

**Coupler 8dB**  
**5 – 1218 MHz**

Rev. V2

## Features

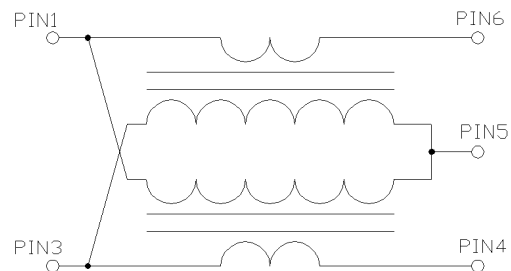
- Surface mount
- Typical Coupling 8dB
- 260° reflow compatible
- RoHS compliant and lead free
- Stable over large temperature range

## Description

MACP-010250-C808A0 is a 8dB broadband Coupler in a low cost surface mount package. It offers low loss, good Isolation, good input/output matching and exceptional coupling repeatability. Ideally suited for high volume CATV and Broadband applications.



## Functional Schematic



## Ordering Information

| Part Number        | Package             |
|--------------------|---------------------|
| MACP-010250-C808A0 | Tape & Reel         |
| MACP-010250-C808TB | Customer Test Board |

## Pin Configuration

| Pin No. | Function                         |
|---------|----------------------------------|
| 1       | Output                           |
| 3       | Isolation (external 75 Ohm load) |
| 4       | Coupling                         |
| 5       | Ground                           |
| 6       | Input                            |

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

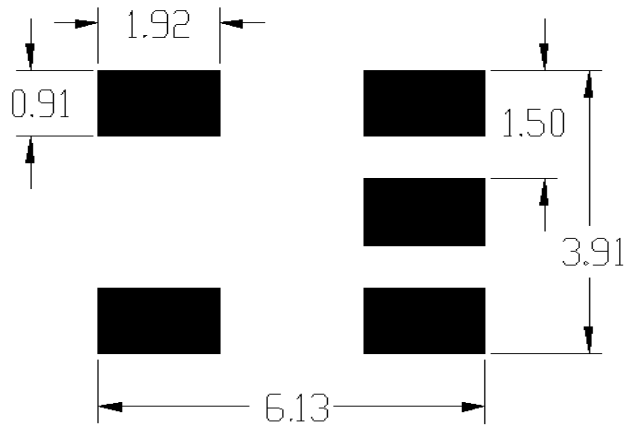
| Parameter                       | Test Conditions | Units    | Min. | Typ. | Max.      |
|---------------------------------|-----------------|----------|------|------|-----------|
| Frequency Range                 |                 | MHz      | 5    |      | 1218      |
| Impedance                       |                 | $\Omega$ |      | 75   |           |
| Coupling                        |                 |          |      | 8    |           |
| Coupling<br>(Pin6 - Pin4)       | 5 - 1218 MHz    | dB       | -    | 8.6  | $\pm 0.8$ |
| Main Line Loss<br>(Pin6 - Pin1) | 5 - 500 MHz     | dB       | -    | 1.5  | 1.8       |
|                                 | 500 - 1218 MHz  | dB       | -    | 1.6  | 2.3       |
| Input Return Loss<br>(Pin6)     | 5 - 1218 MHz    | dB       | 14   | 19   | -         |
| Output Return Loss<br>(Pin1)    | 5 - 1218 MHz    | dB       | 18   | 37   | -         |
| Coupling Return Loss<br>(Pin4)  | 5 - 1218 MHz    | dB       | 14   | 18   | -         |
| Isolation Return Loss<br>(Pin3) | 5 - 1218 MHz    | dB       | 18   | 32   | -         |
| Isolation<br>(Pin6-3)           | 5 - 250 MHz     | dB       | 25   | 27   | -         |
|                                 | 250 - 1218 MHz  | dB       | 18   | 24   | -         |

