

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
- Availably on Tape and Reel. Reel quantity 2000

Description

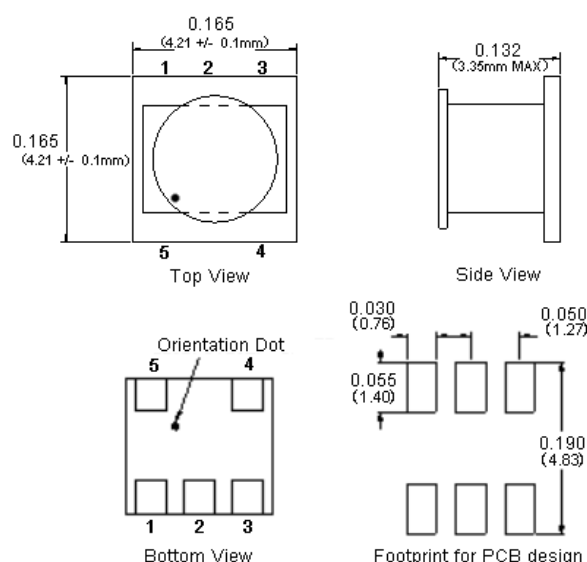
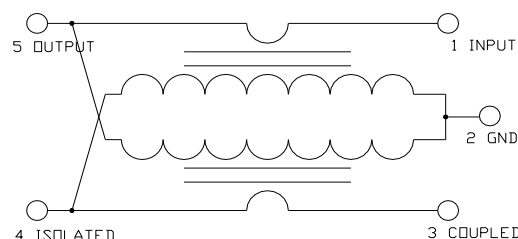
M/A-COM's MACP-008249-CH09B0 is a 17dB directional coupler in a low cost, surface mount package. Ideally suited for high volume CATV applications. A 75W external resistor is required on the isolation port with this product. Typical applications include set-top boxes, network interface units, CATV amplifiers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



Pin

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

Schematic



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.

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

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.

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Visit www.macomtech.com for additional data sheets and product information.

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Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$ ¹

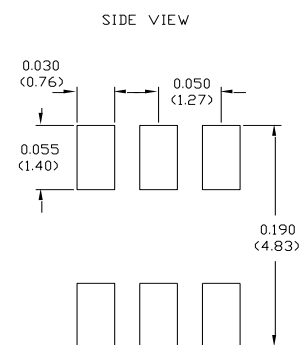
Frequency Range 50 - 120 MHz	Test Conditions	Nominal	Units	Min.	Typ.	Max.
Coupling	5 – 120MHz	—	dB	-17.0	-17.3	-17.5
Main Line Loss	5 – 120MHz	—	dB	-0.5	-0.4	-
Isolation	5 – 120MHz	—	dB	-	-45	-35
Return Loss	5 – 120MHz	—	dB	-	-26	-20

Absolute Maximum Ratings ^{1,2}

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

- Exceeding any one or combination of these limits may cause permanent damage to this device.
- M/A-COM does not recommend sustained operation near these survivability limits.

Recommended PCB Configuration



MACP-008249-CH09B0



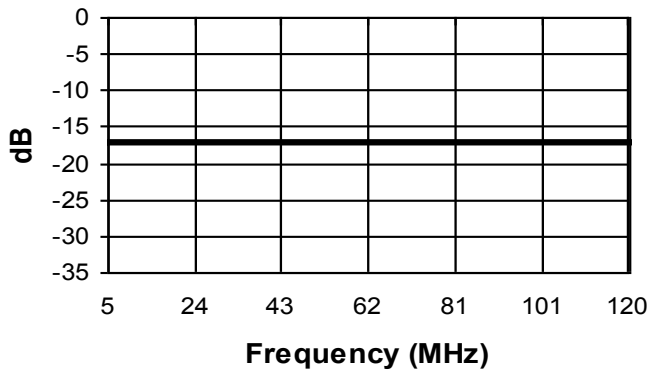
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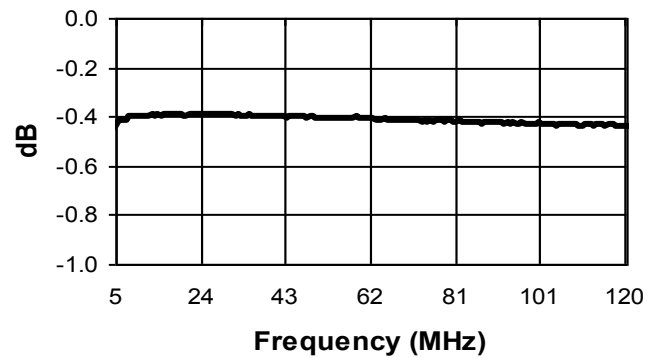
V4

