



M/A-COM Technology Solutions,  
4 Eastgate Road,  
Little Island,  
Co. Cork,  
Ireland

20<sup>th</sup> Oct 2015

Digi-Key Corporation

701 Brooks Ave South

Thief River Falls, Minnesota 56701

ATTN: Quality/Purchasing Manager

**Subject: Data Sheet Update.**

**Functional Schematic, Recommended Maximum Ratings, Outline Drawing and PCB Layout.**

**PCN #: 00787**

**PRODUCT CHANGE NOTICE**

Dear Valued Customer,

Please accept this PCN letter as formal notification for the change to M/A-COM Technology Solutions below part numbers. Details of the changes are contained within this document.

**Products Affected:**

The devices listed on this page are the affected devices.

**M/A-COM TECH P/N**

**MABA-011038**

**MABA-011039**

Technical details of this Product Change follow on the next page(s).  
Sincerely,

**Alan Miller**

Product Line Manager

M/A-COM Technology Solutions

Cell: +978-427-7482

Email: [Alan.Miller@macomtech.com](mailto:Alan.Miller@macomtech.com)

<b>PCN Number:</b>	00787	<b>PCN Date:</b>	20 Oct 2015
<b>Title:</b>	<b>Functional Schematic, Recommended Maximum Ratings, Outline Drawing and PCB Layout,</b>		
<b>Proposed 1st Ship Date:</b>	N/A	<b>Estimated Sample Availability</b>	N/A
<b>Change Type:</b>			
Assembly Site	Design	Electrical Specification	X
Test Site	Assembly Process	Mechanical Specification	X
Test Process	Assembly Materials	Packing/Shipping/Label	
<b>PCN Details</b>			
<b>Description of Change:</b>			
Data Sheet has been updated as outlined below:			
	<b>Functional Schematic</b>	<b>Outline Drawing, PCB Layout</b>	<b>Recommended Maximum Ratings</b>
MABA-011038	Functional Schematic has been added 	The outline drawing has been updated with new dimensions for carrier base, pin width and PCB layout 	From Input power: 250 mW, DC Current: 30 mA
			Changed to Input power: 2000 mW, DC Current: 1500 mA
MABA-011039	Functional Schematic has been added 	The outline drawing has been updated with new dimensions for carrier base, pin width and PCB layout 	NO CHANGE
<b>Reason for Change:</b>			
Market Requirement			
<b>Products Affected:</b>	MABA-011038 MABA-011039		
<b>Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):</b>			
Fit: None. Form: None. Function: None. Quality or Reliability: None.			

<b>Changes to product identification resulting from this PCN:</b> None.		
<b>Qualification:</b> N/A		
<b>Test</b>	<b>Conditions</b>	<b>Sample Size (Pass/Fail)</b>
N/A	N/A	N/A
<b>Qualification:</b>		
<b>Reliability Test</b>	<b>Conditions</b>	<b>Sample Size (PASS/FAIL)</b>
N/A		

# MABA-011038

Balun transformer, 1:3  
 1 – 300 MHz

Rev. V2

### Features

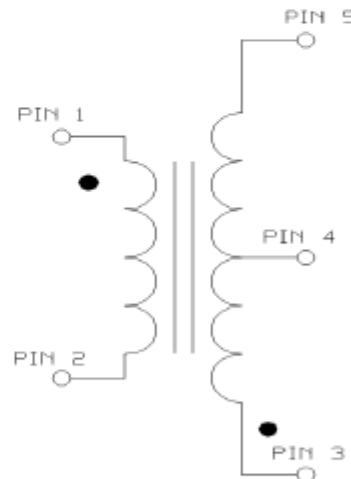
- 1:3 impedance
- Surface mount
- Available on tape and reel
- 260° reflow compatible
- RoHS compliant and Pb free
- Excellent temperature stability
- Suitable for all CATV, Broadband and FTTX applications



### Description

MACOM's MABA-011038 is a 1:3 transformer. This transformer is ideally suited for CATV and Broadband applications.

