

4:1 Transmission Line Transformer 500 - 3000 MHz

Rev. V4

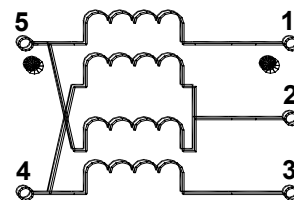
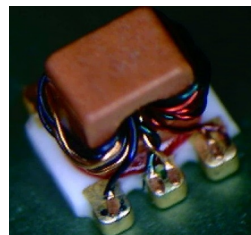
Features

- Surface Mount
- Wide Frequency Range
- 4:1 Impedance Ratio, Unbalanced to Unbalanced
- CT on Secondary
- Pb Free
- RoHS* version of ETC1.6-4-2-3
- 260 °C reflow compatible

Description

The MABACT0065 is a 4:1 RF transmission line step-up transformer in a low cost, surface mount package. Ideally suited for high volume cellular and wireless applications. Typical applications include single to balanced mode conversion and impedance matching.

Schematic



Pin Configuration

Pin No.	Function
1	Secondary Dot (output 1)
2	Secondary centre tap (gnd)
3	Secondary (output 2)
4	Primary (ground)
5	Primary Dot (input)

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

Parameter	Frequency	Units	Min.	Typ.	Max.	Mean (x)	Sigma
RF Frequency	500 - 3000	MHz	—	—	—	—	—
Insertion Loss	500 - 750 750 - 1200 1200 - 3000	dB	—	—	3.0 1.0 3.0	— 0.22 —	— 0.159 —

Ordering Information

Part number	Description
MABACT0065	2000 piece reel

Recommended Maximum Ratings^{1,2}

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

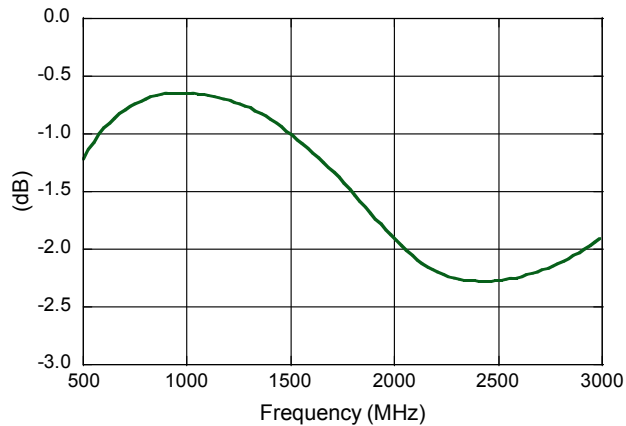
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

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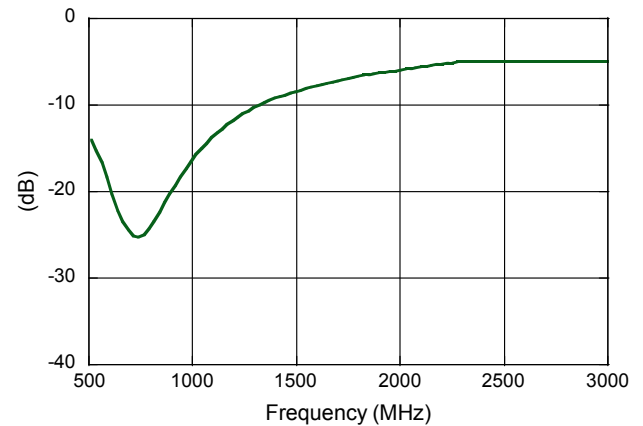
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Typical Performance Curves: $T_A = 25^\circ\text{C}$, $Z_0 = 50\ \Omega$

