

# Broadband CATV 10 dB Directional Coupler 5 - 1200 MHz



MACP-010045-CA08A0

Rev. V2

## Features

- Coupling +10 dB
- Stable Over Large Temperature Range
- Surface Mount Technology
- Available on Tape & Reel
- RoHS\* Compliant

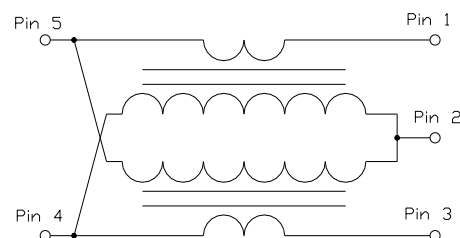
## Applications

- High Volume CATV / Broadband

## Description

The MACP-010045-CA08A0 is a 10 dB broadband coupler in a surface mount package. It offers low loss, good Isolation, good input/output matching and exceptional coupling repeatability. Ideally suited for high volume CATV/Broadband applications.

## Schematic



## Pin Configuration

Pin #	Function	Pin #	Function
1	Input	4	Isolated
2	Ground	5	Output
3	Coupled		

## Electrical Specifications: $T_A = 25^\circ\text{C}$ , $P_{IN} = 0 \text{ dBm}$ , $Z_0 = 75 \Omega$

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Coupling (Pin 1-3)	5- 1200 MHz	dB	—	10	$\pm 0.4$
Main Line Loss (Pin 1-5)	5 - 50 MHz 50 - 1000 MHz 1000 - 1200 MHz	dB	—	1.2 1.4 1.5	1.3 1.6 1.8
Coupling Flatness (Pin 1-3)	5 - 1200 MHz	dB	—	—	0.5
Isolation (Pin 1-4)	5 - 50 MHz 50 - 1000 MHz 1000 - 1200 MHz	dB	25 20 19	32 29 23	—
Return Loss: Input (Pin 1)	5 - 50 MHz 50 - 1000 MHz 1000 - 1200 MHz	dB	16 18 18	19 19 21	—
Return Loss: Output (Pin 5)	5 - 50 MHz 50 - 1000 MHz 1000 - 1200 MHz	dB	20 22 22	37 30 28	—
Return Loss: Coupling (Pin 3)	5 - 50 MHz 500 - 1000 MHz 1000 - 1200 MHz	dB	16 18 18	19 19 22	—

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

Part number	Description
MACP-010045-CA08A0	2000 piece reel
MACP-010045-CA08TB	Customer Test Board

1. Reference Application Note M513 for reel size information.

## Recommended Maximum Ratings

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

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\* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

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DS-MACP-010045-CA08A0

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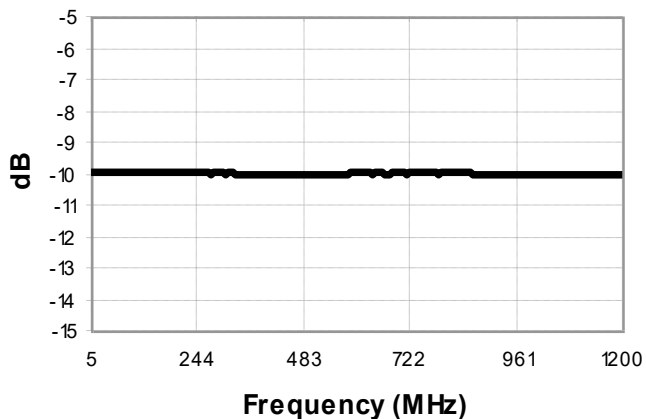


MACP-010045-CA08A0

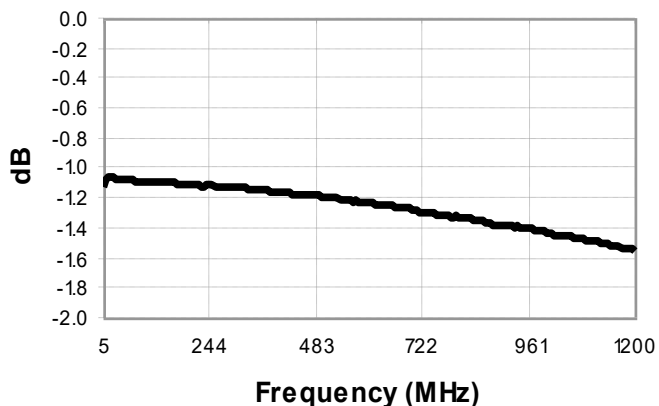
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Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $P_{IN} = 0\text{ dBm}$ ,  $Z_0 = 75\ \Omega$

