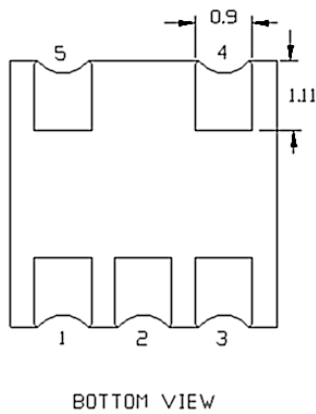
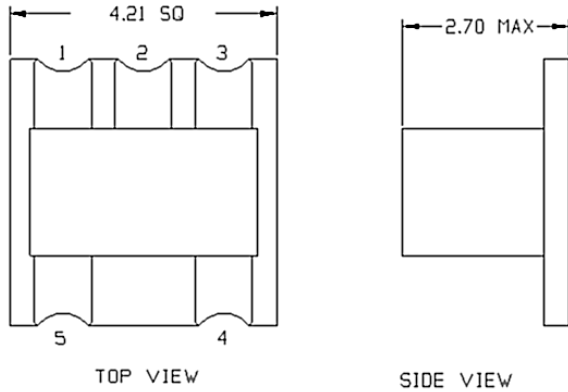


Full temperature plots available on request.

1:1 Transmission Line Transformer, with center tap 5 – 1218 MHz

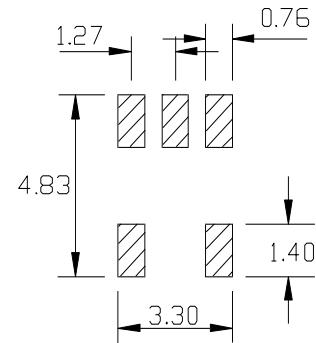
Rev. V3

Outline Drawing



1. Dimensions in mm.
2. Tolerance: $\pm 0.2\text{mm}$ unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Finish: Electroless nickel immersion gold (ENIG)

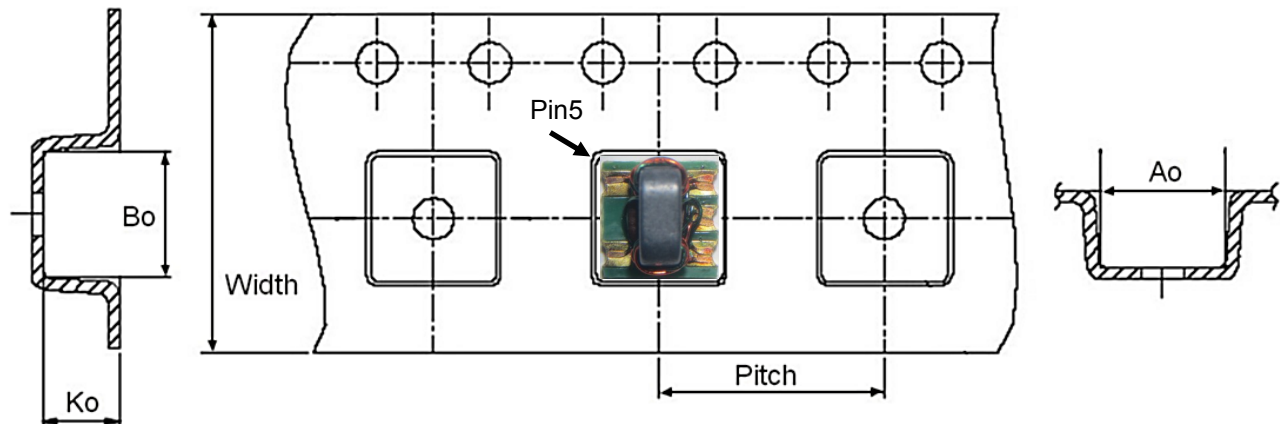
Footprint



Tape & Reel Information

| Parameter | Units | Value |
|----------------------------------------------------|-------|-------|
| Qty per reel | - | 2000 |
| Reel Size | mm | 330 |
| Tape Width | mm | 12.00 |
| Pitch | mm | 8.00 |
| Ao | mm | 4.5 |
| Bo | mm | 4.5 |
| Ko | mm | 2.73 |
| Orientation | - | F31 |
| Reference Application Note ANI-019 for orientation | | |

Carrier Tape Orientation



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