

# MACP-008249-CH09B0



**17dB Directional Coupler**  
**5 - 120 MHz**

**M/A-COM Products**

V4

## Features

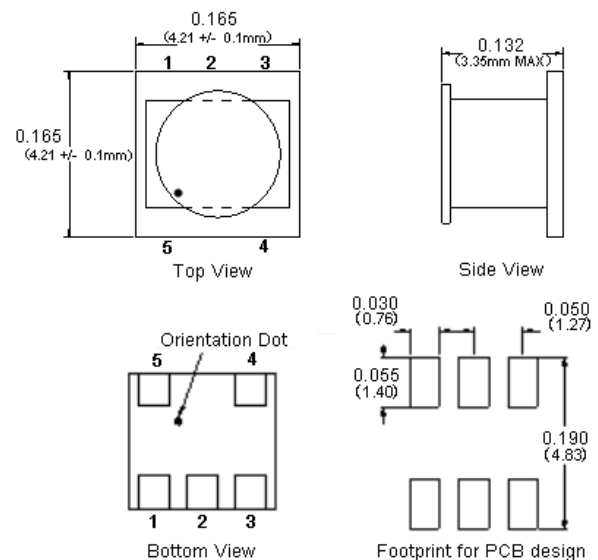
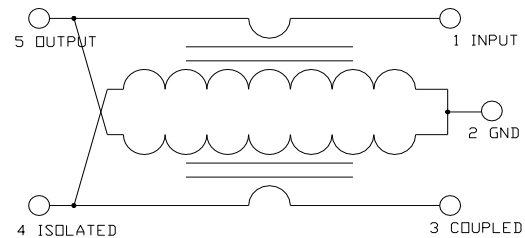
- Surface Mount
- 17dB Coupler
- RoHS\* Compliant
- RoHS version of MACPCT0017
- Available on Tape and Reel. Reel quantity 2000

## Description

M/A-COM's MACP-008249-CH09B0 is a 17dB directional coupler in a low cost, surface mount package. Ideally suited for high volume CATV applications. A 75W external resistor is required on the isolation port with this product. Typical applications include set-top boxes, network interface units, CATV amplifiers and headend equipment.



## Schematic



## Pin

Function	Pin Number
Input	1
Ground	2
Coupled	3
External 75 Ohm	4
Output	5
Not Connected (Ground)	6

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

## Ordering Information

Part Number	Package
MACP-008249-CH09B0	2000
MACP-008249-CH09TB	Customer Test Board

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

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

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• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400  
 • **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588

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**Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$  <sup>1</sup>**

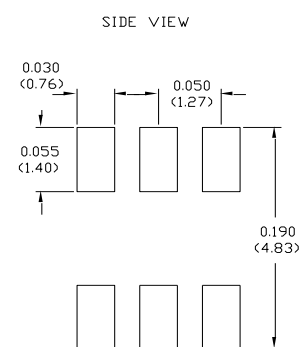
Frequency Range 50 - 120 MHz	Test Conditions	Nominal	Units	Min.	Typ.	Max.
Coupling	5 – 120MHz	—	dB	-17.0	-17.3	-17.5
Main Line Loss	5 – 120MHz	—	dB	-0.5	-0.4	-
Isolation	5 – 120MHz	—	dB	-	-45	-35
Return Loss	5 – 120MHz	—	dB	-	-26	-20

**Absolute Maximum Ratings <sup>1,2</sup>**

Parameter	Absolute Maximum
RF Power	250mW
DC Current	30mA
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. M/A-COM does not recommend sustained operation near these survivability limits.

**Recommended PCB Configuration**



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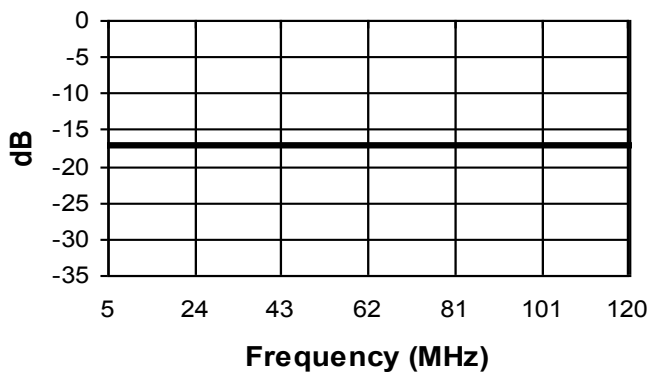
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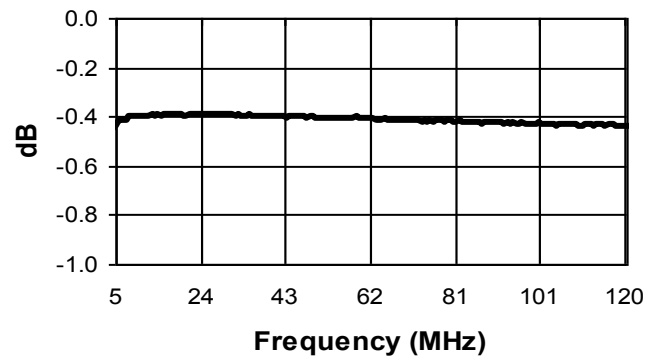
V4

