

17dB Directional Coupler  
5 - 120 MHz

M/A-COM Products  
Part Status: V3

## Features

- Surface Mount
- 17dB Coupler
- RoHS\* Compliant
- RoHS version of MACPCT0017
- Availably 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.



## Pin Configuration

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

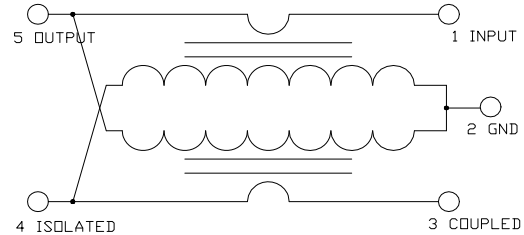
## Ordering Information

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

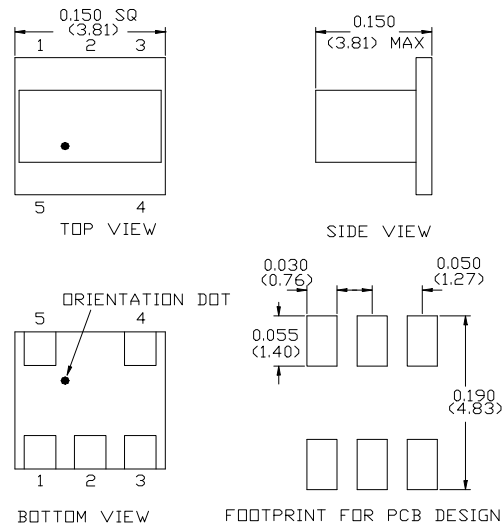
Note: Reference Application Note **M513** for reel size information.

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

## Schematic



## Case Style SM-155



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

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**PRELIMINARY:** Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

• **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>

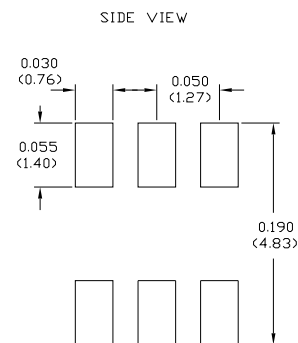
Frequency Range 50 - 120 MHz	Test Conditions	Nominal	Units	Min.	Typ.	Max.
Coupling	5 – 120MHz	—	dB	-17.0	-17.3	-17.5
Main Line Loss	5 – 120MHz	—	dB	-0.5	-0.4	-
Isolation	5 – 120MHz	—	dB	-	-45	-35
Return Loss	5 – 120MHz	—	dB	-	-26	-20

## 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

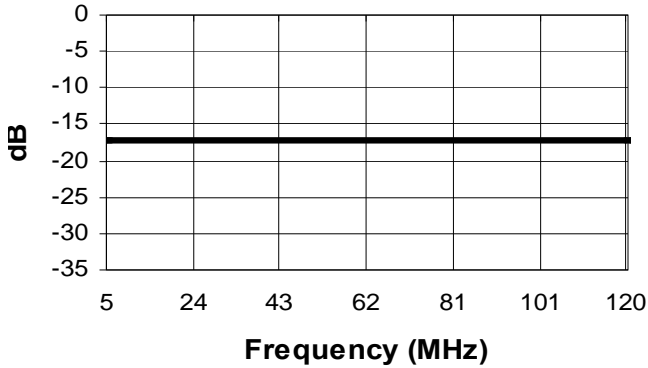


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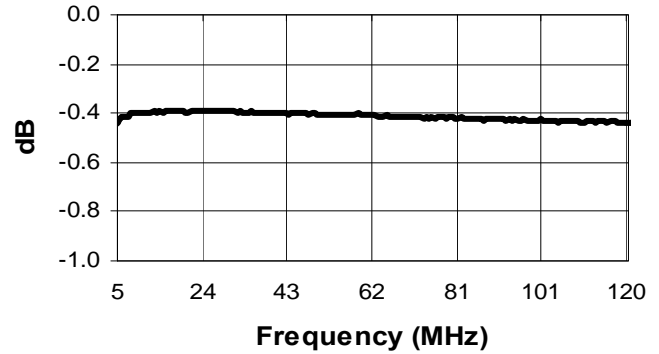
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Typical Performance:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$  <sup>1</sup>

