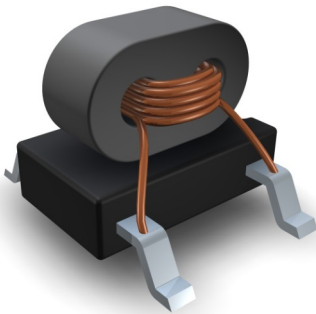


## Features

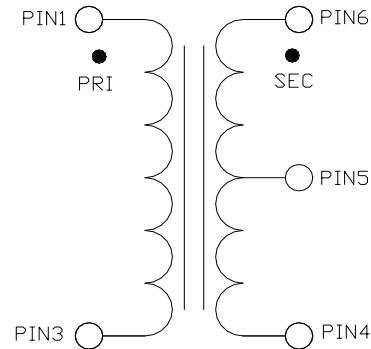
- Surface mount
- 1:1 Impedance ratio
- Centre tap on Secondary
- Suitable for DOCSIS 3.0
- 260°C reflow compatible
- RoHS\* compliant
- Available on tape and reel.

## Description

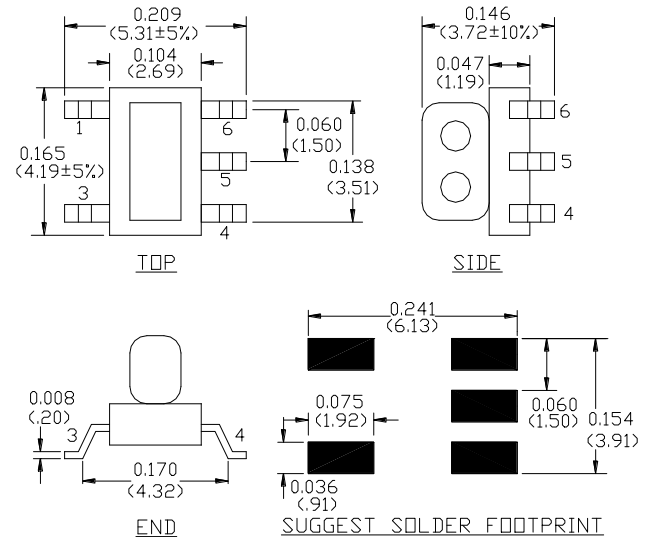
M/A-COM Technology Solutions MABA-009594-CF18A0 is a 1:1 RF Flux coupled transformer in a low cost, surface mount package. Ideally suited for broadband CATV applications.



## Schematic



## Component Dimensions



## Pin Configuration

| Pin No. | Function             |
|---------|----------------------|
| 1       | Primary Dot          |
| 3       | Primary              |
| 4       | Secondary            |
| 5       | Secondary Centre Tap |
| 6       | Secondary dot        |

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

Transformer, 1:1 Flux Coupled Transformer  
5 to 200 MHz

Rev. V6

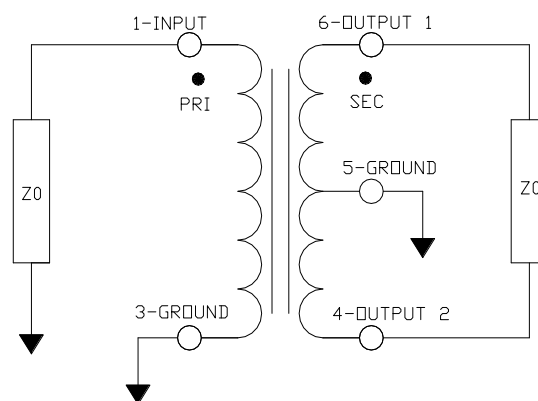
Electrical Specifications:  $T_A = 25^\circ\text{C}$ , 0dBm,  $Z_0 = 75\Omega$ ,  $P_{in} = 0\text{dBm}$

