

# MABA-010012-ES4302



## E-Series 1:4 Transmission Line Transformer 30MHz-2500M

Rev. V1P

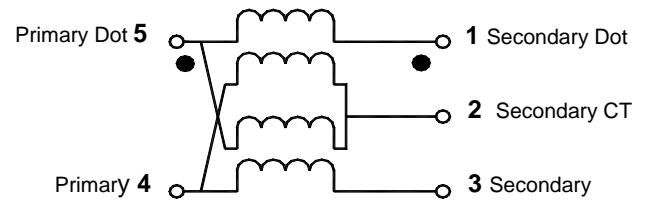
### Features

- Surface Mount
- Wide Frequency Range
- 1:4 Impedance Ratio
- 260°C Reflow Compatible
- RoHS\* compliant
- Tape and reel packaging available

### Description

M/A-COM's MABA-010012-ES4302 is a RoHS compliant 1:4 RF transmission line 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.

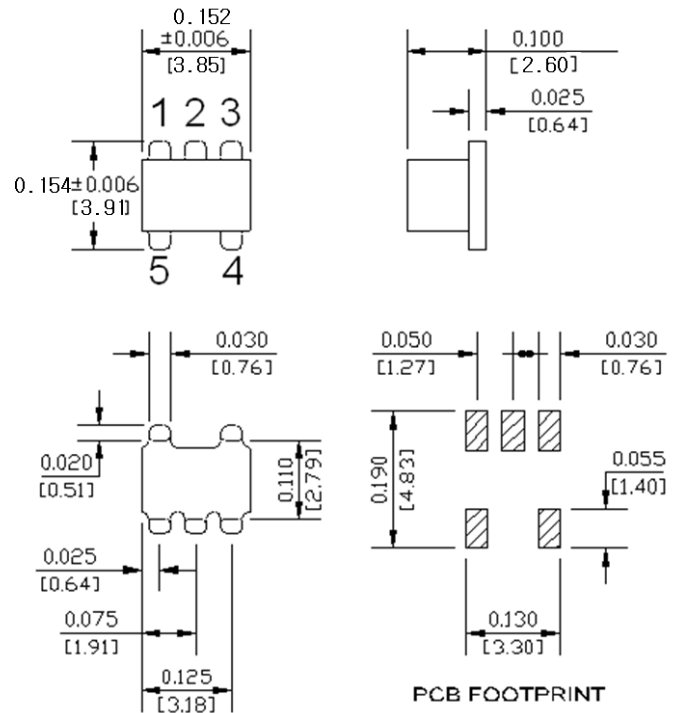
### Schematic



### Product Image



### Component Dimensions



### Pin Configuration

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

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

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

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
RF Frequency	—	30 - 2500	MHz	—	—	—
Insertion Loss	$F_L-f_U$	30 - 150	dB	—	2.0	3.0
		150 - 1000	dB	—	1.0	2.0
		1000 - 2000	dB	—	2.5	3.0
		2000—2500	dB	—	2.0	4.0
Amplitude Balance	$F_L-f_U$	30 - 1000	dB	—	0.3	0.5
		1000 - 2000	dB	—	0.8	1.5
		2000—2500	dB	—	1.0	2.0
Phase Balance	$F_L-f_U$	30 - 1000	Degree	—	1	2
		1000 - 2000	Degree	—	5	8
		2000—2500	Degree	—	8	13

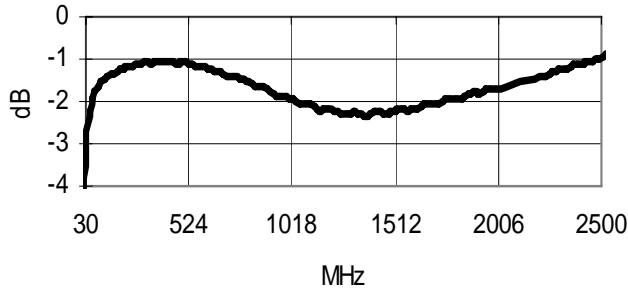
## Absolute Maximum Ratings <sup>1,2</sup>

Parameter	Absolute Maximum
DC Power	250 mW
DC Current	50 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

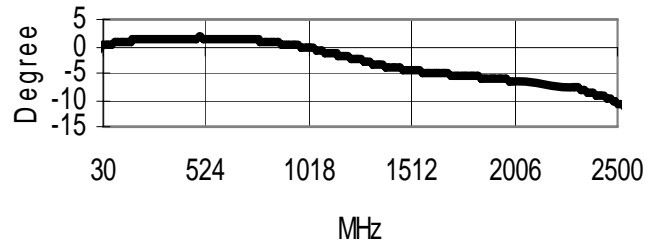
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.