## Recommended Maximum Ratings

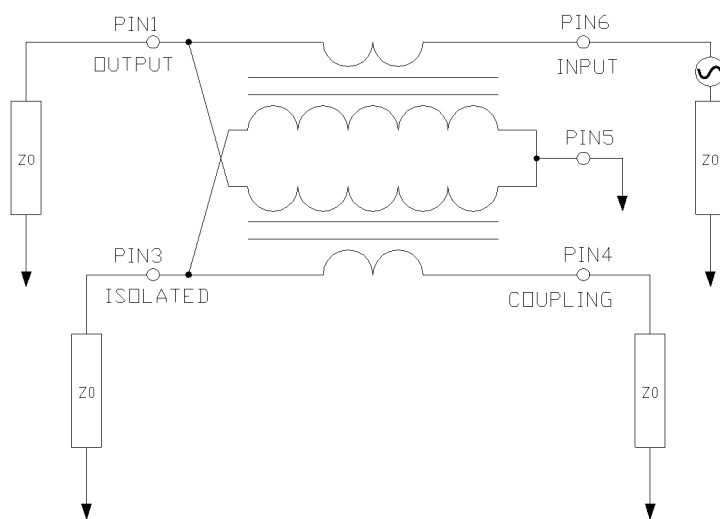
| Parameter                   | Units            | Min | Max |
|-----------------------------|------------------|-----|-----|
| Input Power                 | mW               |     | 631 |
| DC Current                  | mA               |     | 600 |
| Operating Temperature Range | $^\circ\text{C}$ | -40 | 105 |

