

## E-Series RF 1:1 Transmission Line Transformer 4.5 - 3000 MHz

Rev. V4

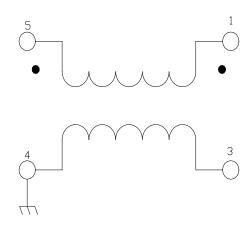
#### **Features**

- Surface mount
- Wide frequency range
- 1:1 impedance
- Lead Free
- RoHS\* Compliant
- 260°C reflow compatible
- Available on Tape and Reel

### **Description**

M/A-COM Technology Solutions MABA-007159-000000 is a RoHS compliant 1:1 RF transmission line transformer in a low cost, surface mount package. The windings of the MABA-007159-000000 are welded to the package substrate for improved reliability and to eliminate lead content. Ideally suited for high volume cellular and wireless application. Parts are packaged in tape & reel.

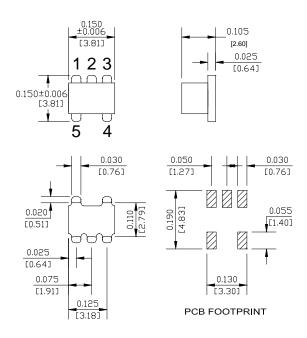
#### **Schematic**



## **Pin Configuration**

| Pin No. | Function      |  |
|---------|---------------|--|
| 1       | Secondary Dot |  |
| 2       | Not Connected |  |
| 3       | Secondary     |  |
| 4       | Primary       |  |
| 5       | Primary Dot   |  |

### **Component Dimension**



Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.

## Recommended Maximum Ratings 1,2

| Parameter             | Absolute Maximum |
|-----------------------|------------------|
| DC Power              | 250 mW           |
| DC Current            | 30 mA            |
| Operating Temperature | -40°C to +85°C   |
| Storage Temperature   | -55°C to +125°C  |

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

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

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400 • India Tel: +91.80.4155721 • China Tel: +86.21.2407.1588 Visit www.macomtech.com for additional data sheets and product information.

# MABA-007159-000000



# E-Series RF 1:1 Transmission Line Transformer 4.5 - 3000 MHz

Rev. V4

## Electrical Specifications: $T_A = 25^{\circ}C$ , $Z_0 = 50\Omega^{1}$

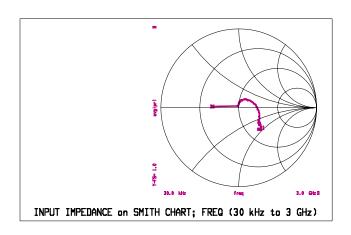
| Parameter           | Test Conditions | Test Conditions                          | Units          | Min         | Тур  | Max               |
|---------------------|-----------------|--|----------------|-------------|------|-------------------|
| RF Frequency        | -               | 4.5 - 3000                               | MHz            | -           | -    | -                 |
| Insertion Loss      | -               | 4.5 - 1000<br>1000 - 2000<br>2000 - 3000 | dB<br>dB<br>dB | -<br>-<br>- | 0.32 | 1.0<br>2.0<br>3.5 |
| Amplitude Unbalance | -               | 4.5 - 1000                               | dB             | -           | -    | 1.0               |
| Phase Unbalance     | -               | 4.5 - 1000                               | Degrees        | -           | -    | 20                |

## **Typical Performance Curves**

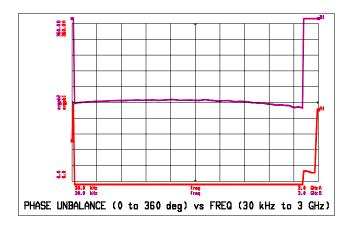
#### Insertion Loss



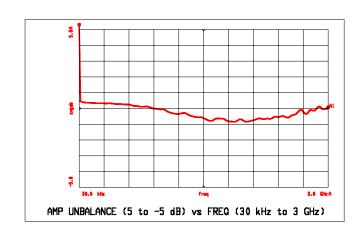
## Input Impedance



#### Phase Unbalance



#### Amplitude Unbalance



- North America Tel: 800.366.2266 Europe Tel: +353.21.244.6400
- India Tel: +91.80.4155721
  China Tel: +86.21.2407.1588
  Visit www.macomtech.com for additional data sheets and product information.

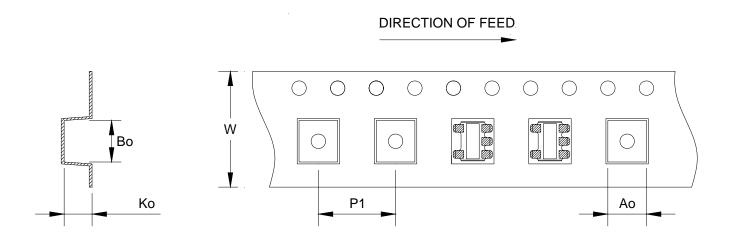
# MABA-007159-000000



E-Series RF 1:1 Transmission Line Transformer 4.5 - 3000 MHz

Rev. V4

#### **Tape & Reel Information**



| Item | Dimension        |
|------|------------------|
| Ao   | 4.00mm +/-0.1mm  |
| Во   | 4.30mm +/-0.1mm  |
| Ko   | 2.90mm +/-0.1mm  |
| W    | 12.00mm +/-0.3mm |
| P1   | 8.00mm +/-0.1mm  |

## **Ordering Information**

| Part Number        | Package         |  |
|--------------------|-----------------|--|
| MABA-007159-000000 | 2000 piece reel |  |