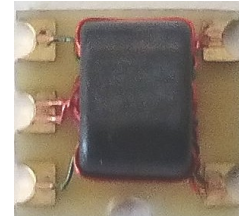


## Features

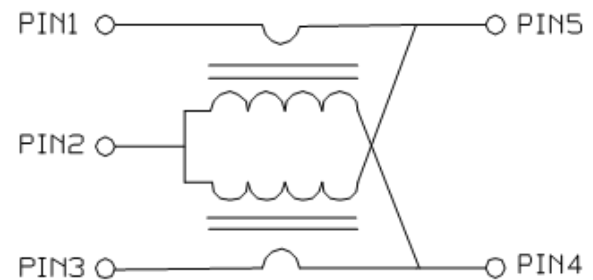
- 16 dB Coupling Ratio
- Surface Mount
- Available on Tape and Reel
- Excellent Temperature Stability
- RoHS Compliant and lead free
- 260°C Reflow Compatible

## Description

The MACP-011038 is a 16 dB coupler in a low cost, surface mount package. Ideally suited for broadband CATV applications.



## Functional Schematic



## Ordering Information

| Part Number    | Description       |
|----------------|-------------------|
| MACP-011038    | 900 piece reel    |
| MACP-011038-TB | Sample Test Board |

## Pin Configuration

| Pin No. | Function |
|---------|----------|
| 1       | Input    |
| 2       | Ground   |
| 3       | Coupled  |
| 4       | Isolated |
| 5       | Output   |

## 16 dB Coupler 5 - 1225 MHz

Rev. V2

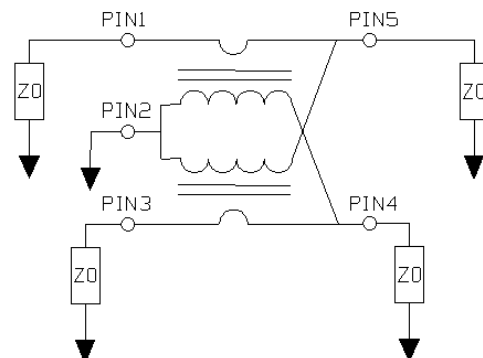
**Electrical Specifications:** Freq. = 5 - 1225 MHz,  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\ \Omega$ ,  $P_{in} = 0\ \text{dBm}$

| Parameter                        | Conditions                      | Units | Min.     | Typ.       | Max.       |
|----------------------------------|---------------------------------|-------|----------|------------|------------|
| Coupling Ratio                   | —                               | dB    | —        | 16         | -          |
| Coupling<br>(Pin 1- Pin 3)       | 5 - 1225 MHz                    | dB    | 16.5     | 16.0       | 15.5       |
| Main Line Loss<br>(Pin 1- Pin 5) | 5 - 1000MHz<br>1000 - 1225 MHz  | dB    | —        | 0.7<br>0.9 | 0.8<br>1.0 |
| Isolation<br>(Pin 1- Pin 4)      | 5 - 1225 MHz                    | dB    | 30       | 33         | —          |
| Input Return Loss<br>(Pin 1)     | 5 - 1000 MHz<br>1000 - 1225 MHz | dB    | 19<br>18 | 21<br>20   | —          |
| Output Return Loss<br>(Pin 5)    | 5 - 1000 MHz<br>1000 - 1225 MHz | dB    | 18<br>16 | 20<br>18   | —          |
| Coupling Return Loss<br>(Pin 3)  | 5 - 1000 MHz<br>1000 - 1225 MHz | dB    | 18<br>16 | 20<br>18   | —          |

