

# MACP-010252-CA0370



Coupler, 10dB  
5 to 870 MHz

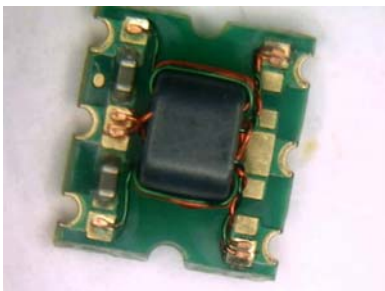
Rev. V1

## Features

- Coupling 10dB Typical
- Surface mount
- low profile
- 260°C reflow compatible
- Excellent Return Loss
- Available on Tape & Reel
- RoHS compliant, lead free

## Description

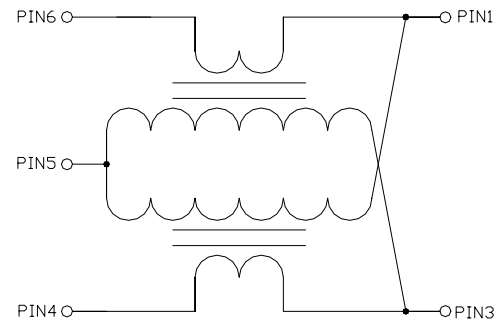
M/A Com Technology Solutions MACP-010252-CA0370 is a high performance 75 Ohm Coupler, in a low cost, surface mount package. The MACP-010252-CA0370 is designed for use in high volume CATV applications. Typical applications include Set top Boxes, Network Interface Units, Line Amplifiers and Head end equipment.



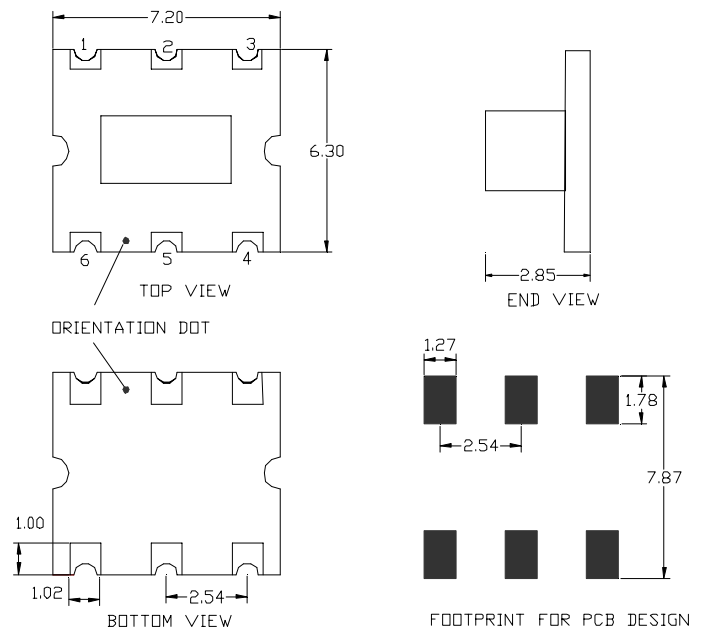
## Pin Configuration

| Pin no. | Function      |
|---------|---------------|
| 1       | Output        |
| 2       | Not connected |
| 3       | Isolated      |
| 4       | Coupled       |
| 5       | Ground        |
| 6       | Input         |

## Schematic



## Component dimensions



Dimensions in mm Tolerance: .xx ± .30, .xxx ± .030, unless otherwise stated

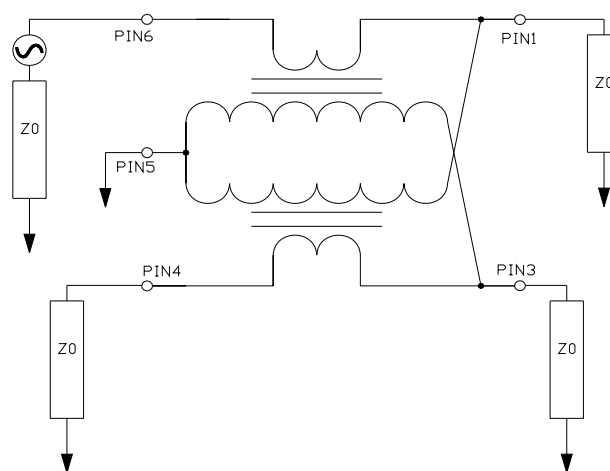
**Electrical Specifications:**  $T_A = 25^\circ\text{C}$ , 0dBm,  $Z_0 = 75\Omega$ ,  $P_{in} = 0\text{dBm}$

