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

#### Features

- Surface Mount
- 2:1 Impedance
- Excellent amplitude and phase balance
- Pb Free
- **RoHS\*** Compliant
- Tape and Reel.

#### Description

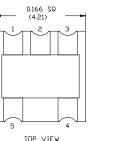
M/A-COM Technology Solutions MABACT0048 is a 2:1 RF Flux Coupled transformer in a low cost, surface mount package.

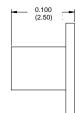
Ideally suited for high volume CATV/Broadband applications. Suitable for use in 50 and 75 Ohm systems.

### **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)	

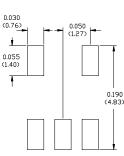
### **Component Dimensions**





SIDE VIEW

TOP VIEW

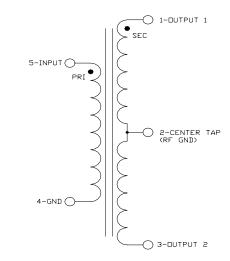


BOTTOM VIEW

FOOTPRINT FOR PCB DESIGN

Dimensions in inches [mm]. Tolerance inches:  $.xx \pm .02$ ,  $.xxx \pm .010$ , unless otherwise stated. Drawing not to scale.

### Schematic



\* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

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Rev. V1

<sup>1</sup> 



# 2:1 Flux Coupled Transformer 5-200MHz

Rev. V1

# Electrical Specifications: $T_A = 25^{\circ}C$ , $Z_0 = 75\Omega$

Parameter	Test Conditions	Units	Min	Тур	Max
Insertion Loss	5 - 65 MHz	dB	-	0.25	0.4
Insertion Loss	65 - 200 MHz	dB	-	0.4	0.9
Amplitude Unbalance (Nominal 0dB)	5 - 65 MHz	dB	-	±0.02	± 0.15
Phase Unbalance (Nominal 180º)	5 - 50 MHz	0	-	±0.00	± 2.00
Input Return Loss	5 - 10 MHz	dB	15	20	-
Input Return Loss	10 - 200 MHz	dB	18	22	-

## **Recommended Maximum Ratings**<sup>1,2</sup>

Parameter	Value
Max Input Power	250mW
DC current	30mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C

1. Exceeding any one or combination of these limits may cause permanent damage to this device.

 M/A-COM Technology Solutions does not recommend sustained operation near these survivability limits.

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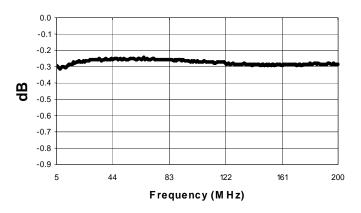
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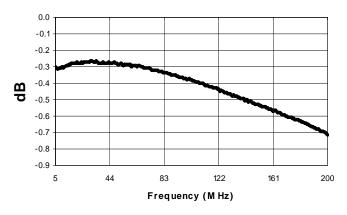
# 2:1 Flux Coupled Transformer 5-200MHz

## Typical Performance Curves: $T_A = 25^{\circ}C$ , $Z_0 = 75\Omega$

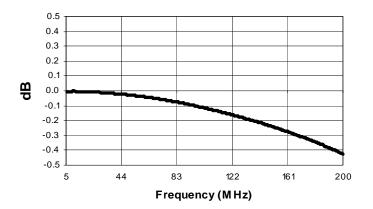
#### Insertion Loss (coupled pin 5 to pin 3)



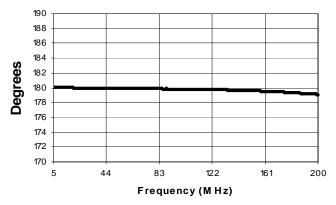
#### Insertion Loss (through pin 5 to pin 1)



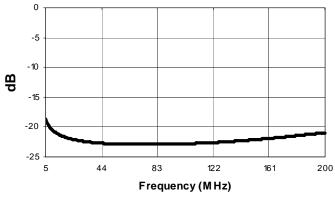
**Amplitude Unbalance** 



Phase Balance







3

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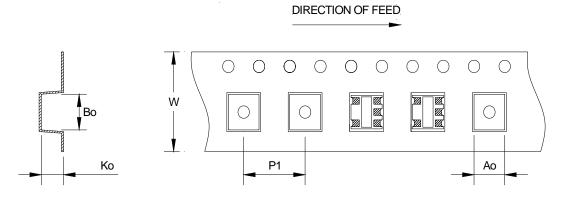
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Rev. V1



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#### **Tape & Reel Information**



ltem	Dimension	
Ao	4.50mm +/- 0.1mm	
Во	4.50mm +/- 0.1mm	
Ko	2.73mm +/- 0.1mm	
W	12.00mm +/- 0.3mm	
P1	8.00mm +/- 0.1mm	

### **Ordering Information**

Part Number	Package
MABACT0048TR	2000 piece reel

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