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

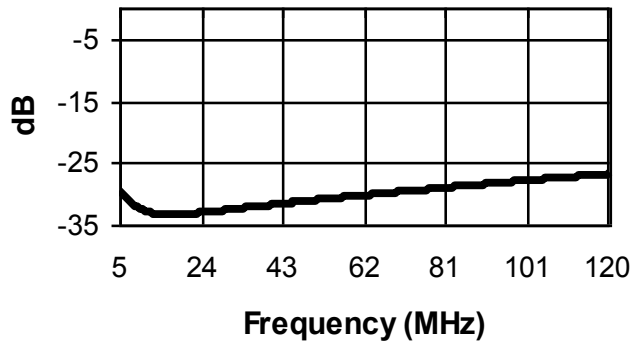
Coupling



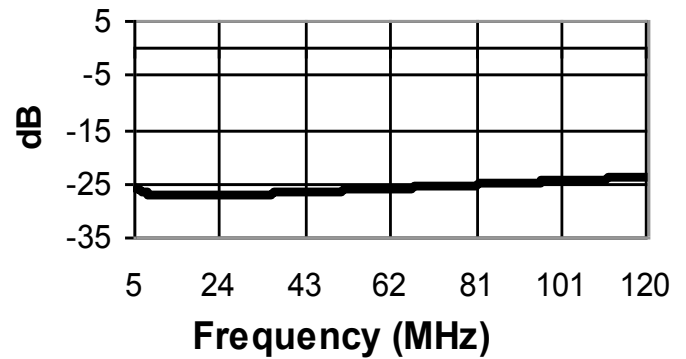
Main Line Loss



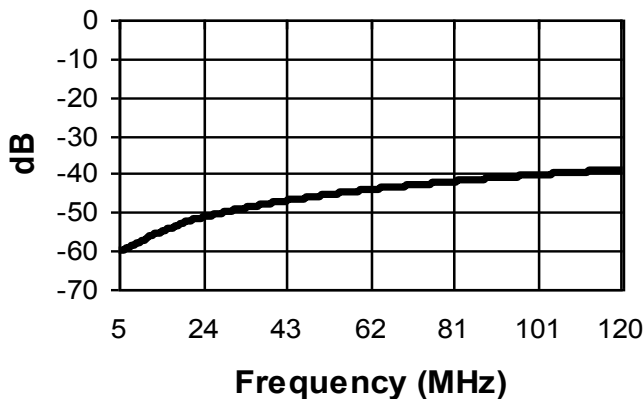
Isolation Return Loss



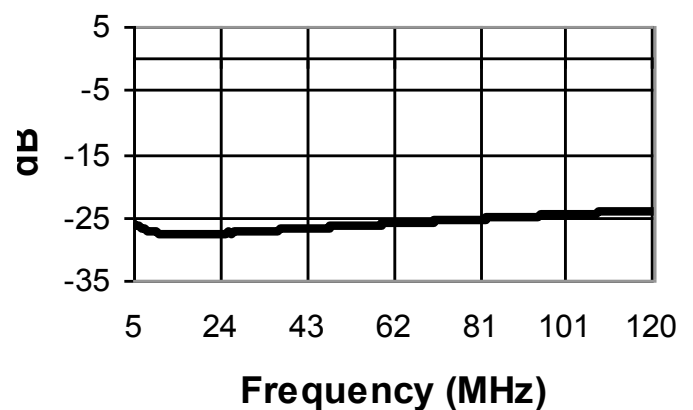
Coupling Return Loss



Isolation



Input Return Loss



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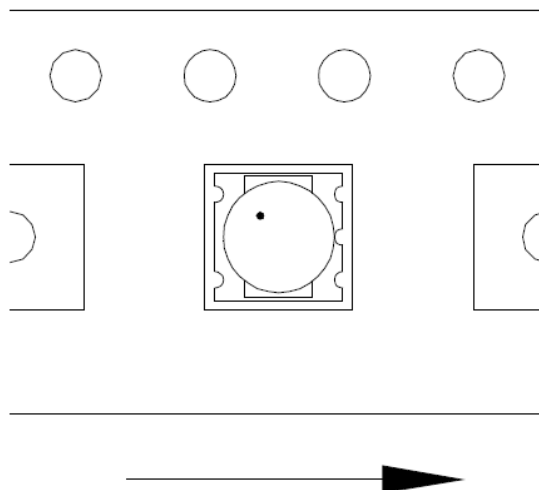
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Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel size	mm	330
Tape width (W)	mm	12.0
Pitch (P ₁)	mm	8.0
A ₀	mm	4.5
B ₀	mm	4.5
K ₀	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