

**7 dB Coupler, 75  $\Omega$   
5 - 2400 MHz**

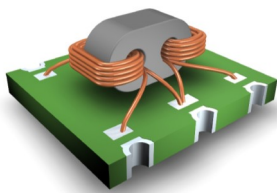
Rev. V4

## Features

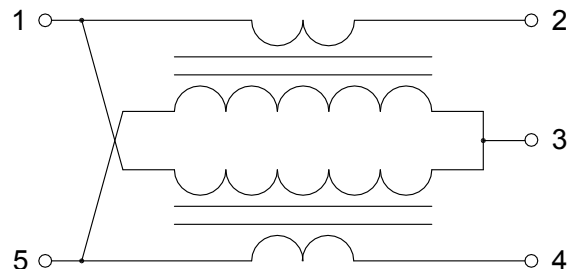
- 7 dB Coupler
- Surface Mount Package
- Excellent Return Loss
- RoHS Compliant & Lead-Free
- Available on Tape & Reel

## Description

The MACP-010381-C70880 is a high performance 75  $\Omega$  coupler in a surface mount package. Ideally suited for high volume CATV applications.



## Functional Schematic



## Pin Configuration

Pin #	Function	Pin #	Function
1	Input	4	External 75 $\Omega$
2	Output	5	Coupled
3	Ground		

## Electrical Specifications: Freq. = 5 - 2400 MHz, $T_A = 25^\circ\text{C}$ , $Z_0 = 75 \Omega$ , $P_{IN} = 0 \text{ dBm}$

Parameter	Freq. Test Conditions (MHz)	Units	Min.	Typ.	Max.
Coupling	5 - 50	dB	—	7.0	9.0
	50 - 2400		5.5	7.0	8.5
Coupling Flatness	5 - 1000	dB	—	—	2.5
Main Line Loss	5 - 1500	dB	—	2.3	3.0
	1500 - 2400		3.0	4.5	
Isolation	5 - 2400	dB	15	21	—
Input Return Loss	5 - 2400	dB	5	20	—
Output Return Loss	5 - 2400	dB	5	15	—
Coupling Return Loss	5 - 2400	dB	5	13	—

## Ordering Information

Part Number	Package
MACP-010381-C70880	2000 piece reel
MACP-010381-C708TB	customer test board

## Recommended Maximum Ratings

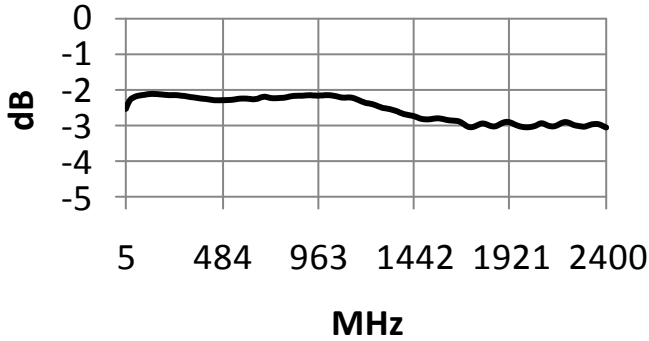
Parameter	Units
Input Power	250 mW
DC Current	200 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

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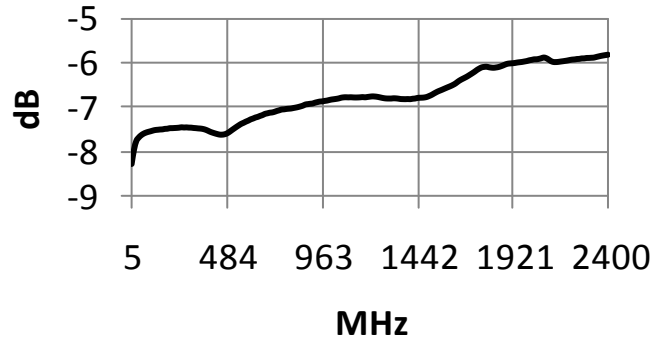
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## Typical Performance Curves

