

Balun transformer, 2:1 step down flux coupled 5 – 300 MHz

Rev. V1

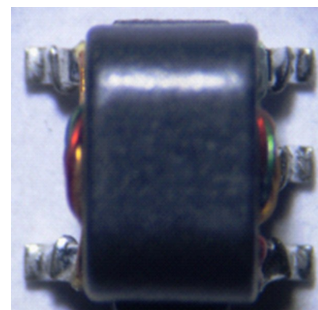
Features

- 2:1 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

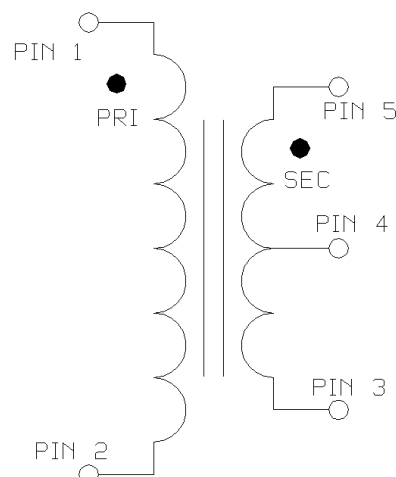
Description

MACOM's MABA-011063 is a 2:1 flux coupled transformer.

This transformer is ideally suited for DOCSIS 3.0x upstream applications due to it's high power and temperature performance.



Functional Schematic



Ordering Information

Part Number	Package
MABA-011063	Tape & Reel
MABA-011063-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)

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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	5		300
Impedance		Ω		75	
Impedance Ratio				2:1	
Insertion Loss 1 (Pin1 - Pin5)	5 - 50 MHz	dB	-	0.3	0.5
	50 - 150 MHz	dB	-	0.5	1.0
	150 - 300 MHz	dB	-	1.3	2.6
Insertion Loss 2 (Pin1 - Pin3)	5 - 50 MHz	dB	-	0.2	0.5
	50 - 150 MHz	dB	-	0.5	1.0
	150 - 300 MHz	dB	-	1.1	2.3
Amplitude Balance	5 - 50 MHz	dB	-	0.01	± 0.2
	50 - 150 MHz	dB	-	0.01	± 0.4
	150 - 300 MHz	dB	-	0.2	± 1.1
Phase Balance (ref value 180°)	5 - 50 MHz	$^\circ$	-	0.2	± 2.0
	50 - 150 MHz	$^\circ$	-	1.3	± 5.0
	150 - 300 MHz	$^\circ$	-	1.8	± 7.0
Input Return Loss (Pin1)	5 - 50 MHz	dB	18	24	-
	50 - 150 MHz	dB	10	15	-
	150 - 300 MHz	dB	5	9	-

Recommended Maximum Ratings

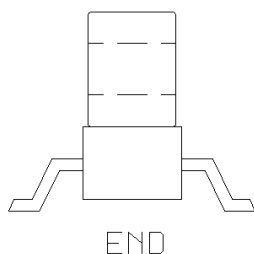
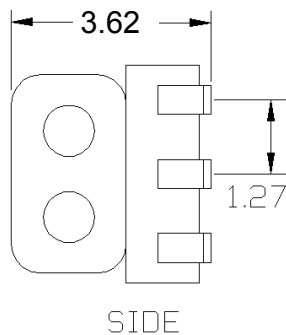
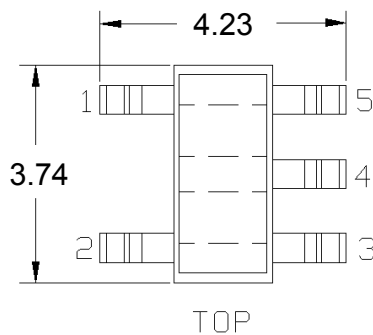
Parameter	Units	Min	Max
Input Power	mW		1000
DC Current	mA		1000
Operating Temperature Range	$^\circ\text{C}$	-40	+125

Full temperature plots available on request

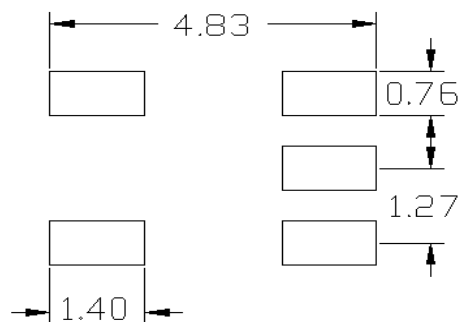
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Outline Drawing