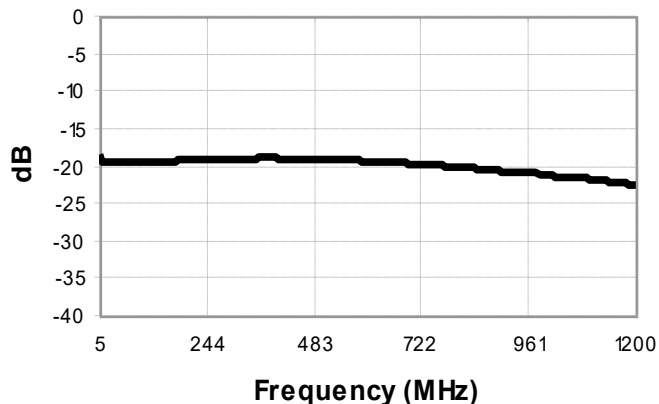
**Coupling**



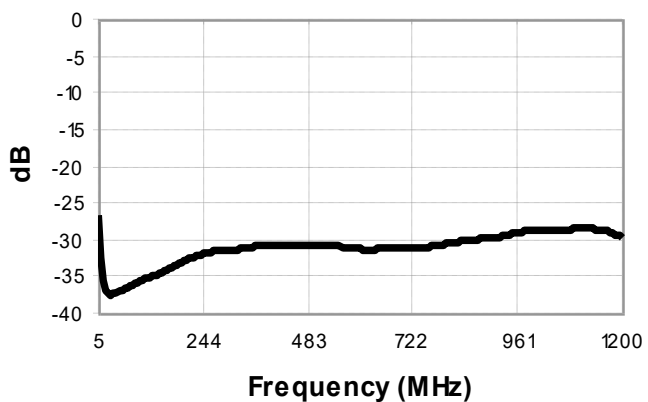
**Main Line Loss**



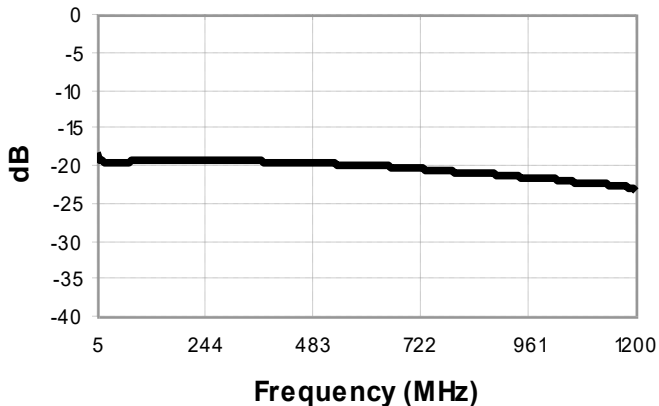
**Return Loss: Input**



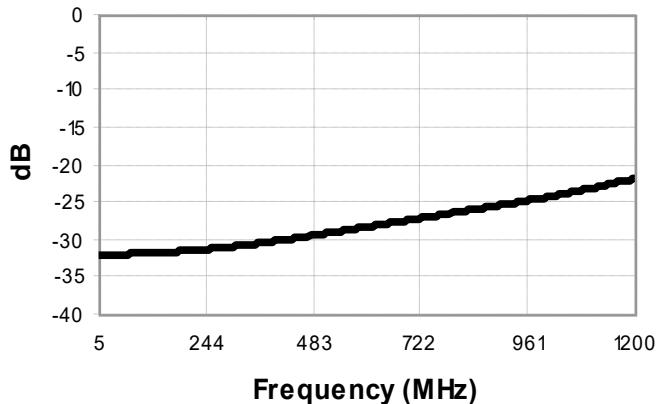
**Return Loss: Output**



**Return Loss: Coupled**



**Isolation**



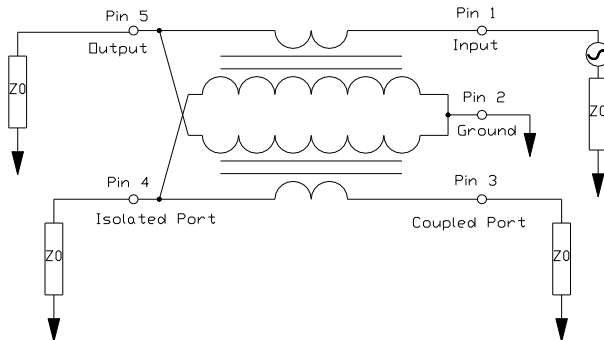
# Broadband CATV 10 dB Directional Coupler 5 - 1200 MHz



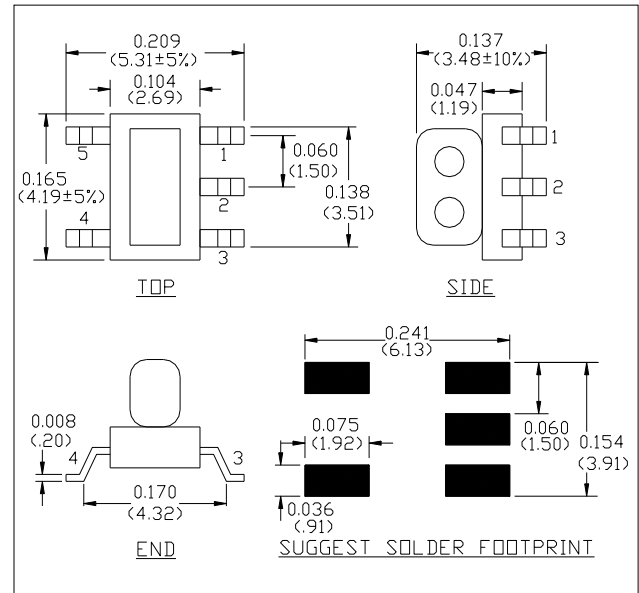
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## Application Circuit



## Case Style: SM-138



Dimensions in inches [mm] tolerance: x.xx ± 0.02, x.xxx ± 0.010, unless otherwise stated.  
Plating finish: CuSn6

# Broadband CATV 10 dB Directional Coupler

## 5 - 1200 MHz



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