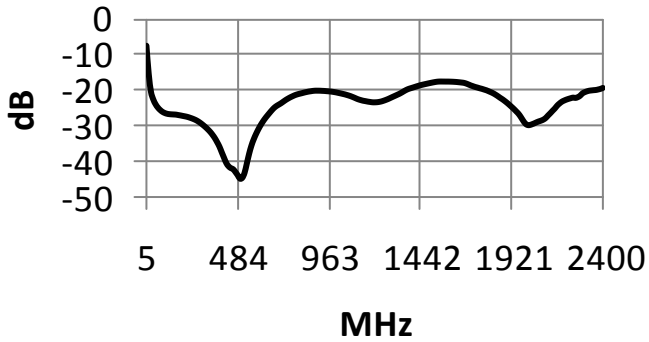
*Main Line Loss (pin 1 - pin 2)*



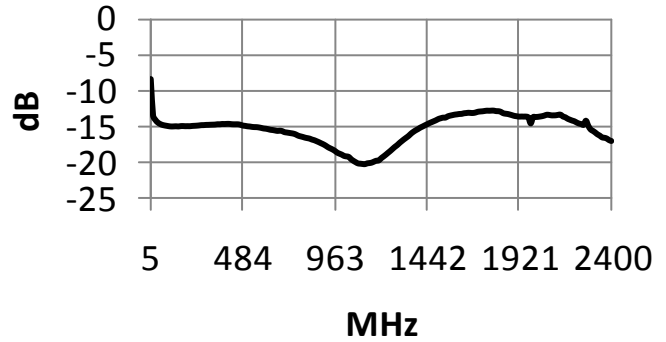
*Coupling (pin 1 - pin 5)*



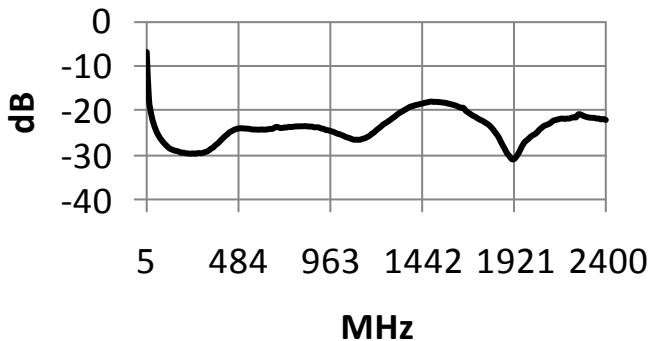
*Input Return Loss (pin 1)*



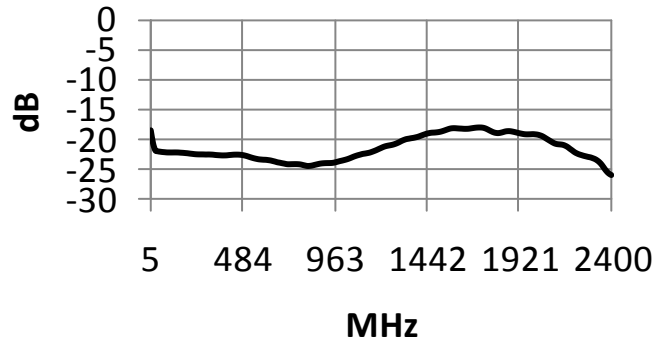
*Output Return Loss (pin 2)*



*Coupled Port Return Loss (pin 5)*



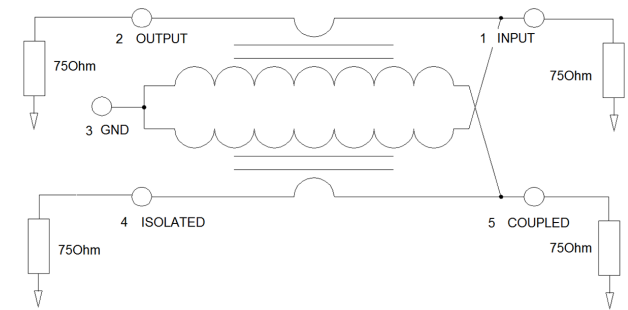
*Directivity (pin 1 - pin 4)*



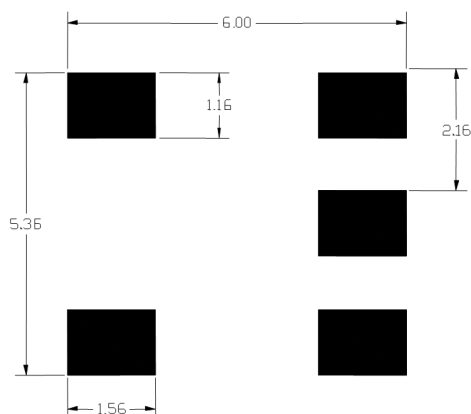
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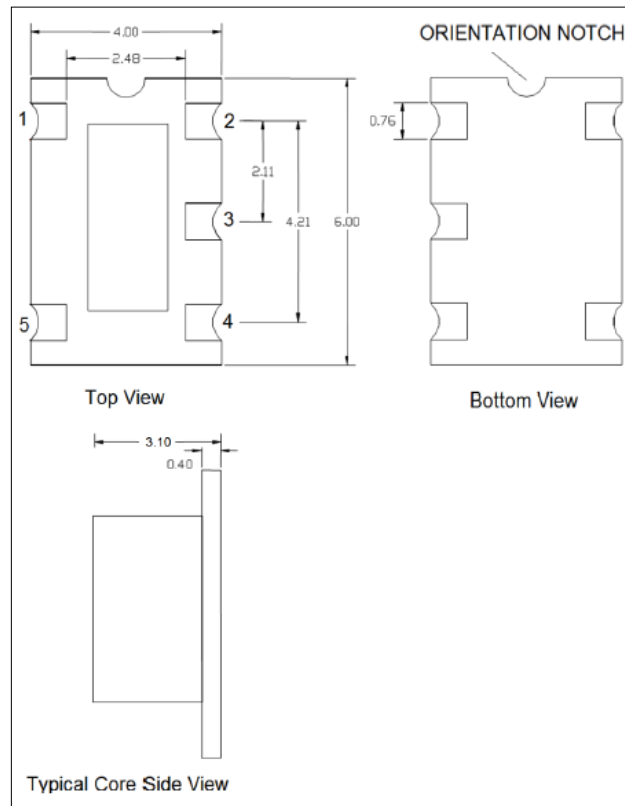
## Application Schematic



## Recommended Board Layout



## Outline Drawing<sup>1,2,3,4</sup>



1. Dimensions in mm.
2. Tolerance:  $\pm 0.2$ mm unless otherwise noted.
3. Model number and lot code printed on reel.
4. Plating finish: ENIG on both sides, 0.05 to 0.1  $\mu$ m gold over 3 to 6  $\mu$ m nickel.

## Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	16.0
Pitch	mm	8.0
Ao	mm	4.3
Bo	mm	6.3
Ko	mm	3.2
Orientation	-	F45
Reference Application Note ANI-019 for orientation		

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