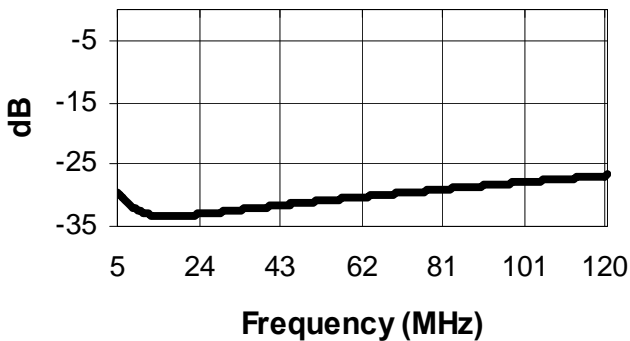
Coupling



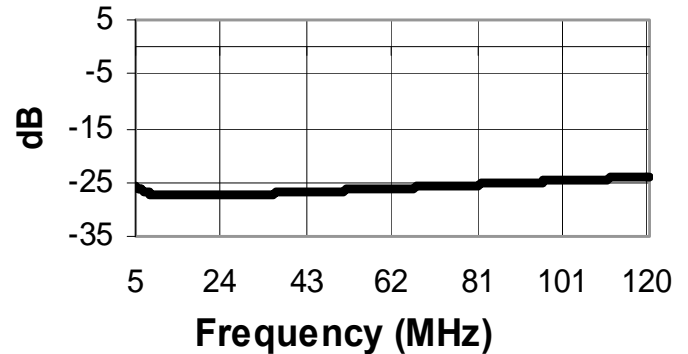
Main Line Loss



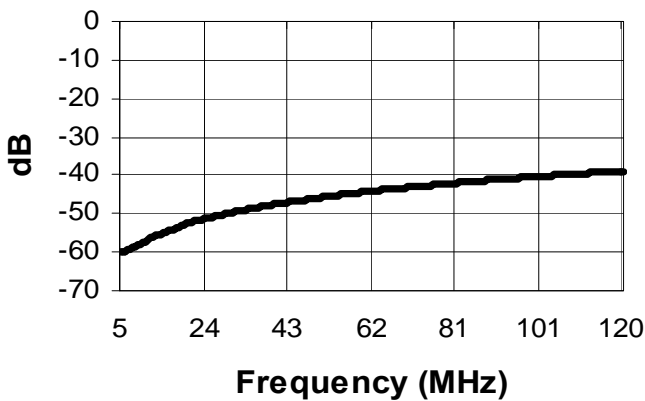
Isolation Return Loss



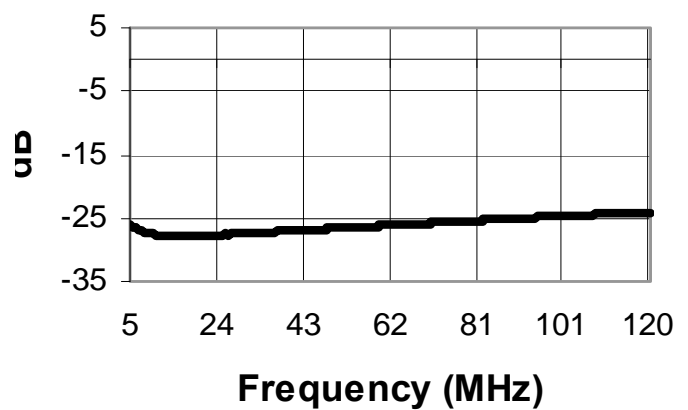
Coupling Return Loss



Isolation



Input Return Loss



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