Typical Performance:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$  <sup>1</sup>

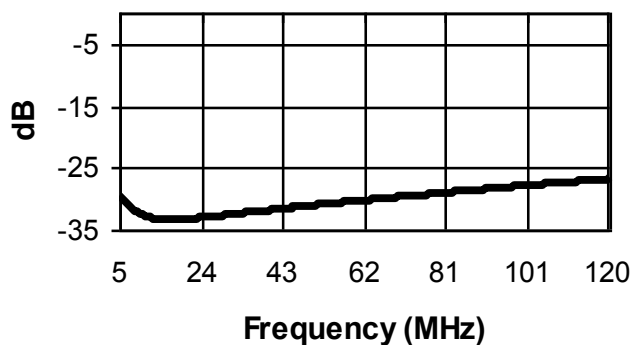
Coupling



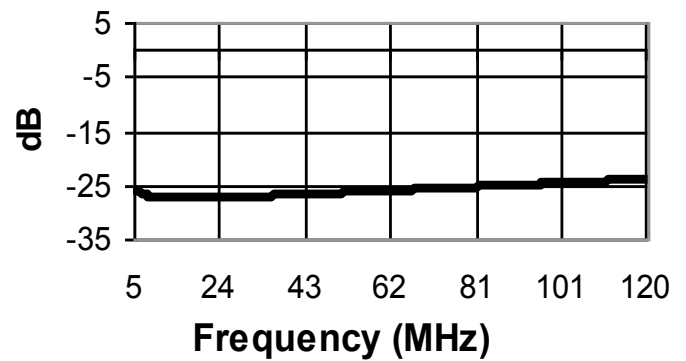
Main Line Loss



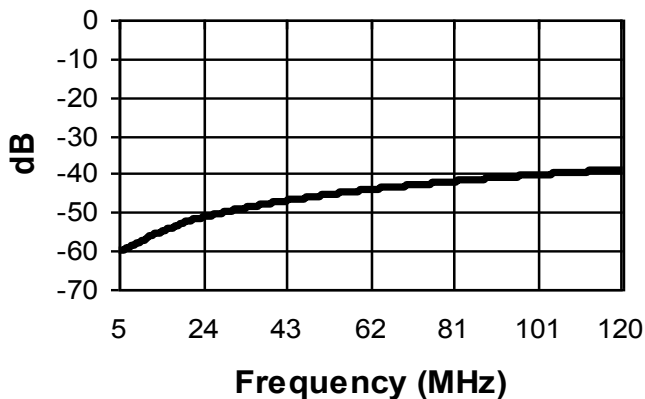
Isolation Return Loss



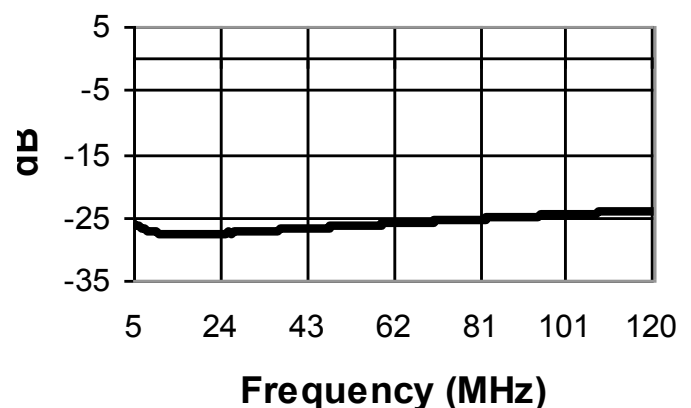
Coupling Return Loss



Isolation



Input Return Loss



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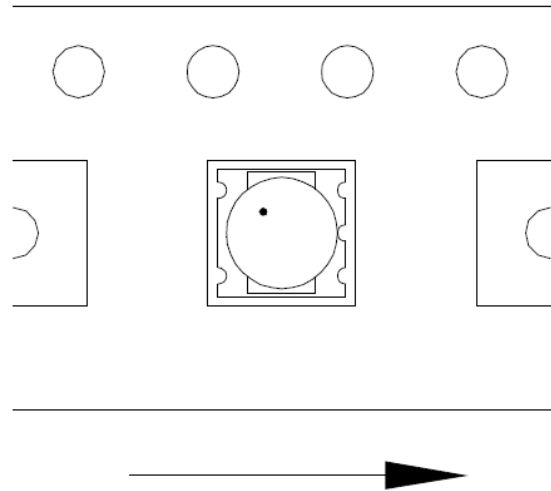
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## Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel size	mm	330
Tape width (W)	mm	12.0
Pitch (P <sub>1</sub> )	mm	8.0
A <sub>0</sub>	mm	4.5
B <sub>0</sub>	mm	4.5
K <sub>0</sub>	mm	3.4
Orientation	-	F27
Reference Application Note ANI-019 for orientation		



## Ordering Information

Part Number	Description
MACP-008249-CH09B0	Tape & Reel

## Recommended Maximum Ratings

Parameter	Units	Min	Max
Input Power	mW		250
DC Current	mA		200
Operating Temperature Range	°C	-40	+85
Storage Temperature Range	°C	-55	+125

Temperature data available on request

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