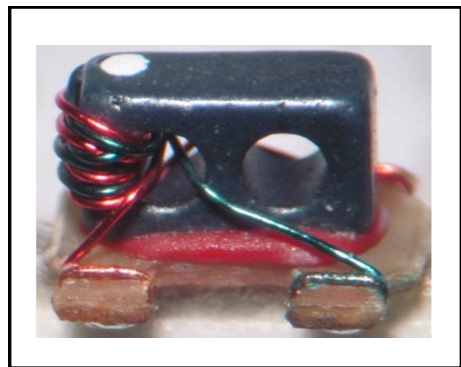


## Transformer, 1:1 Transmission Line 45 to 1200 MHz

Rev. V3

### Features

- ◆ 1:1 impedance ratio
- ◆ 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
- ◆ Suitable for all CATV, Broadband and FTTx applications



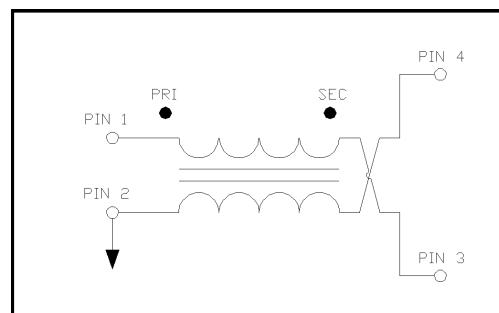
**Electrical Specifications:**  $Z_0 = 75\Omega$ ,  $T_A = 25^\circ\text{C}$ ,  $P_{in} = 0\text{dBm}$

| Parameter                       | Conditions      | Units    | Min | Typ  | Max       |
|---------------------------------|-----------------|----------|-----|------|-----------|
| Frequency Range                 |                 | MHz      | 45  |      | 1200      |
| Impedance                       |                 | $\Omega$ |     | 75   |           |
| Impedance Ratio                 |                 |          |     | 1:1  |           |
| Insertion Loss<br>(Pin1 - Pin4) | 45 - 100 MHz    | dB       | -   | 0.9  | 1.1       |
|                                 | 100 - 600 MHz   | dB       | -   | 0.9  | 1.2       |
|                                 | 600 - 1000 MHz  | dB       | -   | 1.0  | 1.3       |
|                                 | 1000 - 1200 MHz | dB       | -   | 1.0  | 1.4       |
| Insertion Loss<br>(Pin1 - Pin3) | 45 - 100 MHz    | dB       | -   | -0.2 | 0.1       |
|                                 | 100 - 600 MHz   | dB       | -   | -0.1 | 0.2       |
|                                 | 600 - 1000 MHz  | dB       | -   | 0.2  | 0.5       |
|                                 | 1000 - 1200 MHz | dB       | -   | 0.35 | 0.7       |
| Amplitude Balance               | 45 - 600 MHz    | dB       | -   | 1.1  | $\pm 1.4$ |
|                                 | 600 - 1000 MHz  | dB       | -   | 0.9  | $\pm 1.5$ |
|                                 | 1000 - 1200 MHz | dB       | -   | 0.9  | $\pm 1.5$ |
| Phase Balance                   | 45 - 600 MHz    | $^\circ$ | -   | 2    | $\pm 6$   |
|                                 | 600 - 1000 MHz  | $^\circ$ | -   | 4    | $\pm 10$  |
|                                 | 1000 - 1200 MHz | $^\circ$ | -   | 4    | $\pm 10$  |
| Input Return Loss<br>(Pin1)     | 45 - 600 MHz    | dB       | 20  | 30   | -         |
|                                 | 600 - 1000 MHz  | dB       | 20  | 31   | -         |
|                                 | 1000 - 1200 MHz | dB       | 20  | 31   | -         |

### Pin Configuration

| Pin No. | Function      |
|---------|---------------|
| 1       | Primary Dot   |
| 2       | Primary       |
| 3       | Secondary     |
| 4       | Secondary Dot |

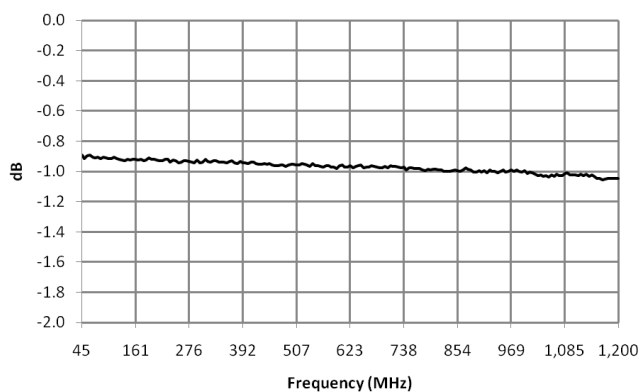
### Schematic



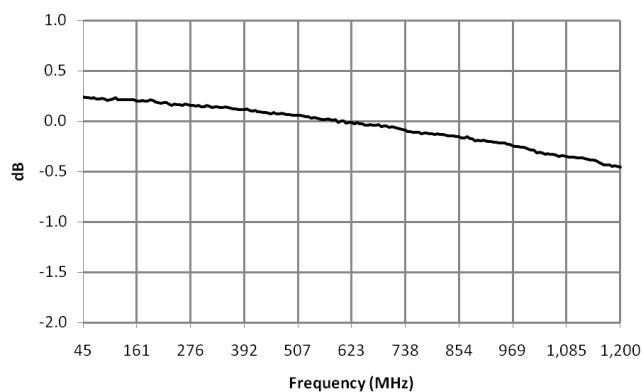
## Transformer, 1:1 Transmission Line 45 to 1200 MHz