## Typical Performance Curves

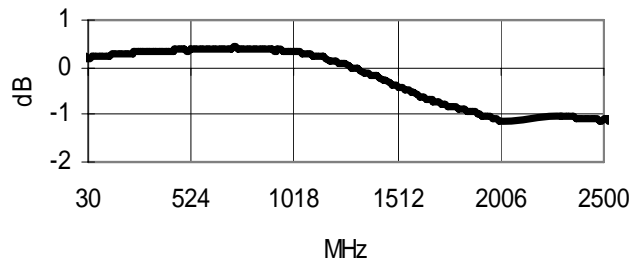
**Insertion Loss**



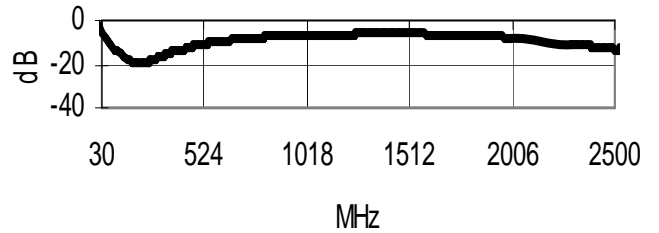
**Phase Balance**



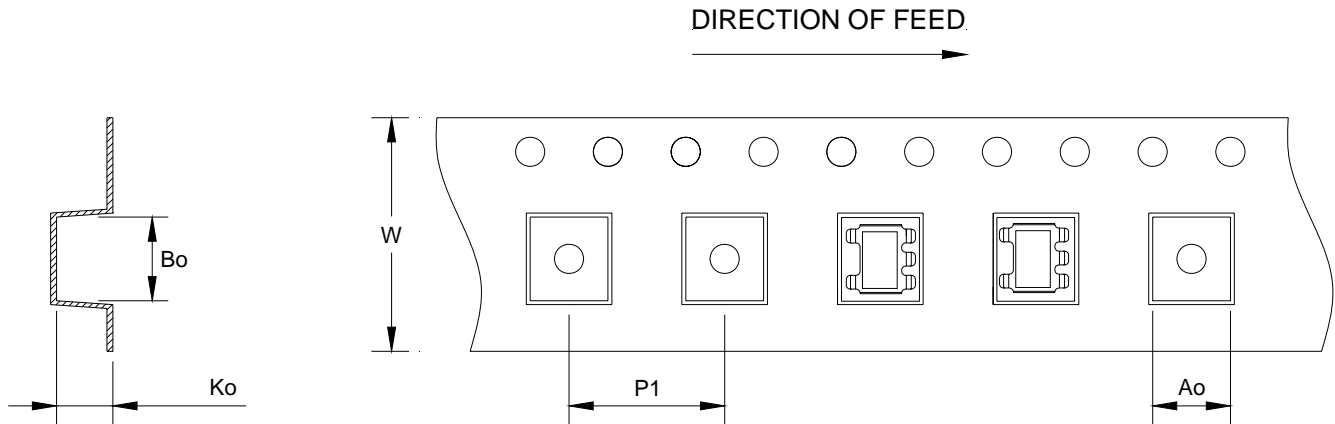
**Amplitude Balance**



**Input Return Loss**



## Tape & Reel Information



Item	Dimension
$A_o$	4.00mm +/-0.1mm
$B_o$	4.30mm +/-0.1mm
$K_o$	2.9mm +/-0.1mm
$W$	12.00mm +/-0.3mm
$P_1$	8.00mm +/-0.1mm

## Ordering Information

Part Number	Package
MABA-010012-ES4302	Tape and Reel (2000 piece Reel)