

## 1:2 Flux Coupled Transformer 5 - 200 MHz

Rev. V1

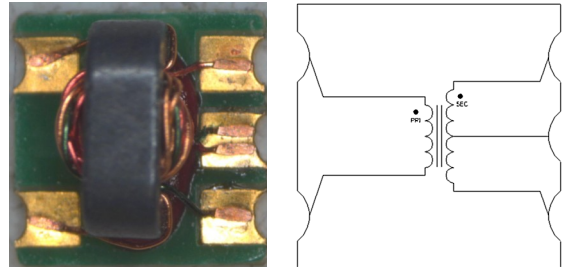
### Features

- Surface Mount
- 1:2 Impedance
- Excellent amplitude and phase Balance
- Available on Tape and Reel
- RoHS Compliant and Pb Free
- 260°C Reflow Compatible

### Description

The MABACT0068 is a 1:2 RF Flux coupled balun transformer in a low cost surface mount package. Ideally suited for all CATV Broadband and FTTx applications. Suitable for use in 50 and 75 Ohm systems.

### Functional Schematic



### Pin Configuration

Pin No.	Function
1	Secondary Dot (output 1)
2	Centre Tap (ground)
3	Secondary (output 2)
4	Primary (ground)
5	Primary Dot (input)

### Electrical Specifications: Freq. = 5 - 200 MHz, $T_A = 25^\circ\text{C}$ , $Z_0 = 75 \Omega$ , $P_{in} = 0 \text{ dBm}$

Parameter	Conditions	Units	Min.	Typ.	Max.
Impedance Ratio	—	—	—	1:2	—
Insertion Loss	5 - 65 MHz	dB	—	0.3	0.5
	65 - 200 MHz			0.4	0.9
Amplitude Balance	5 - 65 MHz	dB	—	0.02	$\pm 0.15$
Phase Balance (ref value $180^\circ$ )	5 - 50 MHz	dB	—	0.0	$\pm 2.0$
Input Return Loss	5 - 200 MHz	dB	18	22	—

### Ordering Information<sup>1</sup>

Part Number	Description
MABACT0068	2000 piece reel

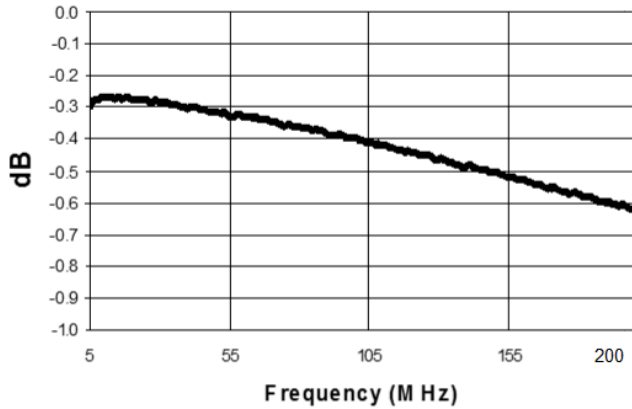
1. All sample boards include 5 loose parts.

### Absolute Maximum Ratings

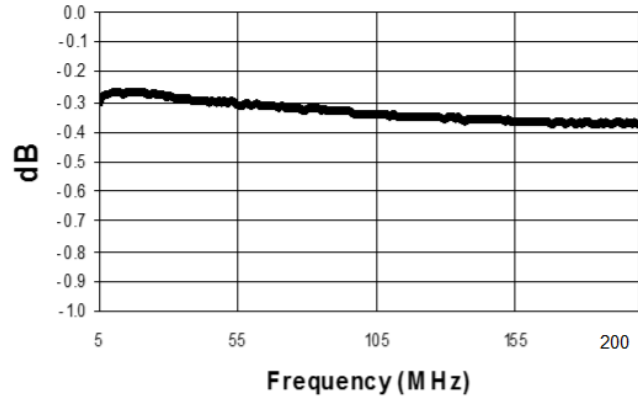
Parameter	Absolute Maximum
Input RF Power	250 mW
DC Current	240 mA
Operating Temperature	$-40^\circ\text{C}$ to $+85^\circ\text{C}$

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

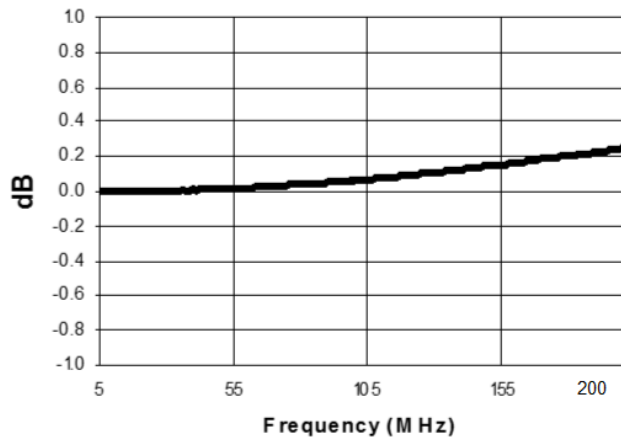
**Insertion Loss 1 (through pin 5 to pin 1)**