### Functional Schematic



### Ordering Information

Part Number	Package
MABA-011038	Tape & Reel

### Pin Configuration

Pin No.	Function
1	Ground
2	Input
3	Output1
4	Ground
5	Output2

# MABA-011038

Balun transformer, 1:3  
 1 – 300 MHz

Rev. V2

Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 50 \Omega$ ,  $P_{in} = 0\text{dBm}$

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Frequency Range		MHz	1		300
Impedance		$\Omega$		50	
Impedance Ratio				1:3	
Insertion Loss 1 (Pin2 - Pin3)	1 - 150 MHz	dB	-	0.6	0.9
	150 - 300 MHz	dB	-	0.8	1.2
Insertion Loss 2 (Pin2 - Pin5)	1 - 300 MHz	dB	-	0.6	0.9
Amplitude Balance	1 - 150 MHz	dB	-	0.02	$\pm 0.2$
	150 - 300 MHz	dB	-	0.2	$\pm 0.5$
Phase Balance (ref value $180^\circ$ )	1 - 150 MHz	$^\circ$	-	0.2	$\pm 2.0$
	150 - 300 MHz	$^\circ$	-	0.9	$\pm 4.0$
Input Return Loss (Pin2)	1 - 150 MHz	dB	17	20	-
	150 - 300 MHz	dB	14	17	-

## Recommended Maximum Ratings

Parameter	Units	Min	Max
Input Power	mW		500
DC Current	mA		500
Operating Temperature Range	$^\circ\text{C}$	-40	+125

Full temperature plots available on request

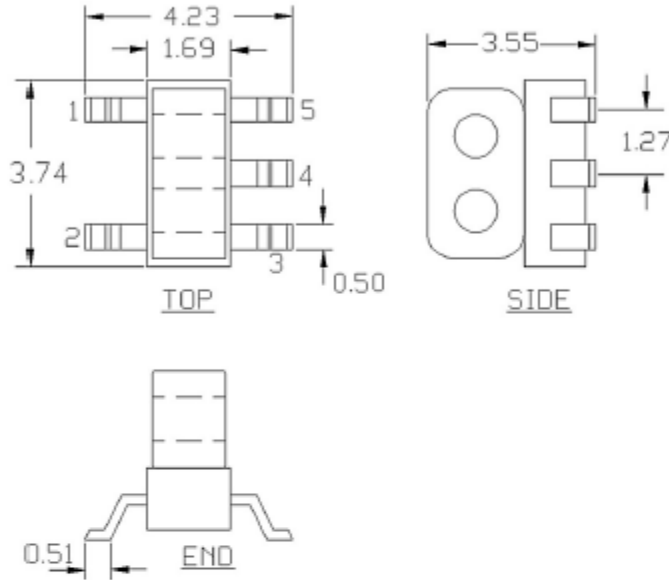
# MABA-011038



Balun transformer, 1:3  
 1 – 300 MHz

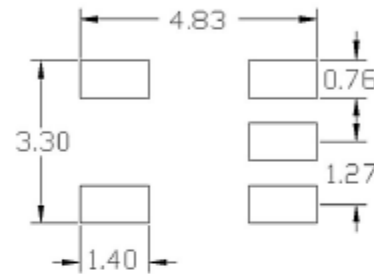
Rev. V2

### Outline Drawing

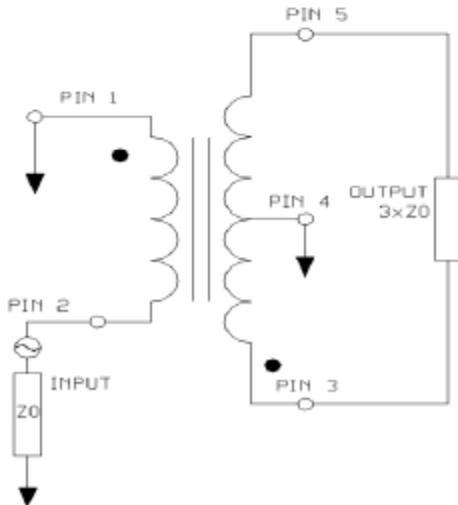


1. Dimensions in mm.
2. Tolerance:  $\pm 0.2$ mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Lead plating (CuSn8) Lead finish SAC-305.

### PCB Layout



### Application Schematic



### Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.00
Pitch	mm	8.00
Ao	mm	4.40
Bo	mm	4.00
Ko	mm	3.90
Orientation	-	F26
Reference Application Note ANI-019 for orientation		

