

1:1 Transmission Line Transformer 46 - 1002 MHz

Rev. V4

Features

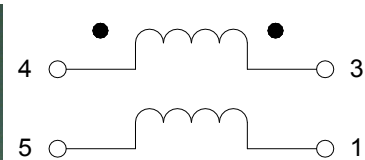
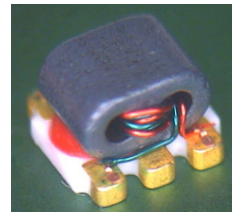
- 1:1 Impedance
- Wide Frequency Range
- Surface Mount Package
- 260°C reflow compatible
- RoHS Compliant, Lead Free
- Available on Tape & Reel

Description

The MABA-010245-CT1160 is a 1:1 transmission line transformer. The windings are welded to the package substrate for improved reliability and to eliminate lead content.

This transformer is ideally suited for CATV broadband, & Satellite STB/Subscriber applications.

Schematic



Pin Configuration

Pin #	Function
1	Secondary Dot
2	Not Connected
3	Secondary
4	Primary
5	Primary Dot

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

Parameter	Frequency	Units	Min.	Typ.	Max.
Insertion Loss 1 (Pin 4 to Pin 3)	46 - 1002 MHz	dB	—	0.1	0.6
Insertion Loss 2 (Pin 4 to Pin 1)	46 - 1002 MHz	dB	—	0.4	0.7
Amplitude Balance (Nominal 0 dB)	46 - 1002 MHz	dB	—	0.3	± 0.8
Phase Balance (Nominal 180°)	46 - 100 MHz 100 - 100 2MHz	°	—	2.4 1.2	± 5.0 ± 2.5
Input Return Loss (Pin4)	46 - 300 MHz 300 - 1002 MHz	dB	25 17.5	42 30	—

Ordering Information

Part #	Package
MABA-010245-CT1160	2000 piece per reel
MABA-010245-CT11TB	Customer test board

Absolute Maximum Ratings^{1,2}

Parameter	Absolute Maximum
RF Power	250 mW
DC Current	>600 mA @ 5 V
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +100°C