| Parameter            | Frequency     | Units | Min | Typ | Max       |
|----------------------|---------------|-------|-----|-----|-----------|
| Main Line Loss       | 5 - 500 MHz   | dB    | -   | 0.9 | 1.3       |
|                      | 500 - 870 MHz | dB    | -   | 1.0 | 1.5       |
| Coupling             | 5 - 870 MHz   | dB    | -   | 10  | $\pm 0.5$ |
| Coupling Flatness    | -             | dB    | -   | -   | 1.0       |
| Directivity          | 5 - 500 MHz   | dB    | 23  | 20  | -         |
|                      | 500 - 870 MHz | dB    | 21  | 17  | -         |
| Input Return Loss    | 5 - 870 MHz   | dB    | 20  | 18  | -         |
| Output Return Loss   | 5 - 870 MHz   | dB    | 20  | 18  | -         |
| Coupling Return Loss | 5 - 870 MHz   | dB    | 20  | 18  | -         |

## Recommended Maximum Ratings

| Parameter             | Value                                       |
|-----------------------|---------------------------------------------|
| Input power           | At least 250mW                              |
| DC current            | At least 30mA                               |
| Operating Temperature | $-40^\circ\text{C}$ to $+70^\circ\text{C}$  |
| Storage Temperature   | $-55^\circ\text{C}$ to $+100^\circ\text{C}$ |

## Application Circuit

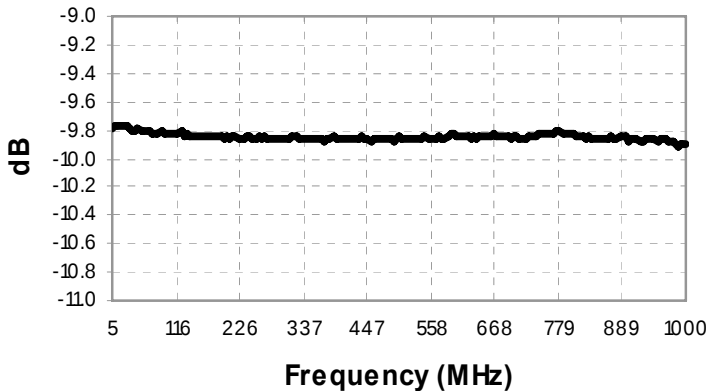


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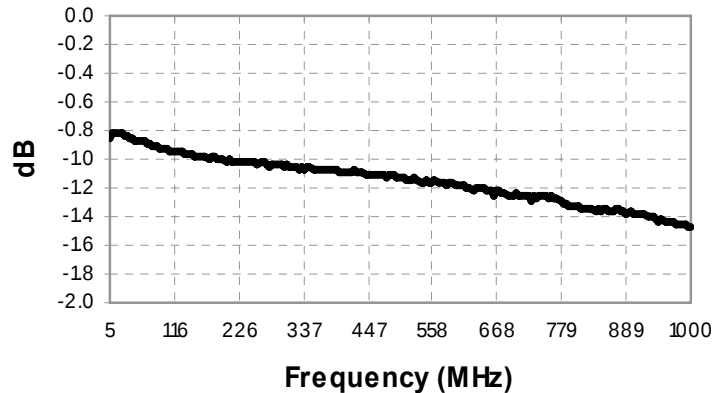
Rev. V1