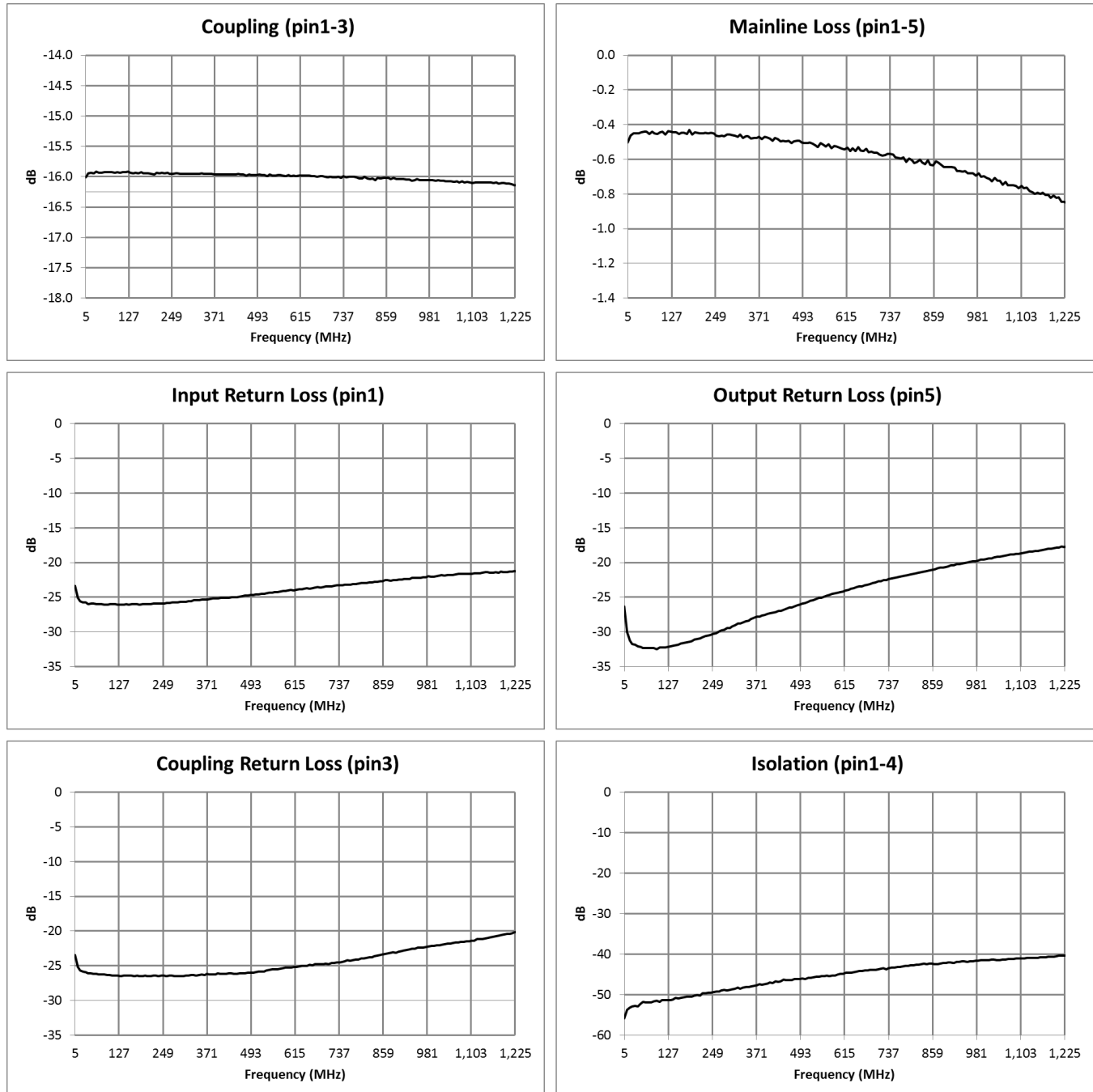
## Absolute Maximum Ratings

| Parameter             | Absolute Maximum                           |
|-----------------------|--------------------------------------------|
| Input Power           | 1.5 W                                      |
| DC Current            | 500 mA                                     |
| Operating Temperature | $-40^\circ\text{C}$ to $+85^\circ\text{C}$ |

## Application Schematic

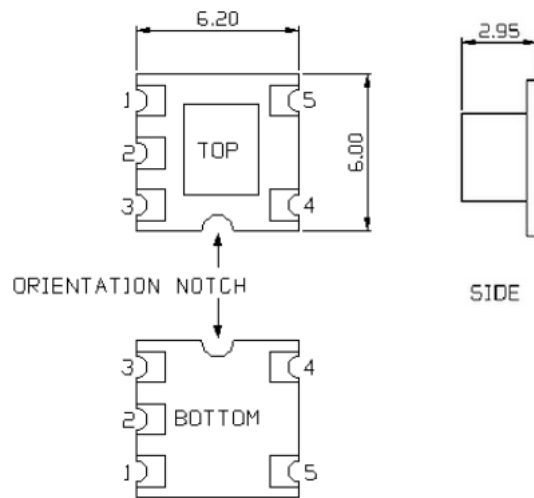


## Typical Performance Curves<sup>1</sup>

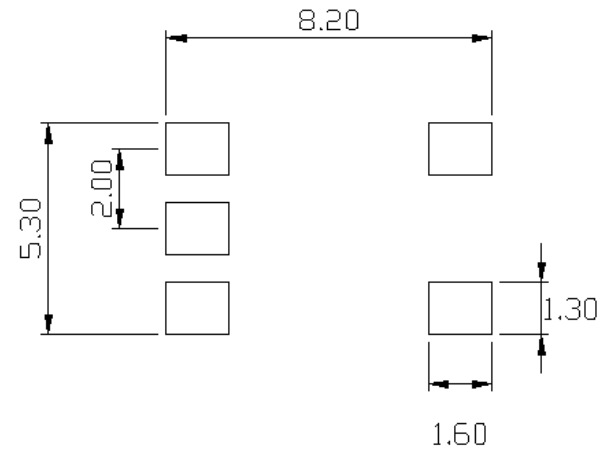


1. Full temperature plots available on request.

## Outline Drawing

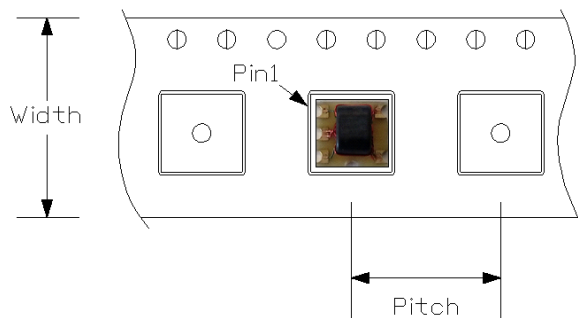


## PCB Layout



1. Dimensions in mm.
2. Tolerance:  $\pm 0.2$  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  $\mu$ m gold over 3 to 6  $\mu$ m nickel

## Carrier Tape Orientation



## Tape & Reel Information

| Parameter                                          | Units | Value |
|----------------------------------------------------|-------|-------|
| Qty per reel                                       | -     | 900   |
| Reel Size                                          | mm    | 330   |
| Tape Width                                         | mm    | 16.00 |
| Pitch                                              | mm    | 12.00 |
| Orientation                                        | -     | F59   |
| Reference Application Note ANI-019 for orientation |       |       |

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