

1:1 dB Transformer 5 - 400 MHz

Rev. V5

Features

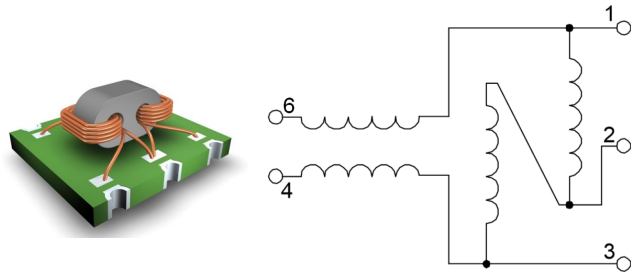
- 1:1 Transformer with Centre Tap
- Surface Mount Package
- Excellent Temperature Stability
- 260°C Reflow Compatible
- RoHS* Compliant & Lead Free
- Available on Tape & Reel

Description

The MABA-010721-CF1670 is a 1:1 RF transformer in a surface mount package.

Ideally suited for broadband CATV applications.

Schematic



Pin Configuration³

Pin #	Function
1	Output 1
2	No Connection
3	Output 2
4	Ground
5	Not connected
6	Input

3. MACOM recommends connecting unused package pins to ground.

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

Parameter	Frequency	Units	Min.	Typ.	Max.
Insertion Loss 1 (Pin 6 to Pin 1)	5 - 400 MHz	dB	—	0.5	0.6
Insertion Loss 2 (Pin 6 to Pin 3)	5 - 400 MHz	dB	—	0.4	0.6
Amplitude Balance	5 - 400 MHz	dB	—	0.08	± 0.5
Phase Balance	5 - 400 MHz	dB	—	0.4	± 2.0
Input Return Loss (Pin 6)	5 - 200 MHz	dB	20	28	—
	200 - 400 MHz	dB	19	22	—

Ordering Information^{1,2}

Part #	Description
MABA-010721-CF1670	900 piece reel
MABA-010721-CF16TB	customer evaluation board

1. Reference Application Note M513 for reel size information.
2. All sample boards include 5 loose parts.

* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

Recommended Maximum Ratings^{4,5}

Parameter	Value
Input power	250 mW
DC Current	1200 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

4. Exceeding any one or combination of these limits may cause permanent damage to this device.
5. MACOM does not recommend sustained operation near these survivability limits.

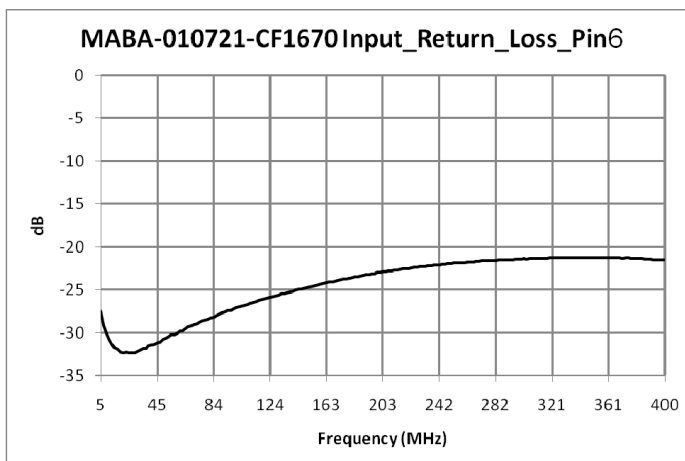
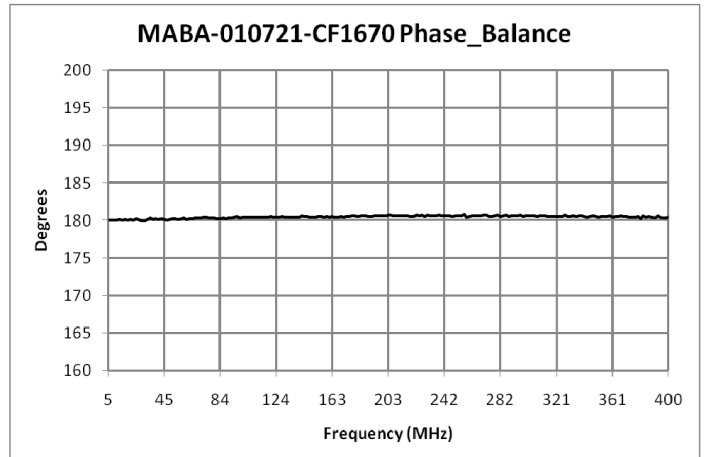
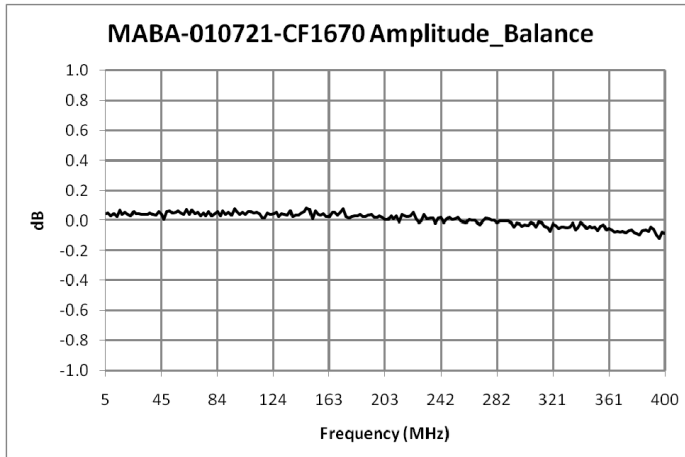
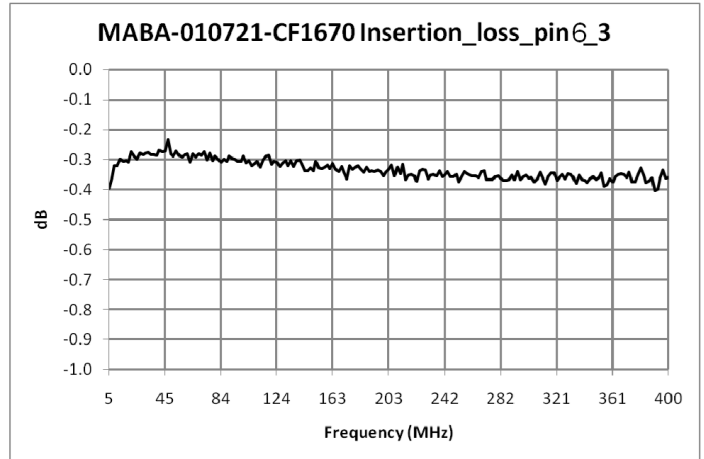
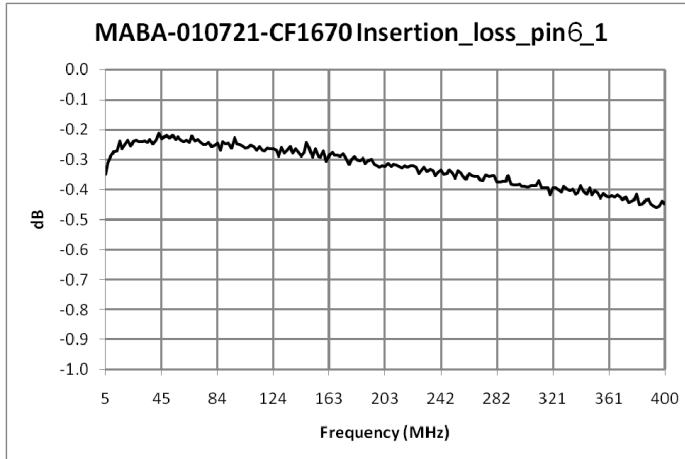
MABA-010721-CF1670