| Parameter                            | Test Conditions | Units | Min | Typ | Max       |
|--------------------------------------|-----------------|-------|-----|-----|-----------|
| Insertion Loss                       | 5 - 60 MHz      | dB    | -   | 0.3 | 0.6       |
|                                      | 60 - 150 MHz    | dB    | -   | 0.4 | 0.8       |
|                                      | 150 - 200 MHz   | dB    | -   | 0.7 | 1.0       |
| Amplitude Unbalance<br>(Nominal 0dB) | 5 - 60 MHz      | dB    | -   | 0.0 | $\pm 0.1$ |
|                                      | 60 - 200 MHz    | dB    | -   | 0.2 | $\pm 0.4$ |
| Phase Unbalance<br>(Nominal 180°)    | 5 - 60 MHz      | °     | -   | 0.1 | $\pm 2.0$ |
|                                      | 60 - 200 MHz    | °     | -   | 0.3 | $\pm 4.0$ |
| Input Return Loss                    | 5 - 60 MHz      | dB    | 22  | 31  | -         |
|                                      | 60 - 200 MHz    | dB    | 14  | 17  | -         |

## Recommended Maximum Ratings

| Parameter                 | Value           |
|---------------------------|-----------------|
| Input power               | +28dBm (631mW)  |
| DC current (tested at 5V) | 600mA           |
| Operating Temperature     | -40°C to +100°C |
| Storage Temperature       | -55°C to +100°C |

## Application Circuit

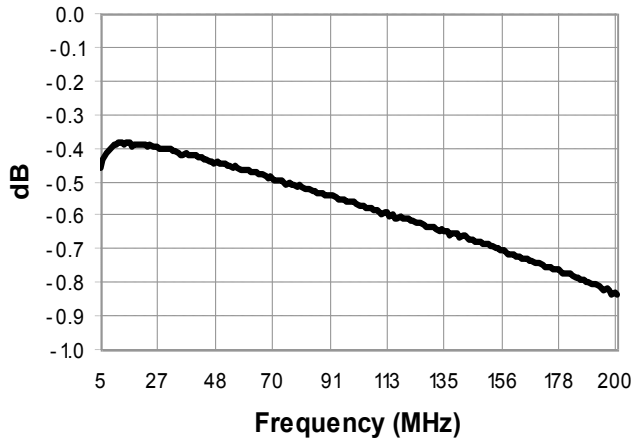


Transformer, 1:1 Flux Coupled Transformer  
5 to 200 MHz

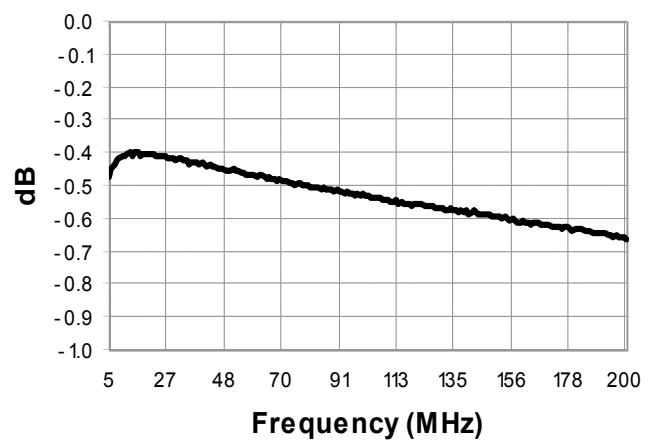
Rev. V6

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

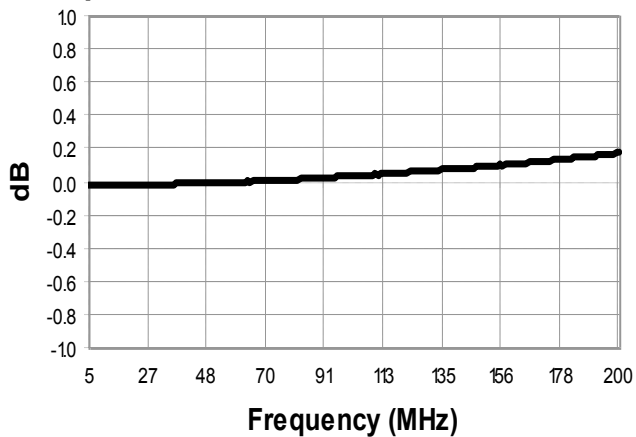
Insertion Loss 1: (Pin 1 to 6)



