

# 17 dB Coupler

## 5 - 300 MHz



MACP-010507

Rev. V4

### Features

- 17 dB Coupling ratio
- Surface Mount Package
- Available on Tape and Reel
- 260° Reflow Compatible
- RoHS Compliant and Lead-Free
- Excellent Temperature Stability
- Can be used on 50  $\Omega$  and 75  $\Omega$  Systems
- Suitable for all CATV, Broadband and FTTH Applications.

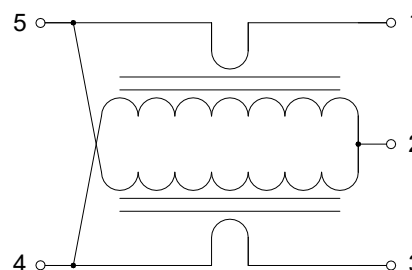
### Applications

- CATV Broadband

### Description

The MACP-010507 is a 17 dB coupler in a surface mount package. Ideally suited for CATV broadband applications.

### Functional Schematic



### Pin Configuration

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

### Electrical Specifications: Freq. = 5 - 300 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 Ratio               | —                           | dB    | —            | 17         | —            |
| Coupling (Pin 5-4)           | 5 - 120<br>120 - 300        | dB    | 16.0<br>16.5 | 17<br>17   | 18.0<br>17.5 |
| Coupling Flatness            | 5 - 120<br>120 - 300        | dB    | —            | —          | 0.4<br>0.2   |
| Main Line Loss (Pin 5-1)     | 5 - 120<br>120 - 300        | dB    | —            | 0.4<br>0.4 | 0.8<br>0.5   |
| Directivity                  | 5 - 120<br>120 - 300        | dB    | 16.0<br>12.5 | 19<br>19   | —            |
| Input Return Loss (Pin 5)    | 5 - 120<br>120 - 300        | dB    | 20<br>20     | 31<br>31   | —            |
| Output Return Loss (Pin 1)   | 5 - 120<br>120 - 300        | dB    | 20<br>20     | 27<br>27   | —            |
| Coupling Return Loss (Pin 4) | 5 - 120<br>120 - 300        | dB    | 20<br>20     | 31<br>31   | —            |

### Ordering Information

| Part Number        | Package             |
|--------------------|---------------------|
| MACP-010507-CH0160 | 2000 piece reel     |
| MACP-010507-CH01TB | customer test board |

### Recommended Maximum Ratings

| Parameter             | Units          |
|-----------------------|----------------|
| Input RF Power        | 0.5 W          |
| DC Current            | 500 mA         |
| Operating Temperature | -40°C to +85°C |