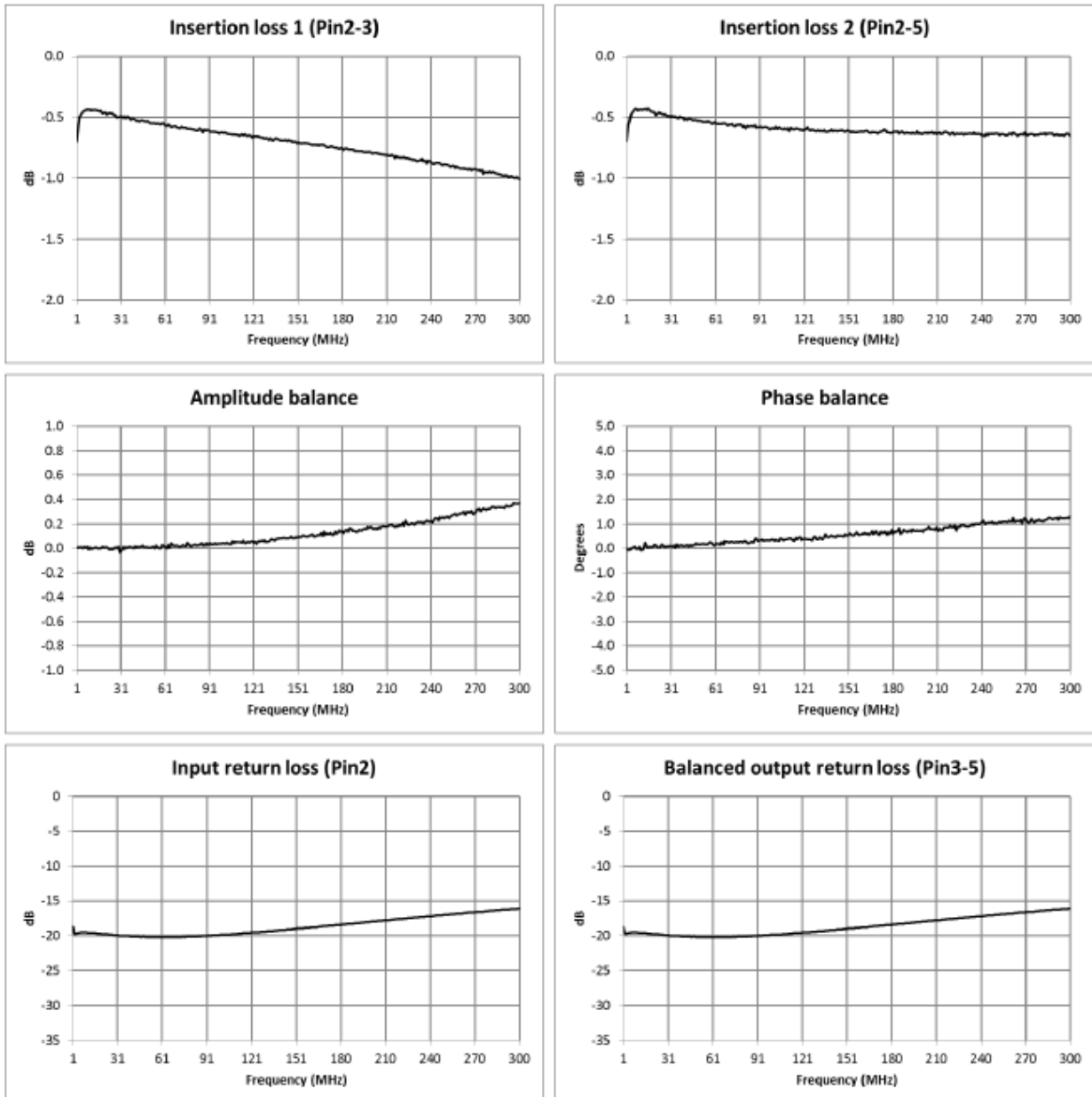
# MABA-011038



Balun transformer, 1:3  
 1 – 300 MHz

Rev. V2

## Typical Performance Curves



# MABA-011039

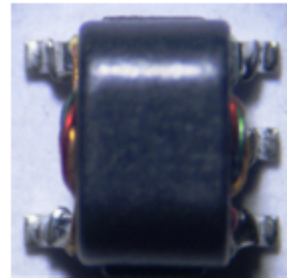


Balun transformer, 1:4 flux coupled  
 1 – 300 MHz

Rev. V2

### Features

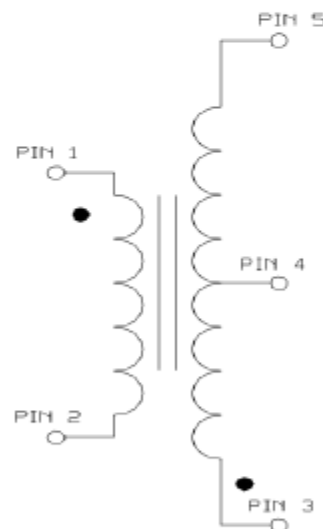
- 1:4 impedance
- Surface mount
- Available on tape and reel
- 260° reflow compatible
- RoHS compliant and Pb free
- Excellent temperature stability
- Suitable for all CATV, Broadband and FTTX applications



### Description

MACOM's MABA-011039 is a 1:4 flux coupled transmission. This transformer is ideally suited for CATV and Broadband application.

