

1:1 Flux Coupled Transformer 5 - 120 MHz

Rev. V3

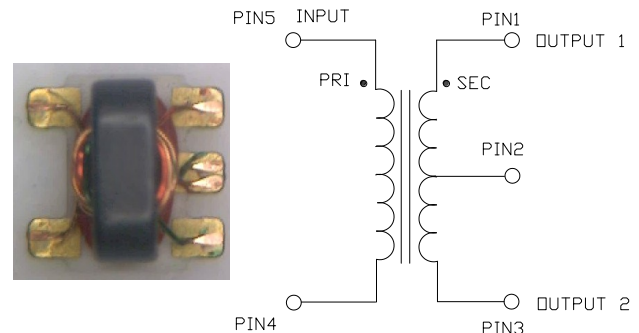
Features

- 1:1 Flux Coupled
- Surface Mount Package
- 260°C Reflow Compatible
- Excellent Temperature Stability
- RoHS Version of ETC1-1T-8, Lead Free

Description

The MABA-009650-CF1160 is a 1:1 flux coupled transformer. Suitable for use in both 50 Ω & 75 Ω systems. Designed for high volume CATV broadband applications.

Schematic



Pin Configuration

Pin #	Function
1	Secondary Dot (output 1)
2	Centre Tap
3	Secondary (output 2)
4	Primary (ground)
5	Primary Dot (input)

Electrical Specifications: Freq. = 5 - 120 MHz, $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$

Parameter	Frequency	Units	Min	Typ	Max
Insertion Loss	5 - 120 MHz	dB	—	0.4	0.6
Amplitude Balance	5 - 120 MHz	dB	—	± 0.1	± 0.3
Phase Balance	5 - 120 MHz	$^\circ$	—	± 0.5	± 2.0
Input Return Loss	5 - 65 MHz 65 - 120 MHz	dB	22 17	28 23	—

Ordering Information

Part number	Description
MABA-009650-CF1160	2000 piece reel
MABA-009650-CF11TB	customer test board

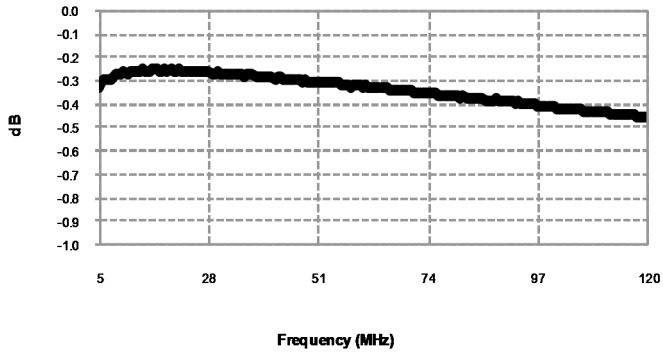
Reference Application Note **M513** for reel size information.

Recommended Maximum Ratings

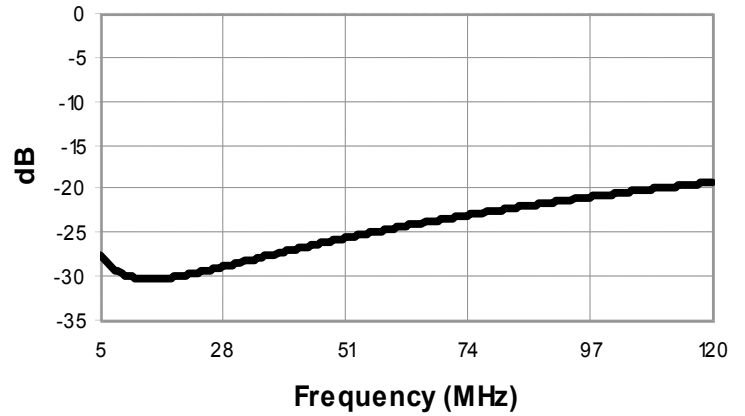
Parameter	Value
RF Power	250 mW
DC current	30 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C