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

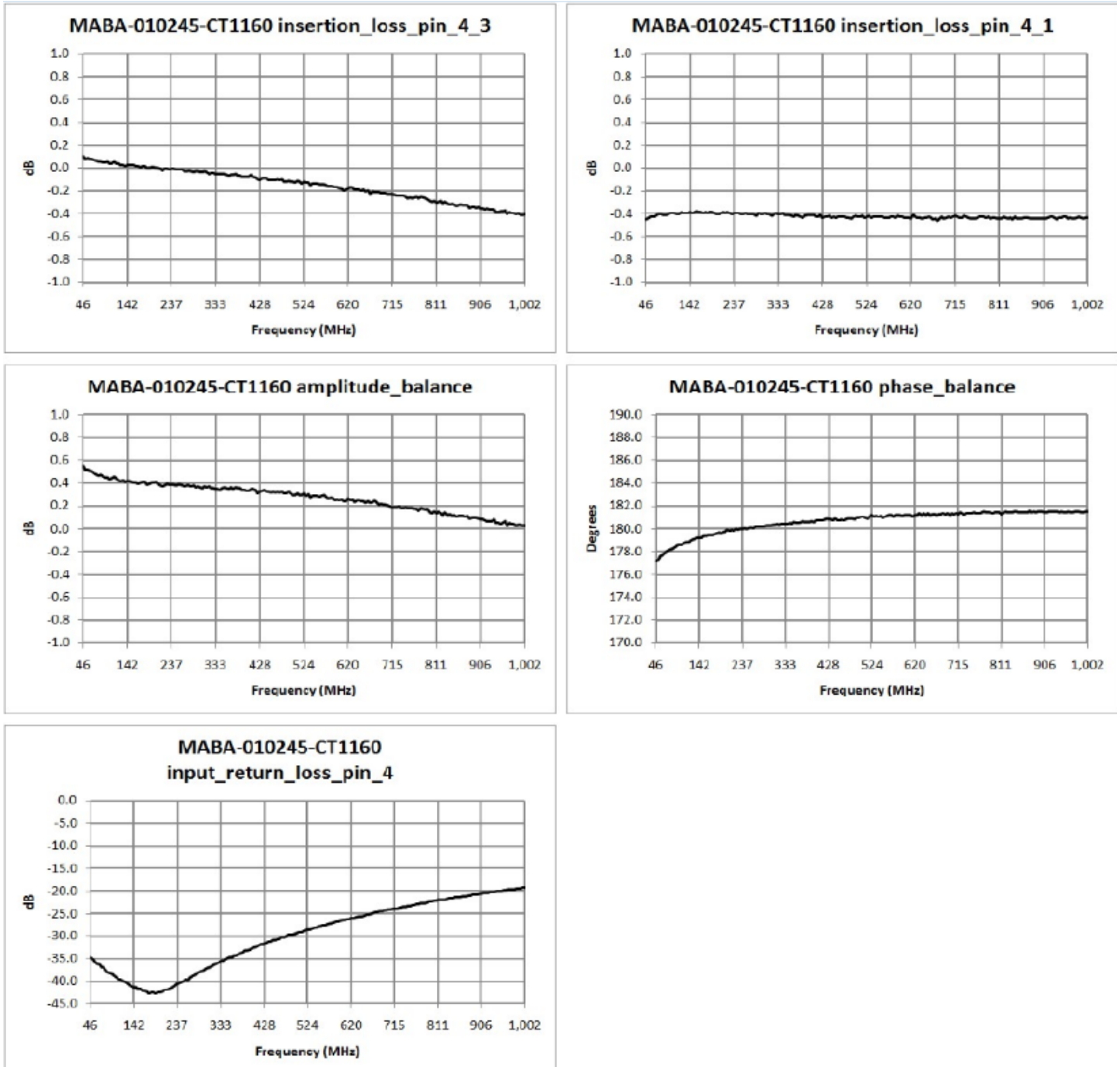
MABA-010245-CT1160



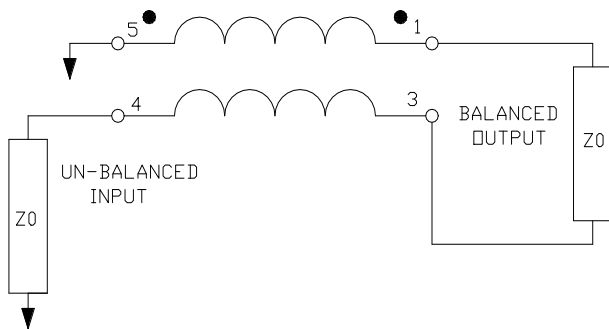
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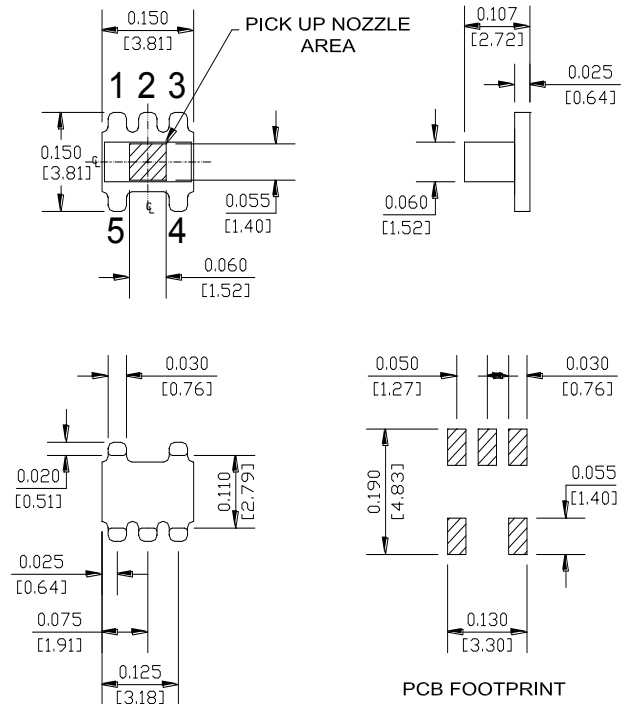
Typical Performance Curves: $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$, $P_{IN} = 0 \text{ dBm}$



Application Circuit

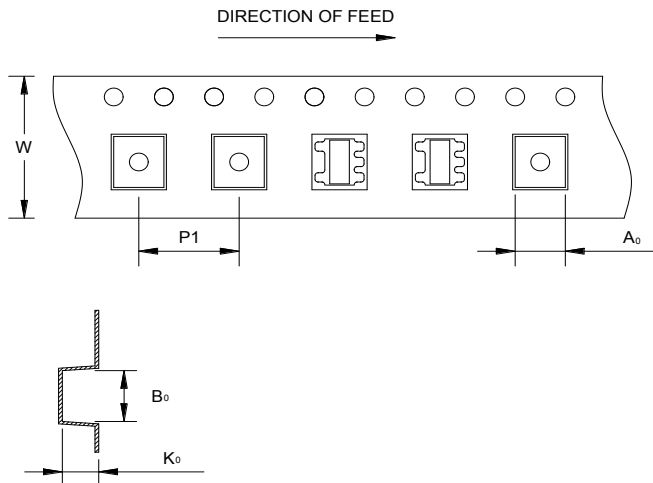


Outline Drawing



Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010, unless otherwise stated

Reel Orientation



Tape & Reel Information

Item	Dimension
A_0	4.0 mm +/-0.1 mm
B_0	4.0 mm +/-0.1 mm
K_0	2.90 mm +/-0.1 mm
W	12.0 mm +/-0.3 mm
$P1$	8.00 mm +/-0.1 mm