### Functional Schematic



### Ordering Information

Part Number	Package
MABA-011039	Tape & Reel
MABA-011039-TB	Customer Test Board

### Pin Configuration

Pin No.	Function
1	Primary Dot (input)
2	Primary (ground)
3	Secondary (output2)
4	Center tap (ground)
5	Secondary Dot (output1)



# MABA-011039

Balun transformer, 1:4 flux coupled  
 1 – 300 MHz

Rev. V2

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

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Frequency Range		MHz	1		300
Impedance		$\Omega$		75	
Impedance Ratio				1:4	
Insertion Loss 1 (Pin1 - Pin5)	1 - 300 MHz	dB	-	0.7	1.1
Insertion Loss 2 (Pin1 - Pin3)	1 - 300 MHz	dB	-	0.6	1.1
Amplitude Balance	1 - 300 MHz	dB	-	0.05	$\pm 0.5$
Phase Balance (ref value $180^\circ$ )	1 - 300 MHz	$^\circ$	-	0.2	$\pm 3.0$
Input Return Loss (Pin1)	1 - 300 MHz	dB	14	21	-

## Recommended Maximum Ratings

Parameter	Units	Min	Max
Input Power	mW		2000
DC Current	mA		1500
Operating Temperature Range	$^\circ\text{C}$	-40	+125

Full temperature plots available on request

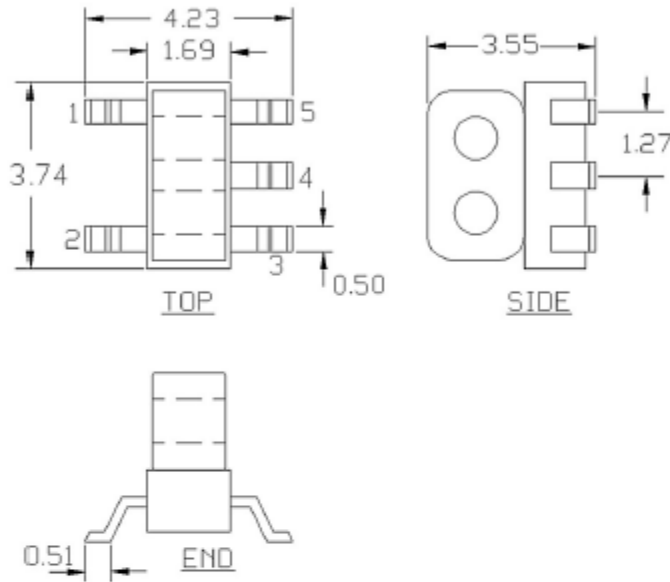
# MABA-011039



Balun transformer, 1:4 flux coupled  
1 – 300 MHz

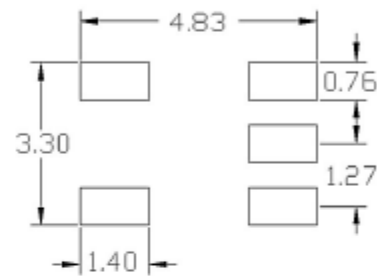
Rev. V2

### Outline Drawing

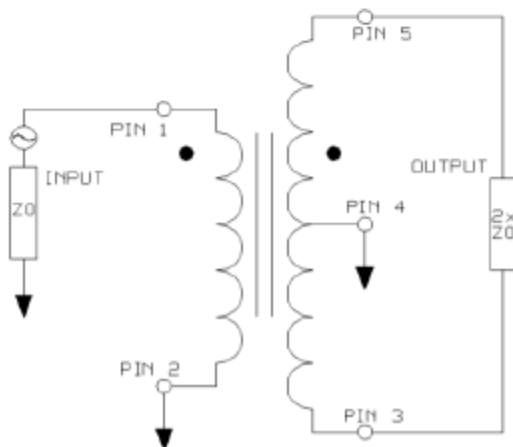


1. Dimensions in mm.
2. Tolerance:  $\pm 0.2$ mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Lead plating (CuSn8) Lead finish SAC-305.

### PCB Layout



### Application Schematic



### Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.00
Pitch	mm	8.00
Ao	mm	4.40
Bo	mm	4.00
Ko	mm	3.90
Orientation	-	F26
Reference Application Note ANI-019 for orientation		

# MABA-011039

Balun transformer, 1:4 flux coupled  
 1 – 300 MHz

Rev. V2

## Typical Performance Curves