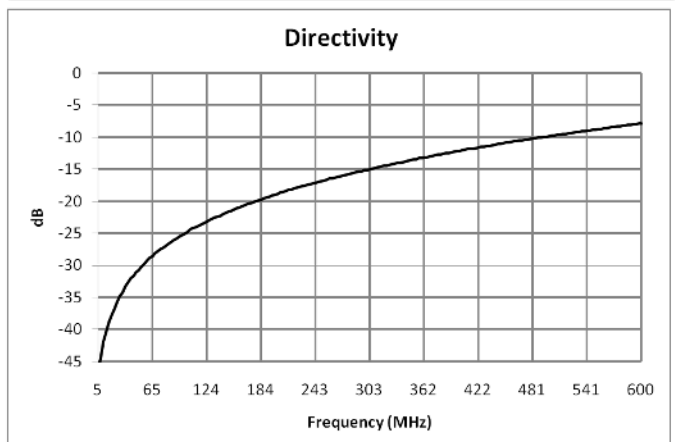
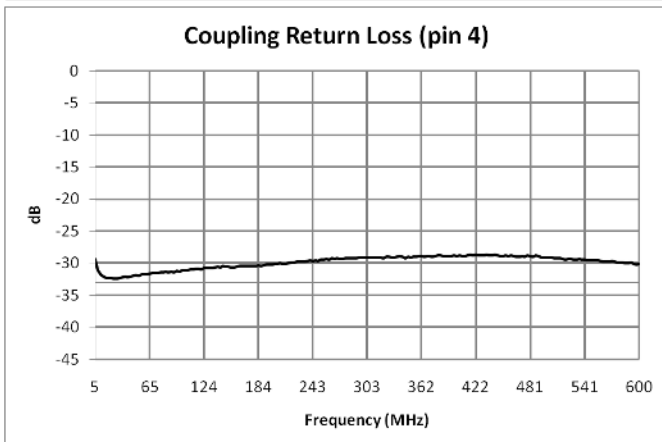
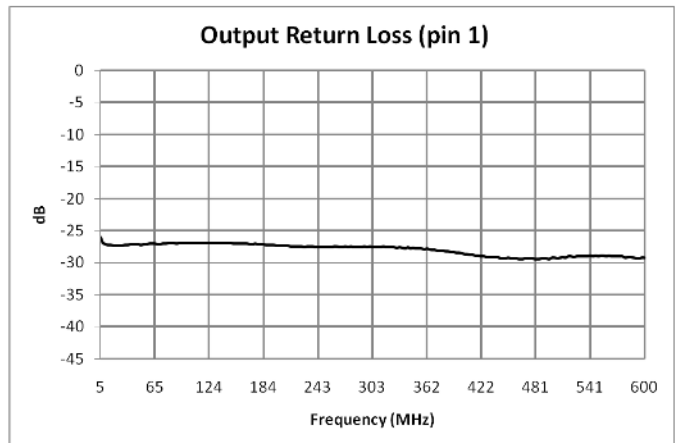
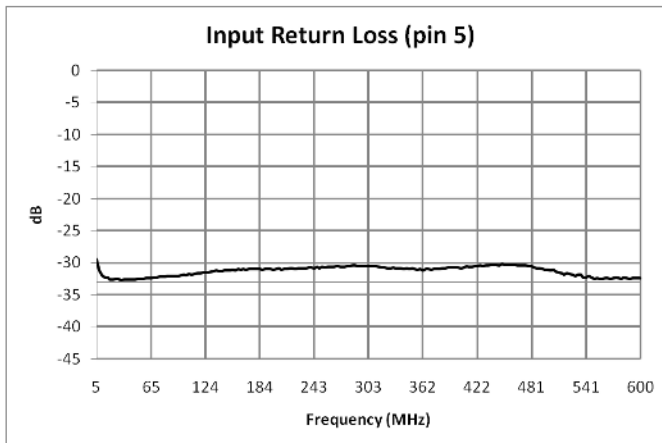
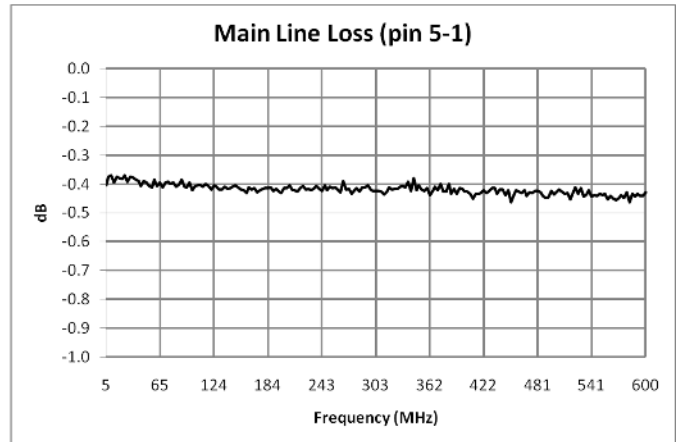
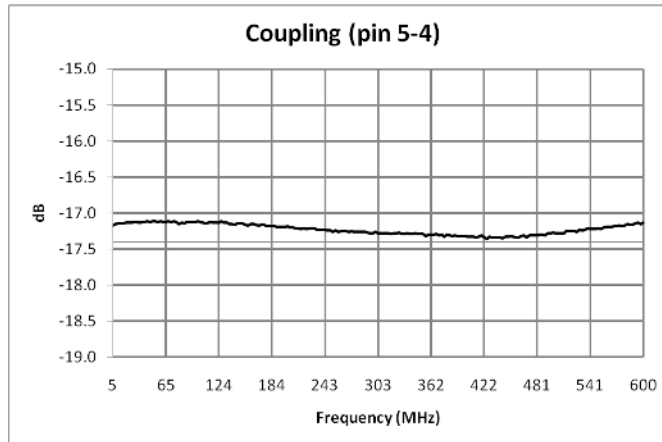
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## Typical Performance Curves