1:1 dB Transformer
5 - 400 MHz

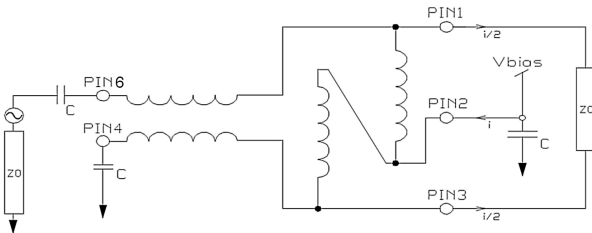
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Typical Performance Curves:⁶ $P_{IN} = 0 \text{ dBm}$, $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$

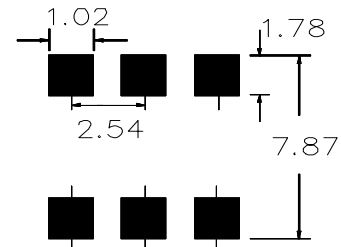


6. Temperature plots available on request

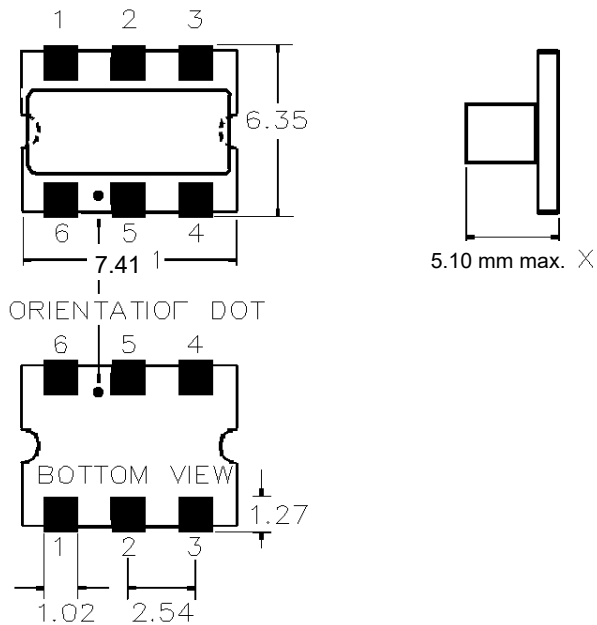
Application Circuit



Recommended Board Layout



Outline Drawing^{7,8,9,10}

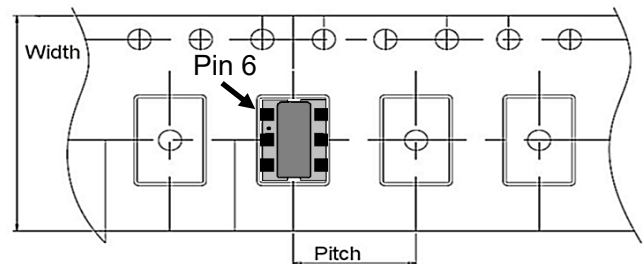


- 7. Dimensions in mm.
- 8. Tolerance: ± 0.2 mm unless otherwise noted.
- 9. Model number and lot code printed on reel.
- 10. Finish: Electroless Nickel Immersion Gold.

Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	900
Reel Size	mm	330
Tape Width	mm	16.00
Pitch	mm	12.00
Orientation	-	F15
Reference Application Note ANI-019 for orientation		

Carrier Tape Orientation



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