Full temperature plots available on request

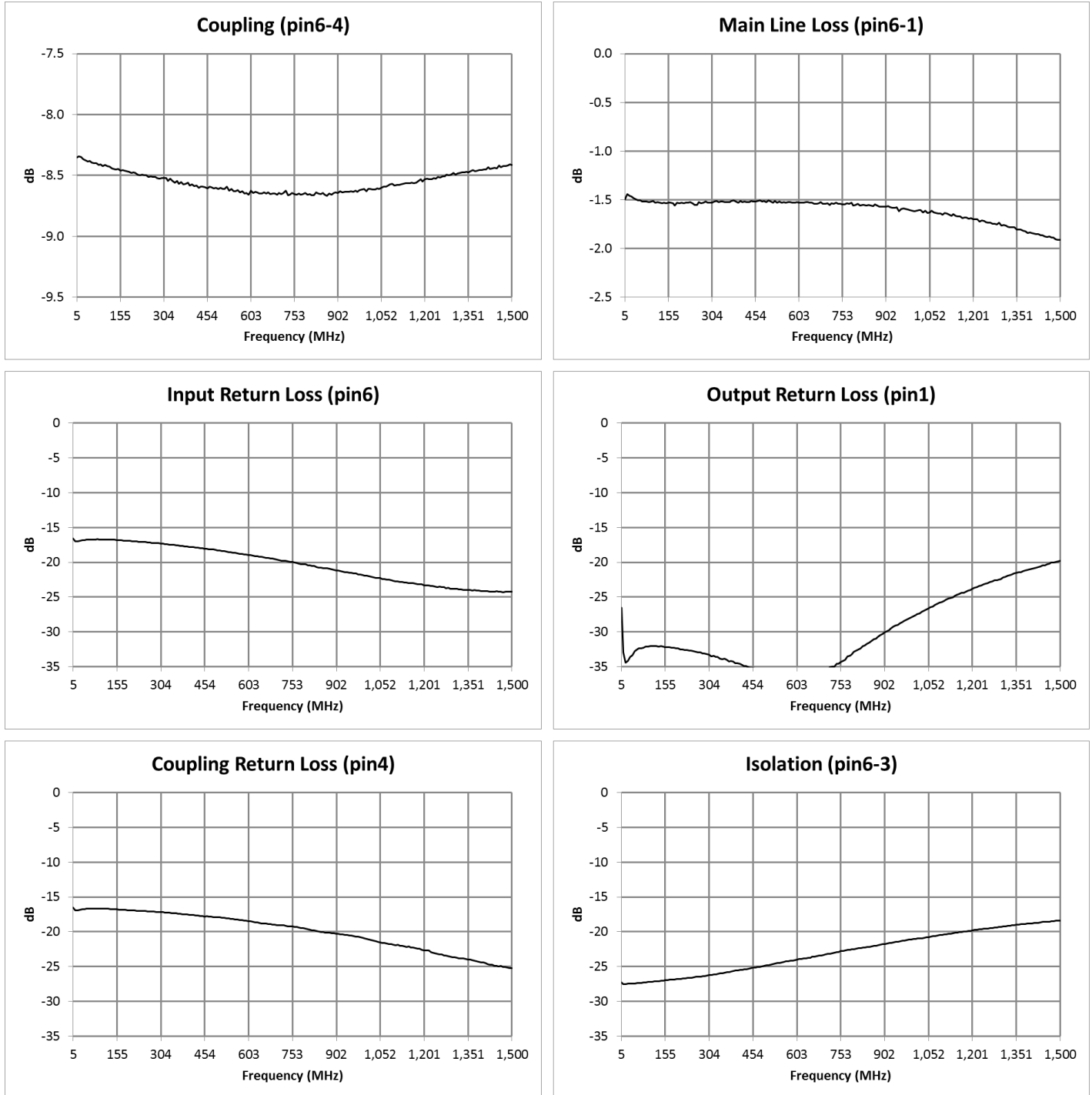
## PCB Layout



## Application Schematic



## Typical Performance Curves

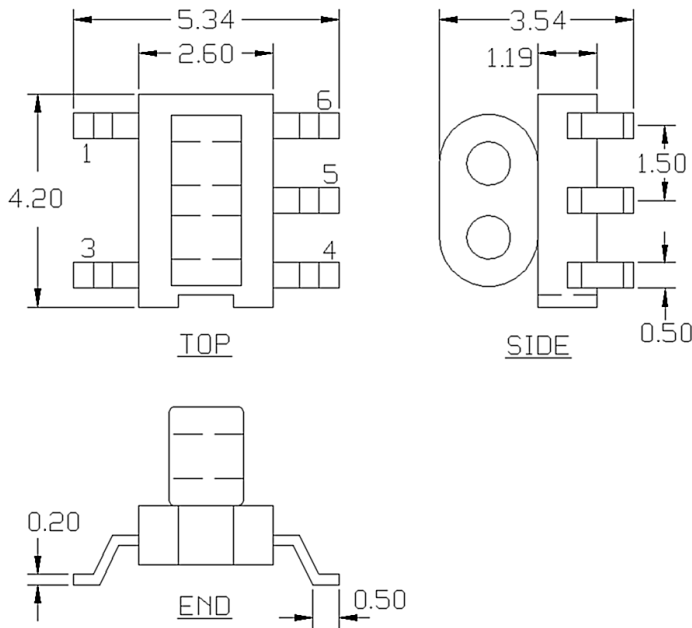


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## Outline Drawing

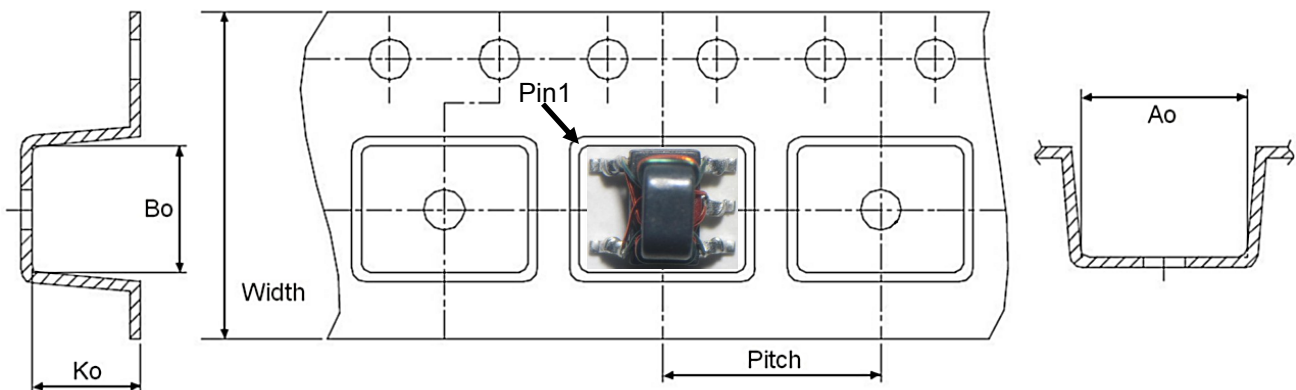


## Tape & Reel Information

| Parameter  | Units | Value |
|--|-------|-------|
| Qty per reel                                       | -     | 2000  |
| Reel Size  | mm    | 330   |
| Tape Width   | mm    | 12.00 |
| Pitch  | mm    | 8.00  |
| Ao   | mm    | 6.1   |
| Bo   | mm    | 4.6   |
| Ko   | mm    | 4.0   |
| Orientation  | -     | F26   |
| Reference Application Note ANI-019 for orientation |       |       |

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. Finish: Lead plating (CuSn6) Lead finish SAC-305

## Carrier Tape Orientation



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