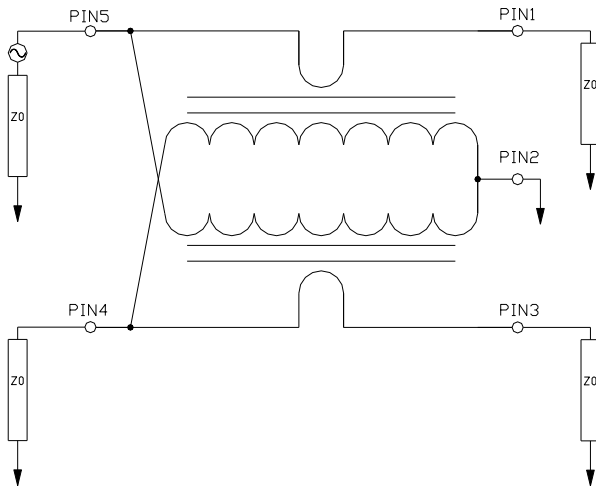
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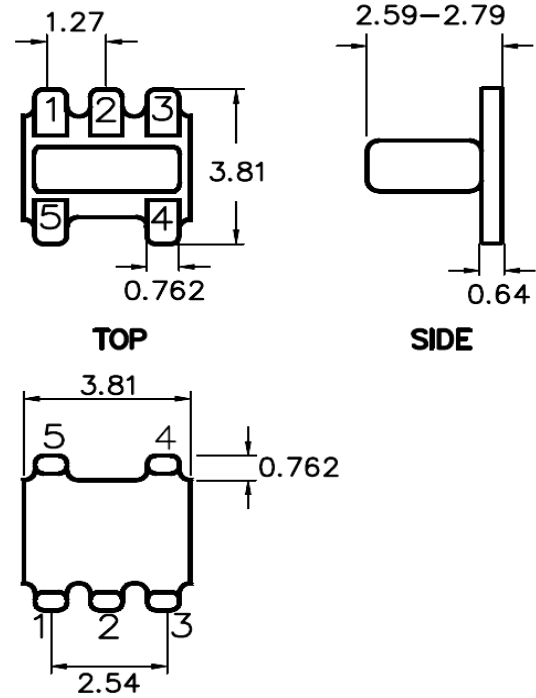
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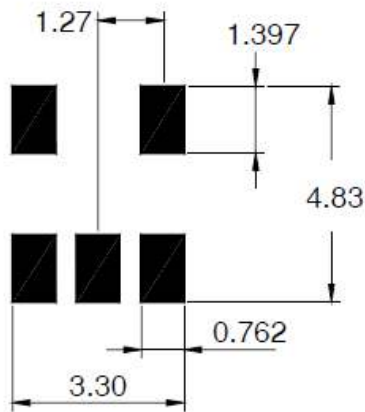
## Application Circuit



## Outline Drawing



## PCB Footprint



1. Dimensions in mm.
2. Tolerance:  $\pm 0.2$  mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Lead plating (CuSn6) Lead finish SAC-305.

## Tape & Reel Information

| Parameter  | Units | Value |
|--|-------|-------|
| Qty per reel                                       | -     | 2000  |
| Reel Size  | mm    | 330   |
| Tape Width   | mm    | 12.00 |
| Pitch  | mm    | 8.00  |
| Ao   | mm    | 4.00  |
| Bo   | mm    | 4.00  |
| Ko   | mm    | 2.90  |
| Orientation  | -     | F5    |
| Reference Application Note ANI-019 for orientation |       |       |

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