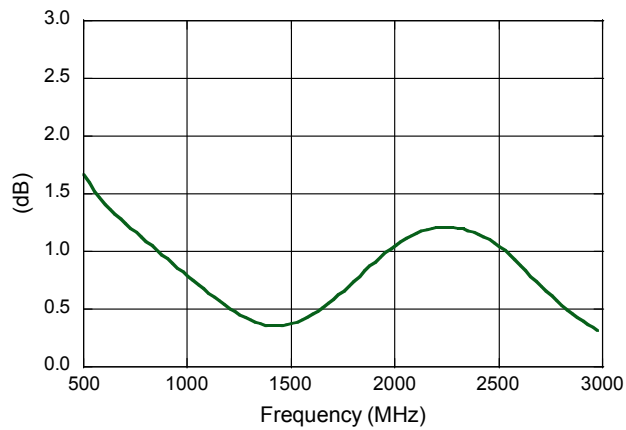
Insertion Loss



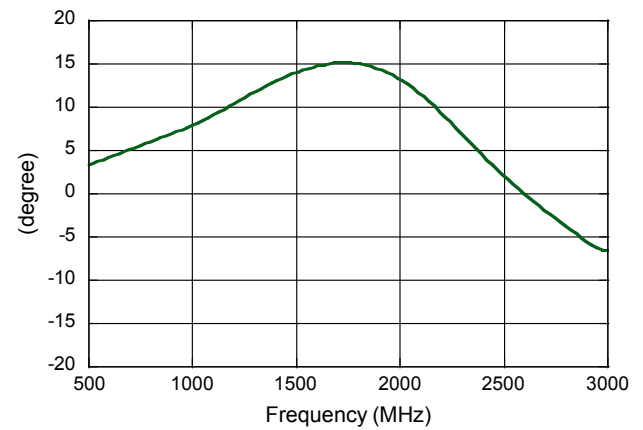
Input Return Loss



Amplitude Unbalance



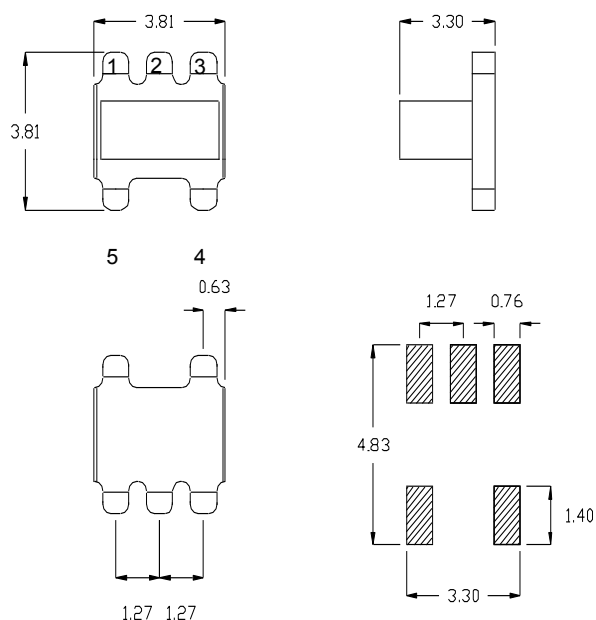
Phase Unbalance



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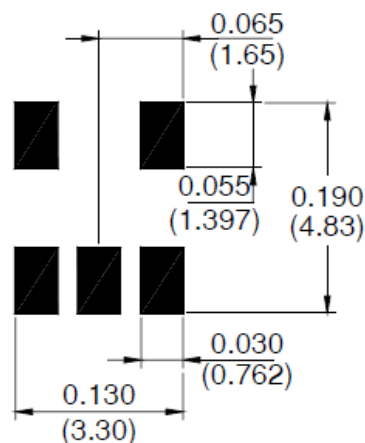
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Outline Drawing

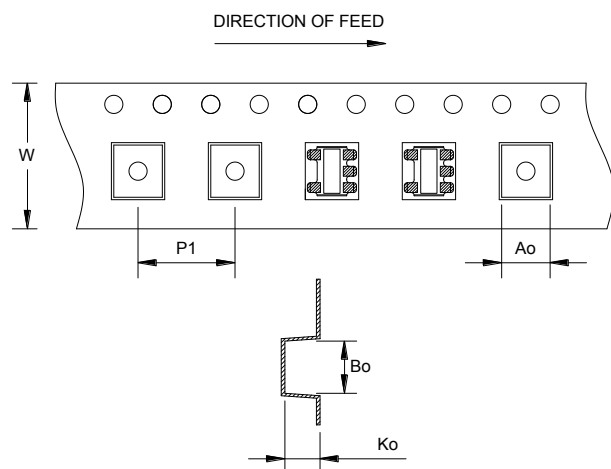


Dimensions in mm. Tolerance: .xx ± 0.15
Drawing not to scale

Recommended PCB Configuration



Carrier Tape Orientation



Tape & Reel Information

Item	Dimension (mm)
Ao	4.10 +/-0.1
Bo	4.20 +/-0.1
Ko	3.40 +/-0.1
W	12.00 +/-0.3
P1	8.00 +/-0.1

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