

**7 dB Coupler, 75 Ω
5 - 2400 MHz**

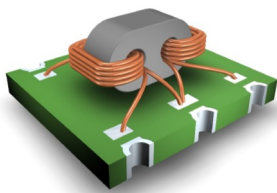
Rev. V4

Features

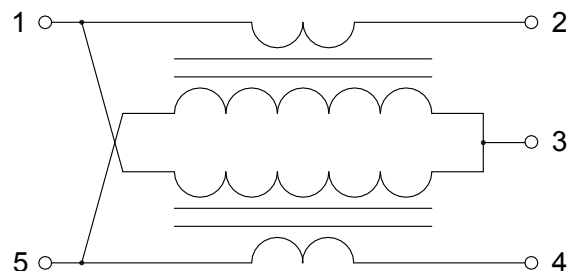
- 7 dB Coupler
- Surface Mount Package
- Excellent Return Loss
- RoHS Compliant & Lead-Free
- Available on Tape & Reel

Description

The MACP-010381-C70880 is a high performance 75 Ω 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 Ω
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

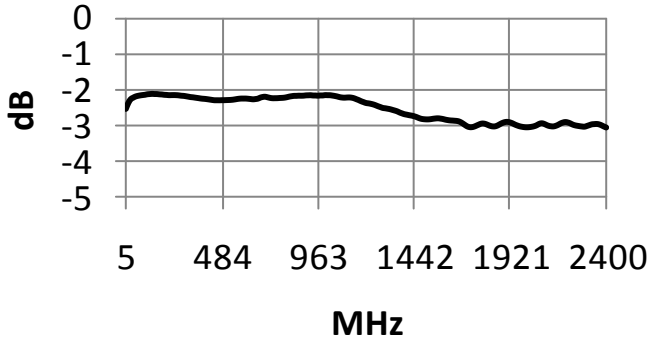
Parameter	Units
Input Power	250 mW
DC Current	200 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

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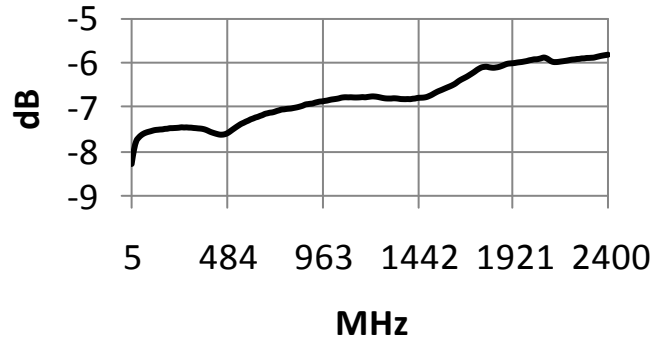
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Typical Performance Curves

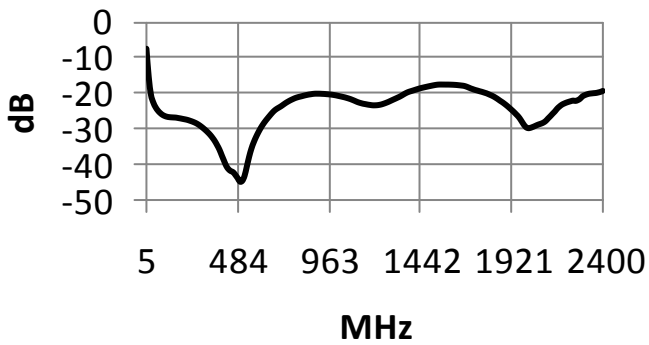
Main Line Loss (pin 1 - pin 2)



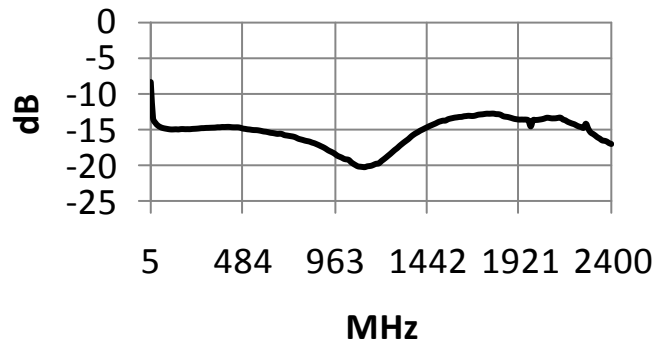
Coupling (pin 1 - pin 5)