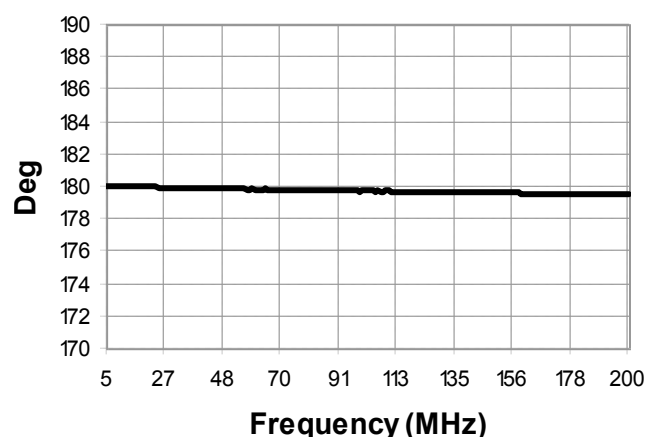
Insertion Loss 2: (Pin 1 to 4)



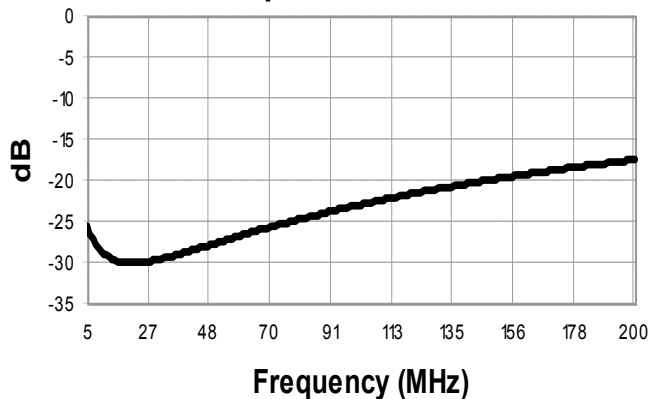
Amplitude Balance



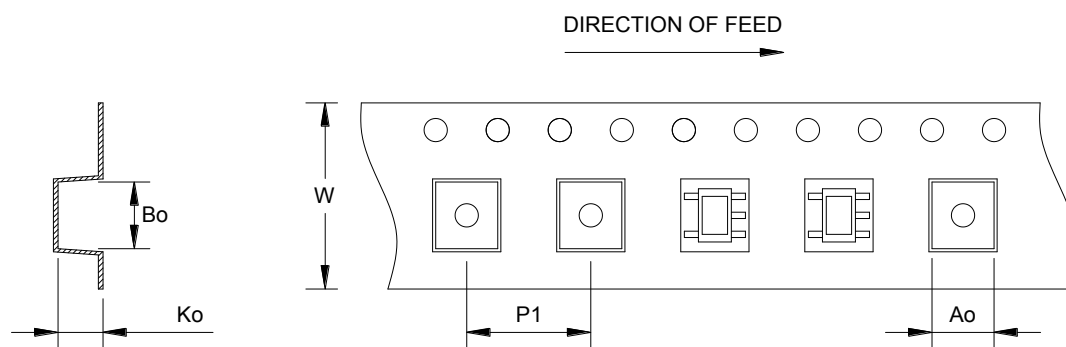
Phase Balance



Return Loss: Input



## Tape & Reel Information



| Item | Dimension         |
|------|-------------------|
| Ao   | 5.60mm +/- 0.1mm  |
| Bo   | 4.50mm +/- 0.1mm  |
| Ko   | 4.00mm +/- 0.1mm  |
| W    | 12.00mm +/- 0.3mm |
| P1   | 8.00mm +/- 0.1mm  |

## Ordering Information

| Part number        | Description         |
|--------------------|---------------------|
| MABA-009594-CF18A0 | 2000 piece reel     |
| MABA-009594-CF18TB | Customer Test Board |

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