

# E-Series RF 1:4 Flux Coupled Step-up Transformer

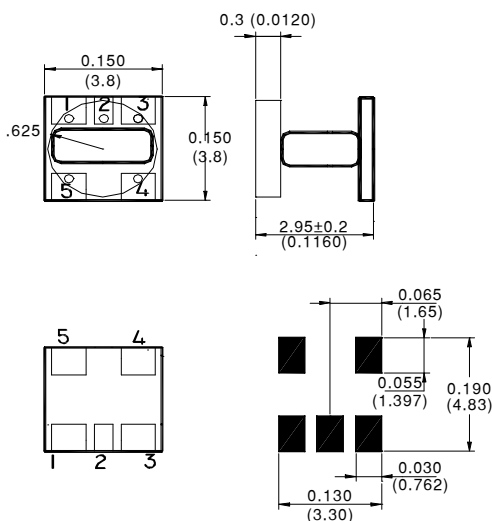


## Features

- Surface Mount
- 1:4 Impedance Ratio
- CT on Secondary
- Available on Tape & Reel



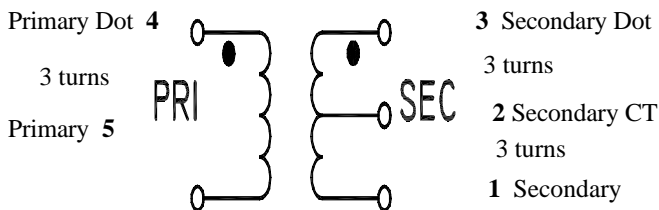
## SM-119 Package



## Description

M/A-COM's MABAES0010 is a 1:4 RF flux coupled step-up transformer in a low cost, surface mount package. Ideally suited for high volume cellular and wireless applications. Typical applications include single to balanced mode conversion and impedance matching.

## Schematic



## Electrical Specifications @25°C

| Parameter   | Units   | Nominal | Maximum | Mean (x) | Sigma (σ) |
|---|---------|---------|---------|----------|-----------|
| Frequency Range 2.0 - 800                         | MHz     | —       | —       | —        | —         |
| Insertion Loss (f <sub>L</sub> - f <sub>U</sub> ) |         |         |         |          |           |
| 10 - 100 MHz                                      | dB      | —       | 2.0     | —        | —         |
| 5.0 - 600 MHz                                     | dB      | —       | 2.2     | 1.21     | 0.032     |
| 2.0 - 800 MHz                                     | dB      | —       | 3.0     | —        | —         |
| Amplitude Unbalance                               |         |         |         |          |           |
| 10 - 100 MHz                                      | dB      | —       | 0.25    | —        | —         |
| 2.0 - 800 MHz                                     | dB      | —       | 1.3     | —        | —         |
| Phase Unbalance                                   |         |         |         |          |           |
| 10 - 500 MHz                                      | Degrees | —       | 3.0     | —        | —         |
| 2.0 - 800 MHz                                     | Degrees | —       | 10      | —        | —         |

Note: Mean and Sigma calculated from average loss at @ 105 MHz.

Please Note that the photograph above indicates typical package only, not actual unit.

V1.00 S 1516A



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### Absolute Maximum Ratings

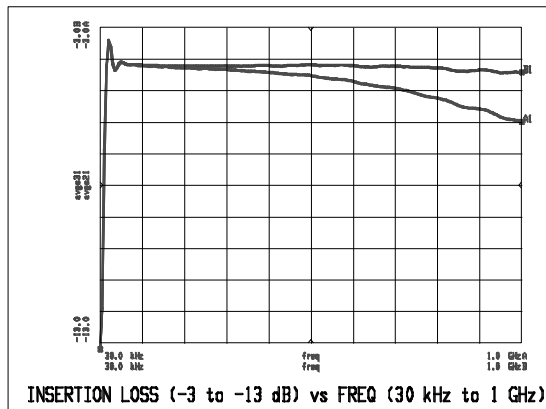
| Parameter             | Absolute Maximum |
|-----------------------|------------------|
| RF Power              | 250 mW           |
| DC Current            | 30 mA            |
| Operating Temperature | -20°C to +85°C   |
| Storage Temperature   | -20°C to +85°C   |

### Functional Configuration

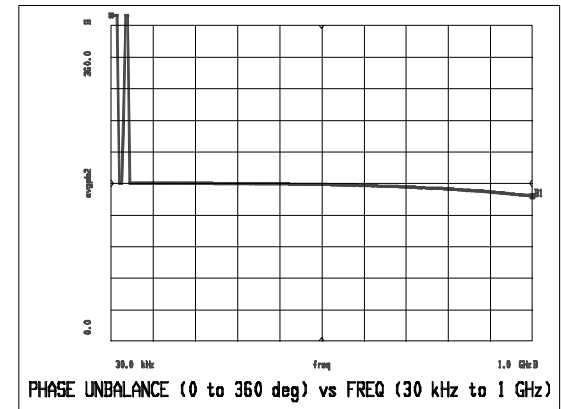
| Function      | Pin No. |
|---------------|---------|
| Secondary     | 1       |
| Secondary CT  | 2       |
| Secondary Dot | 3       |
| Primary Dot   | 4       |
| Primary       | 5       |

### Typical Performance Over Extended Bandwidth (30kHz - 1.0GHz)

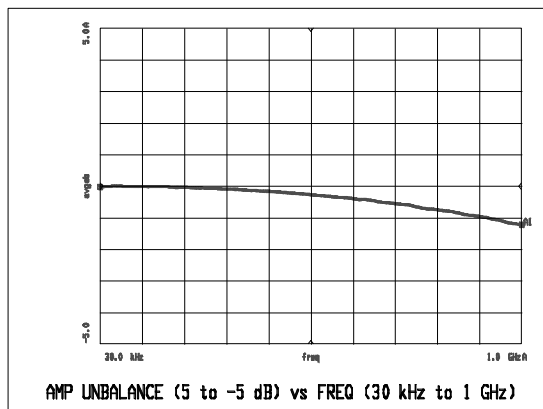
Insertion Loss



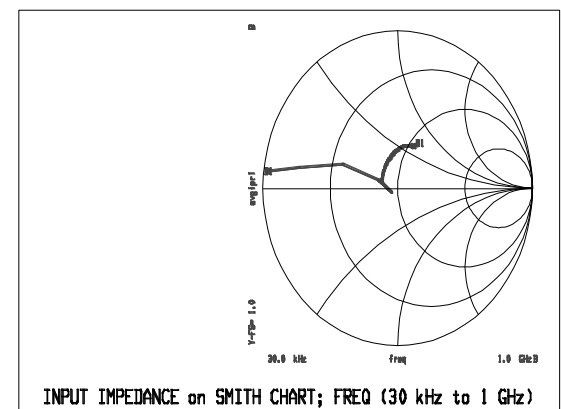
Phase Unbalance



Amplitude Unbalance



Input Impedance



Note: All measurements performed on Hewlett Packard 8753D Network Analyzer (201 sample points, linear scale) in a 50 ohm coplanar waveguide environment. Tables created using MDS software.