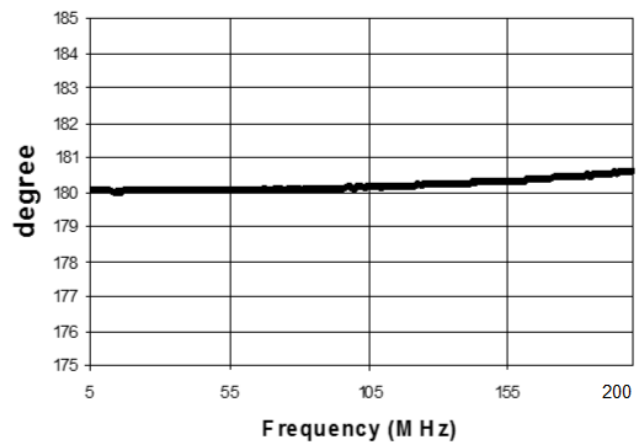
**Insertion Loss 2 (coupled pin 5 to pin 3)**



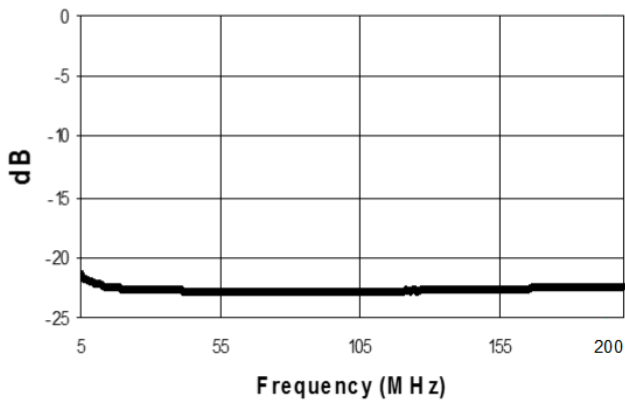
**Amplitude Unbalance**



**Phase Balance**

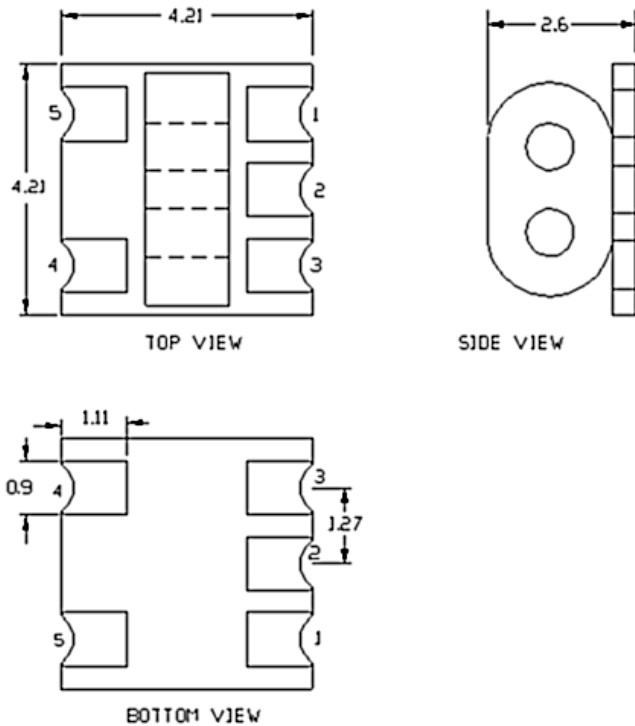


**Input Return Loss (Pin5)**



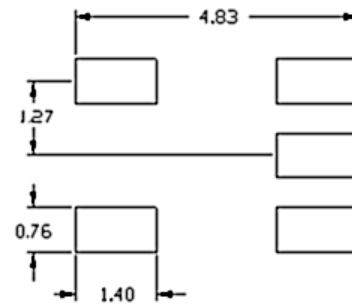
Full temperature plots available on request

## Part Outline Drawing

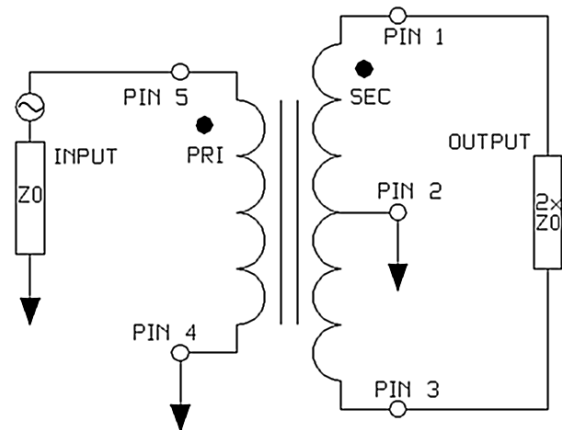


1. Dimensions in mm
2. Tolerance:  $\pm 0.2$  mm unless otherwise noted
3. Model number and lot code are printed on the reel
4. Plating finish: ENIG

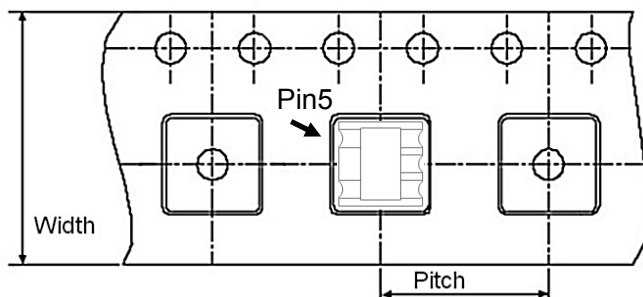
## PCB layout



## Application Schematics



## Carrier Tape Orientation



## Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.00
Pitch	mm	8.00
Orientation	-	F31
Reference Application Note ANI-019 for orientation		

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