

75 Ohm Coupler  
5-1000 MHz

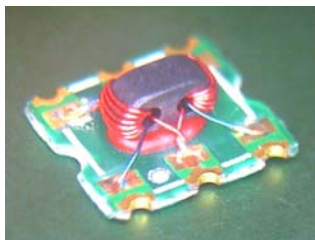
MACP-008764-CH0370  
V1

## Features

- Surface Mount
- 17dB Coupler
- RoHS\* Compliant
- RoHS version of ELDC-17

## Description

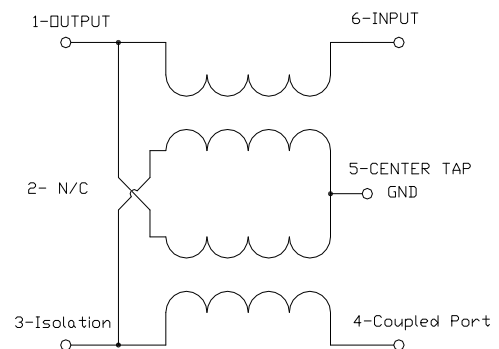
M/A-COM's MACP-008764-CH0370 is a high performance 75Ohm coupler in a low cost, surface mount package. Ideally suited for high volume CATV applications. Typical applications include set-top boxes, network interface units, cable amplifiers and headend equipment.



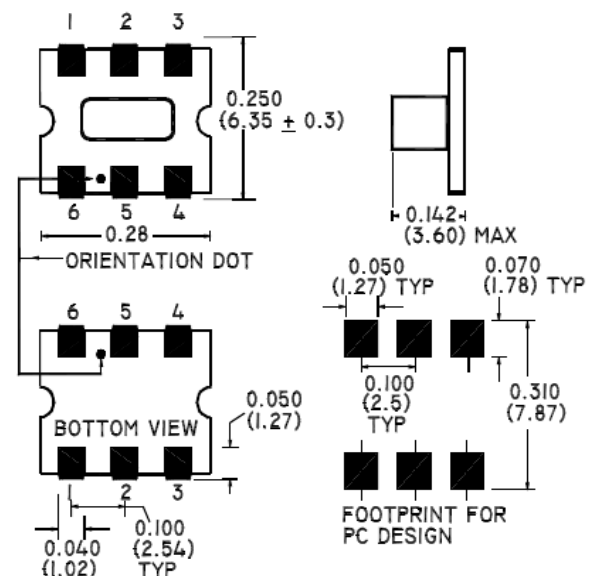
## Pin Configuration

| Pin No. | Function         |
|---------|------------------|
| 1       | Output           |
| 2       | N/C              |
| 3       | External 75 Ohms |
| 4       | Coupled          |
| 5       | Ground           |
| 6       | Input            |

## Schematic



## Case Style: SM-55



Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010

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## Ordering Information

| Part Number        | Package             |
|--------------------|---------------------|
| MACP-008764-CH0370 | 900                 |
| MACP-008764-CH03TB | Customer Test Board |

Note: Reference Application Note **M513** for reel size information.

\* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

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

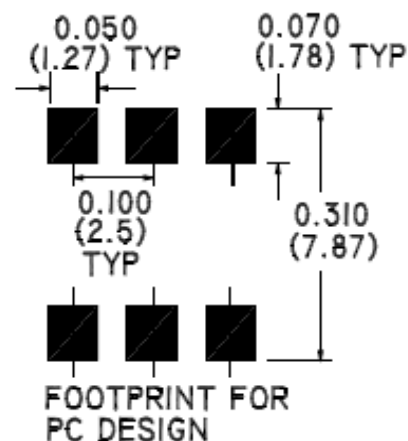
| Frequency Range 50 - 1000 MHz | Test Conditions | Nominal | Units | Min. | Typ. | Max.      |
|-------------------------------|-----------------|---------|-------|------|------|-----------|
| Main Line Loss                | 5-860MHz        | -       | dB    | -    | 0.5  | 1.0       |
|                               | 860-1000MHz     | -       | dB    | -    | 0.6  | 1.2       |
| Coupling                      | 5-860MHz        | 17.2    | dB    | -    | -    | $\pm 0.7$ |
|                               | 860-1000MHz     | 17.0    | dB    | -    | -    | $\pm 0.8$ |
| Coupling Flatness             |                 |         | dB    | -    | -    | 1.0       |
| Directivity                   | 5-50            | -       | dB    | 30   | 40   | -         |
|                               | 50-500          | -       | dB    | 16   | 22   | -         |
|                               | 500-1000        | -       | dB    | 8    | 12   | -         |
| Input Return Loss             | 5-50            | -       | dB    | 20   | 25   | -         |
|                               | 50-500          | -       | dB    | 20   | 23   | -         |
|                               | 500-1000        | -       | dB    | 20   | 25   | -         |
| Output Return Loss            | 5-50            | -       | dB    | 20   | 29   | -         |
|                               | 50-500          | -       | dB    | 23   | 26   | -         |
|                               | 500-1000        | -       | dB    | 23   | 28   | -         |
| Coupled Return Loss           | 5-50            | -       | dB    | 20   | 25   | -         |
|                               | 50-500          | -       | dB    | 20   | 24   | -         |
|                               | 500-1000        | -       | dB    | 20   | 24   | -         |