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

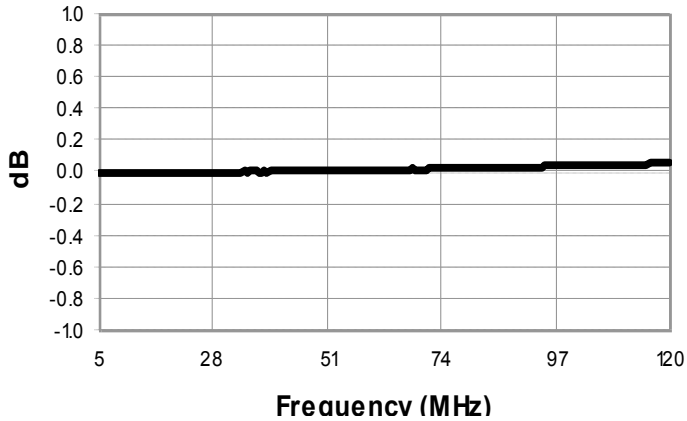
Insertion Loss



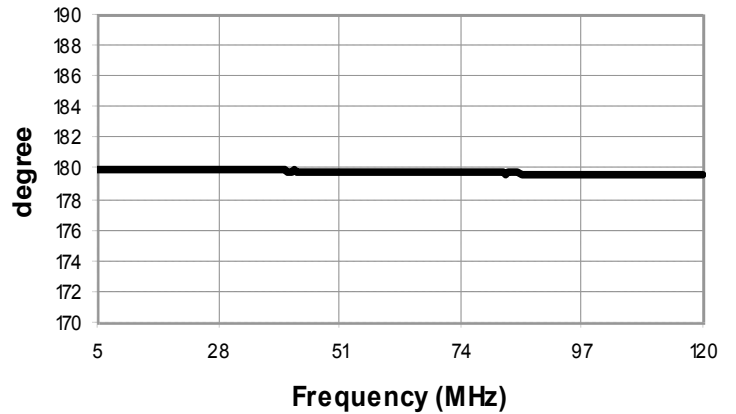
Return Loss: Input



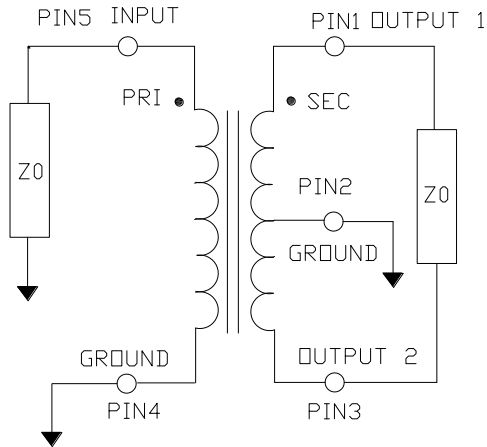
Amplitude Balance



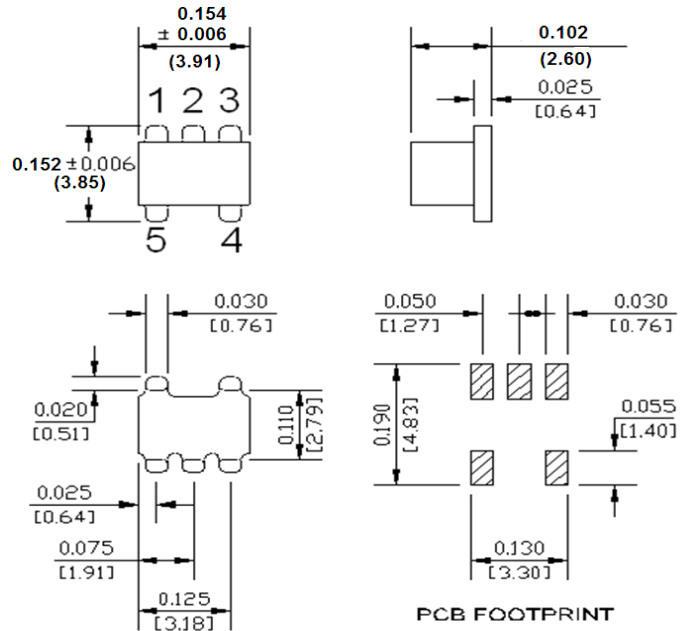
Phase Balance



Application Circuit

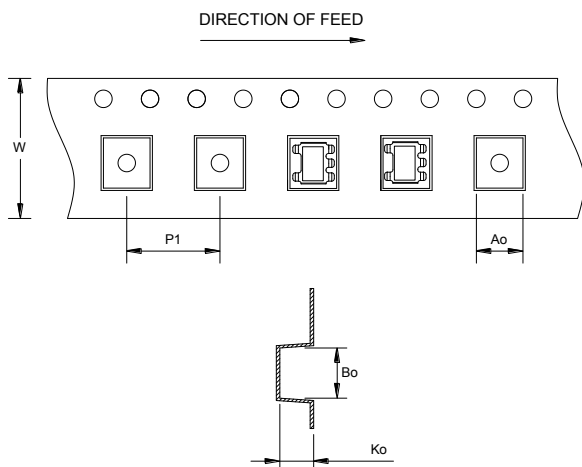


Case Style SM-22



Dimensions are inches (millimeters) ± 0.015 (0.38) unless otherwise specified.
 Drawing not to scale.

Tape & Reel Information



Dimensions

Item	Dimension (mm)
A _o	4.00 +/-0.1
B _o	4.30 +/-0.1
K _o	2.90 +/-0.1
W	12.00 +/-0.3
P1	8.00 +/-0.1

MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.