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

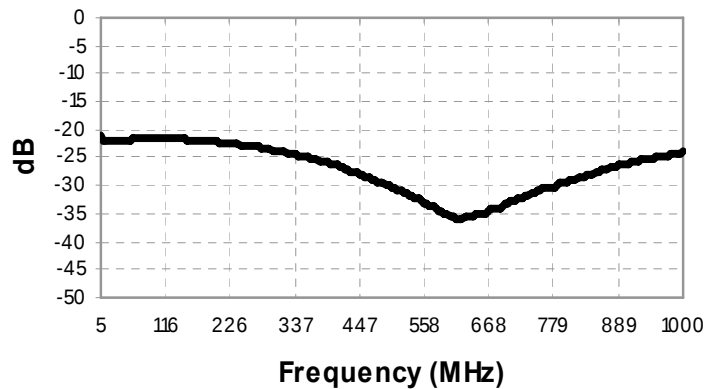
**Coupling:**



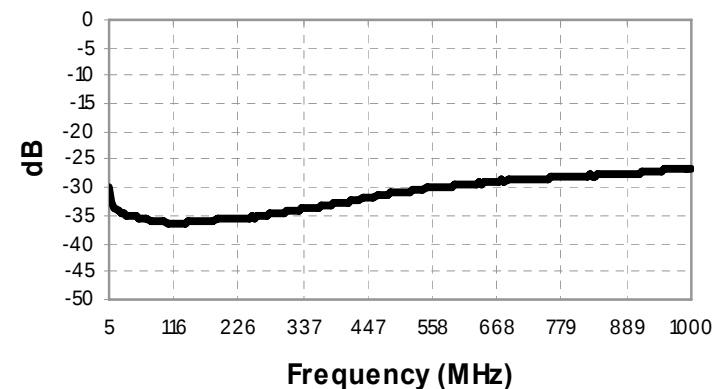
**Main Line Loss:**



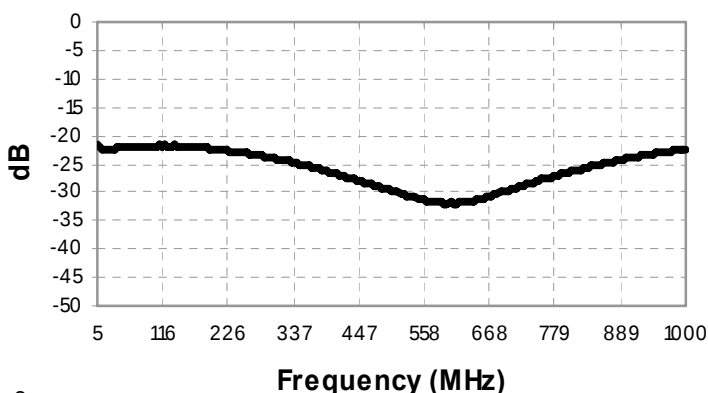
**Input Return Loss:**



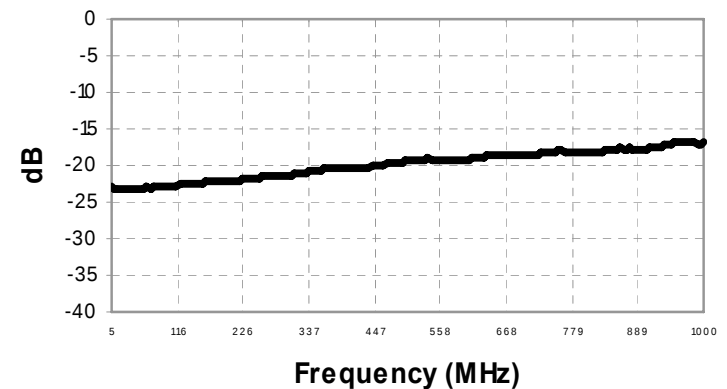
**Output Return Loss**



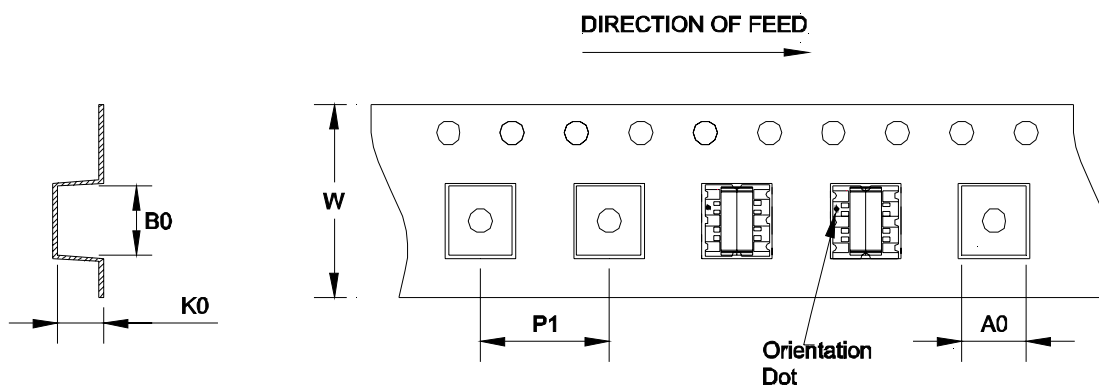
**Coupled Return Loss:**



**Directivity:**



## Tape & Reel Information



| Item | Dimension         |
|------|-------------------|
| Ao   | 6.7mm +/- 0.1mm   |
| Bo   | 7.5mm +/- 0.1mm   |
| Ko   | 3.6mm +/- 0.1mm   |
| W    | 16.0mm +/- 0.3mm  |
| P1   | 12.00mm +/- 0.1mm |

## Ordering Information

| Part number        | Description         |
|--------------------|---------------------|
| MACP-010252-CA0370 | 900 piece reel      |
| MACP-010252-CA03TB | Customer test board |