## Absolute Maximum Ratings <sup>1,2</sup>

| Parameter                 | Absolute Maximum |
|---------------------------|------------------|
| RF Power                  | 250 mW           |
| Internal Load Dissipation | 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

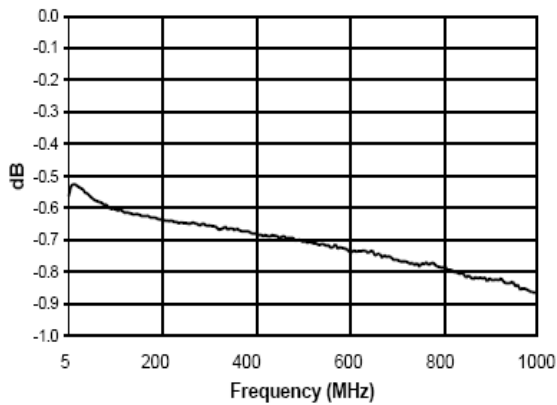


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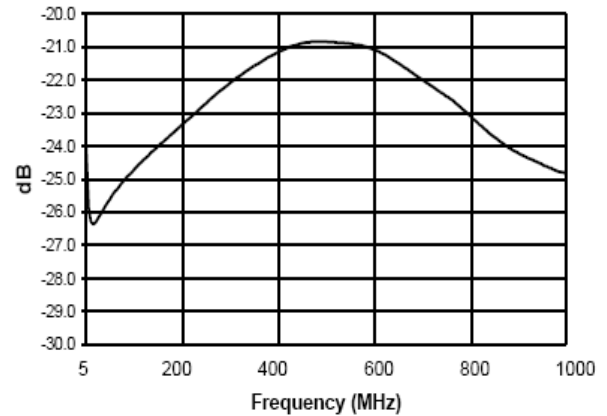
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Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$ <sup>1</sup>

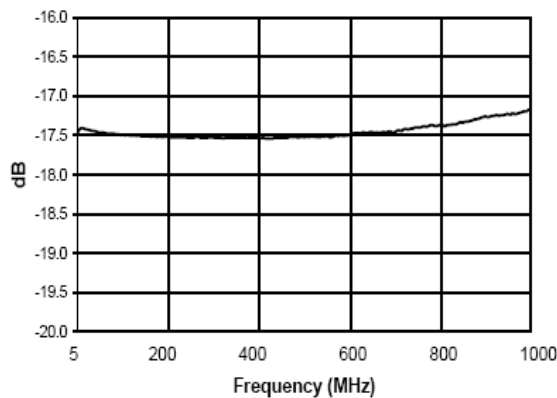
Main Line Loss



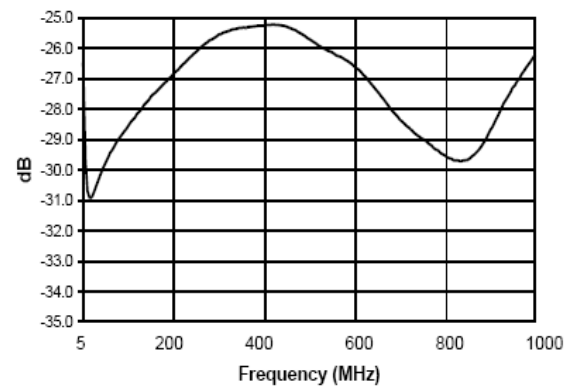
Input Return Loss



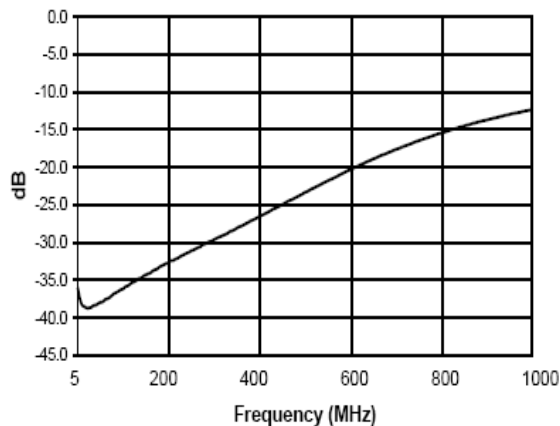
Coupling



Output Return Loss



Directivity



Coupled Port Return Loss