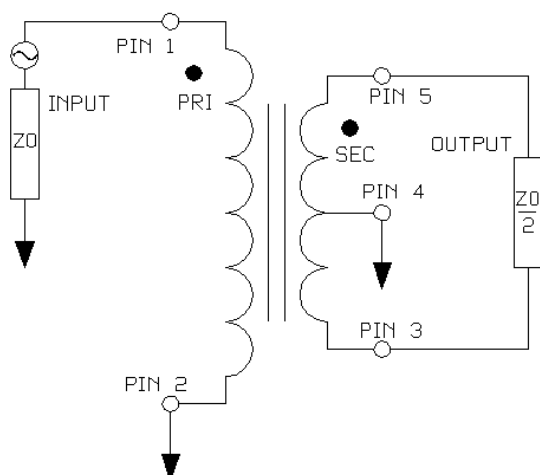


PCB Layout



1. Dimensions in mm.
2. Tolerance: $\pm 0.2\text{mm}$ unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Lead plating (CuSn6) Lead finish SAC-305.

Application Schematic



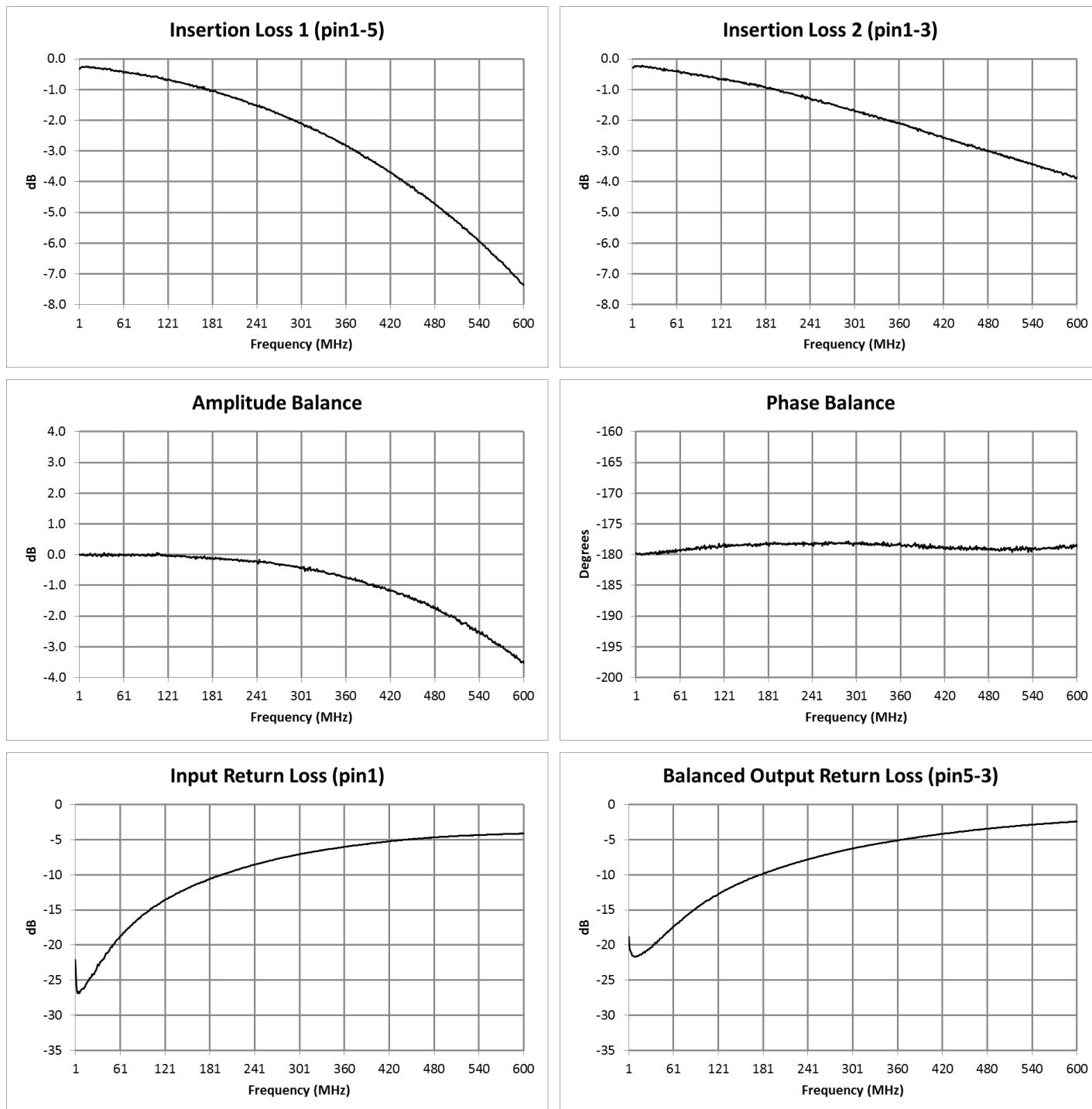
Tape & Reel Information

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 orienta-		

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Typical Performance Curves



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