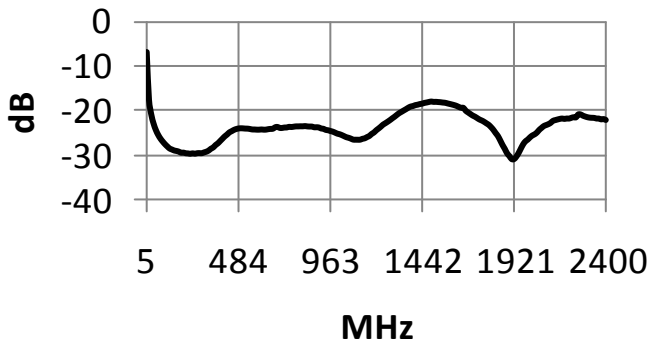
Input Return Loss (pin 1)



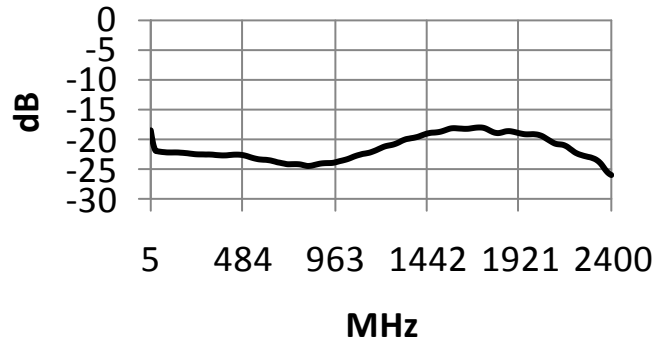
Output Return Loss (pin 2)



Coupled Port Return Loss (pin 5)



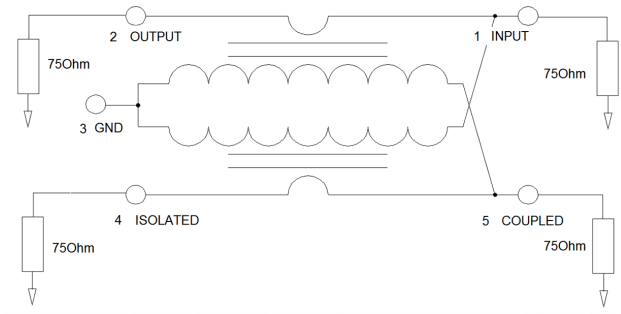
Directivity (pin 1 - pin 4)



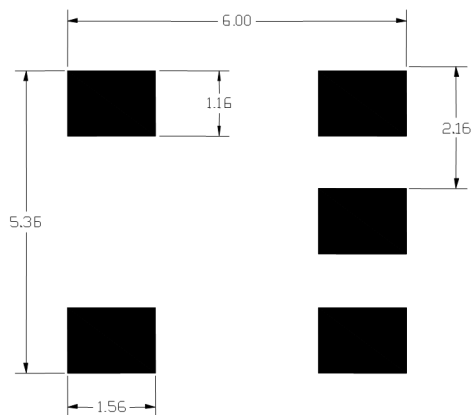
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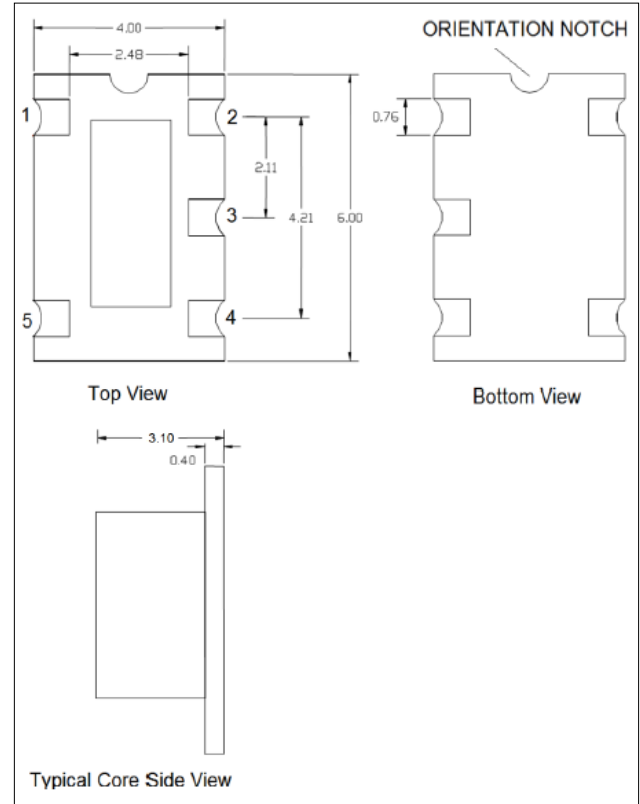
Application Schematic



Recommended Board Layout



Outline Drawing^{1,2,3,4}



1. Dimensions in mm.
2. Tolerance: ± 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 μ m gold over 3 to 6 μ 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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