Rev. V3

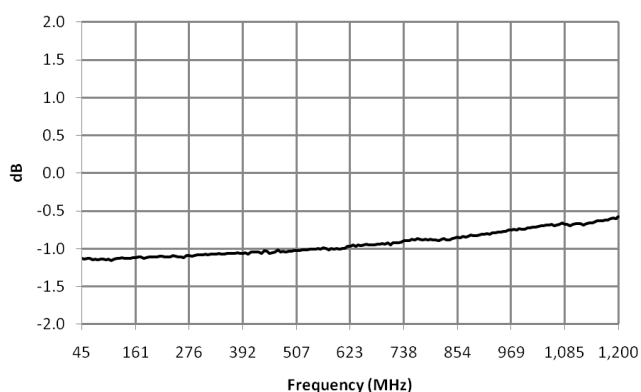
MABA-011014 insertion\_loss\_1\_p1\_4



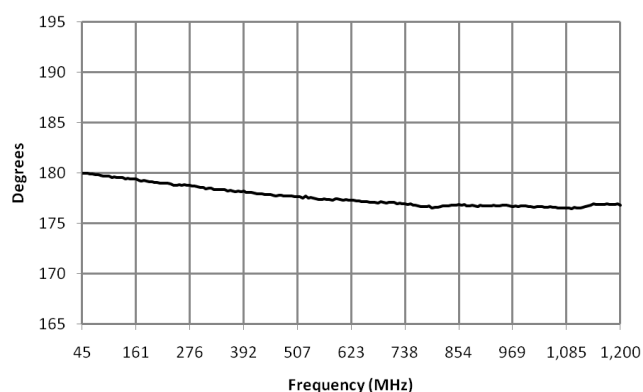
MABA-011014 insertion\_loss\_2\_p1\_3



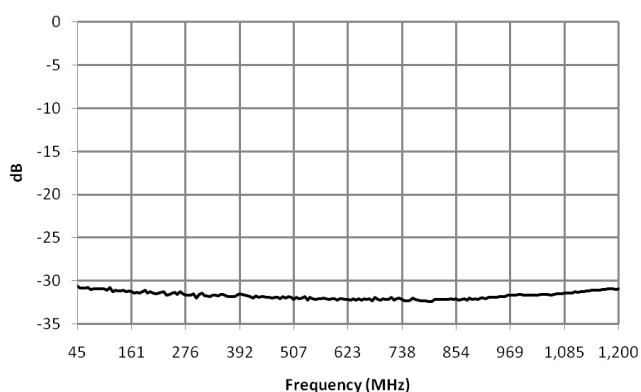
MABA-011014 amplitude\_balance



MABA-011014 phase\_balance



MABA-011014 input\_return\_loss\_p1

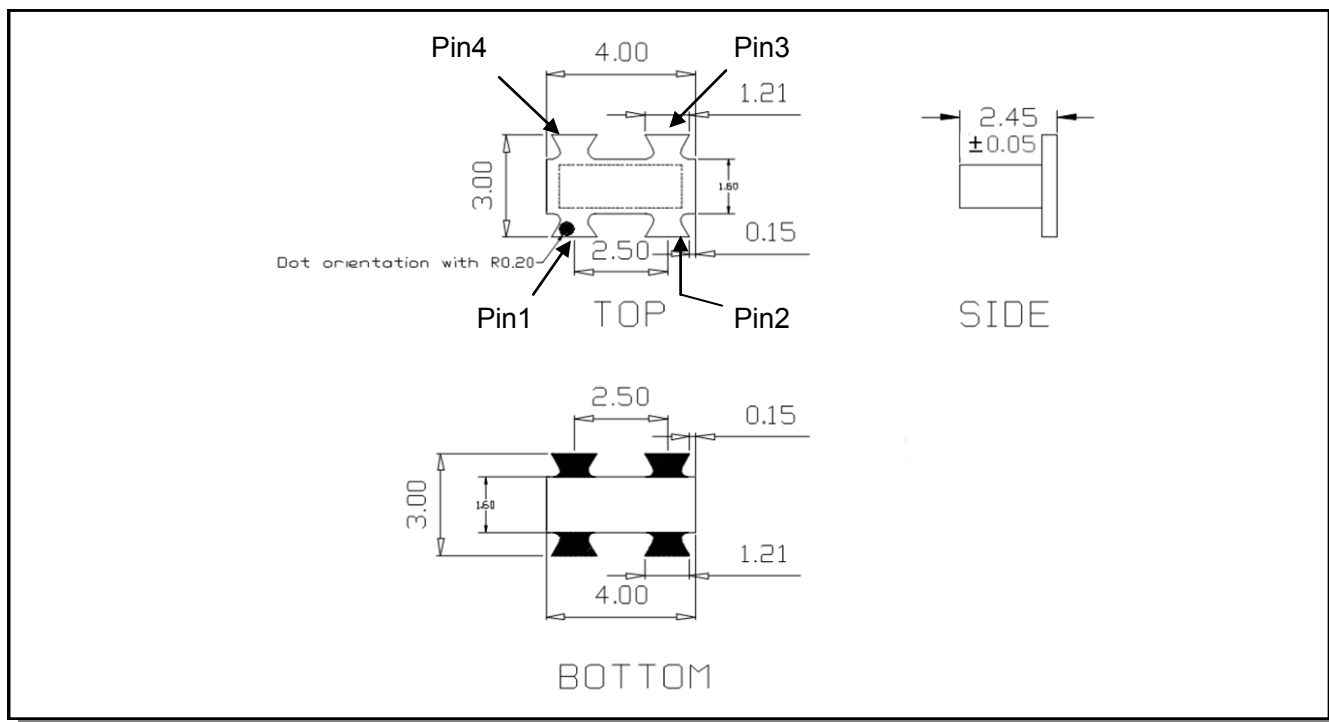


Electrical Specifications:  $Z_0 = 75\Omega$ ,  $T_A = 25^\circ\text{C}$ ,  $P_{in} = 0\text{dBm}$

## Transformer, 1:1 Transmission Line 45 to 1200 MHz

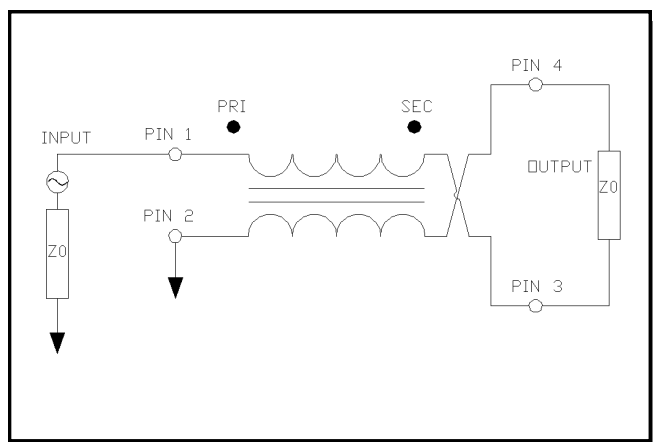
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### Outline Drawing

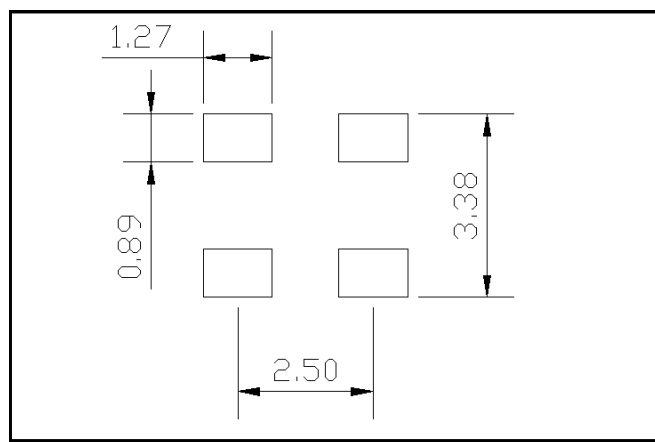


1. Dimensions in mm.
2. Tolerance:  $\pm 0.2$  mm unless otherwise noted.
3. Model number and lot code printed on reel.
4. Plating finish: 96.5 % tin, 3% silver, and 0.5% copper

### Application Circuit



### Recommended Footprint



## Transformer, 1:1 Transmission Line 45 to 1200 MHz

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### Tape & Reel Information

| Parameter                                          | Units | Value |
|----------------------------------------------------|-------|-------|
| Qty per reel                                       | -     | 2000  |
| Reel size                                          | mm    | 330   |
| Tape width (W)                                     | mm    | 12.00 |
| Pitch (P <sub>1</sub> )                            | mm    | 8.00  |
| A <sub>0</sub>                                     | mm    | 3.3   |
| B <sub>0</sub>                                     | mm    | 4.3   |
| K <sub>0</sub>                                     | mm    | 2.6   |
| Orientation                                        | -     | F51   |
| Reference Application note ANI-019 for orientation |       |       |

### Ordering Information

| Part Number    | Description               |
|----------------|---------------------------|
| MABA-011014    | Tape & Reel               |
| MABA-011014-TB | Customer Evaluation Board |

### Recommended Maximum Ratings

| Parameter                   | Units | Min | Max  |
|-----------------------------|-------|-----|------|
| Input Power                 | W     |     | 2    |
| DC Current                  | mA    |     | 200  |
| Operating Temperature Range | °C    | -40 | +100 |

Temperature data available on request

# Mouser Electronics

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