

## 8 dB Coupler 40 - 1250 MHz

Rev. V3

### Features

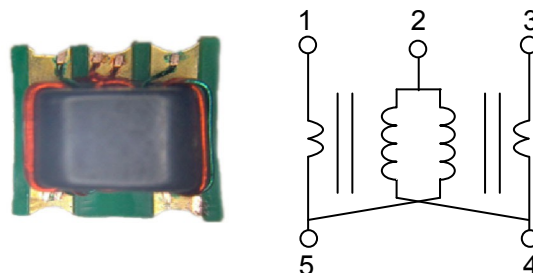
- 8 dB Coupling Ratio
- Surface Mount Package
- RoHS Compliant and Pb Free
- 260°C Reflow Compatible
- Available on Tape & Reel

### Description

The MACP-011015 is an 8 dB coupler assembled in a surface mount package.

Ideally suited for CATV applications.

### Functional Schematic



### Pin Configuration<sup>3</sup>

Pin #	Function	Pin #	Function
1	Coupled	4	Output
2	Ground	5	External 75 Ω
3	Input		

3. MACOM recommends connecting unused package pins to ground.

### Electrical Specifications: Freq. = 40 - 1250 MHz, T<sub>A</sub> = +25°C, Z<sub>0</sub> = 75 Ω, P<sub>IN</sub> = 0 dBm

Parameter	Frequency Test Conditions (MHz)	Units	Min.	Typ.	Max.
Coupling (pin 3 - pin 1)	40 - 1250	dB	7.5	8.0	8.5
Main Line Loss (pin 3 - pin 4)	40 - 870 870 - 1250	dB	—	1.5 1.9	1.9 2.3
Input Return Loss (pin 3)	40 - 1250	dB	17	19	—
Output Return Loss (pin 4)	40 - 1250	dB	18	30	—
Coupled Return Loss (pin 1)	40 - 1250	dB	17	20	—
Isolation (pin 3 - pin 5)	40 - 500 500 - 1250	dB	23.0 16.5	27.0 21.0	—
Directivity	40 - 500 500 - 1250	dB	15 8	18 12	—

### Ordering Information<sup>1,2</sup>

Part Number	Package
MACP-011015	2000 piece reel
MACP-011015-TB	Sample Board

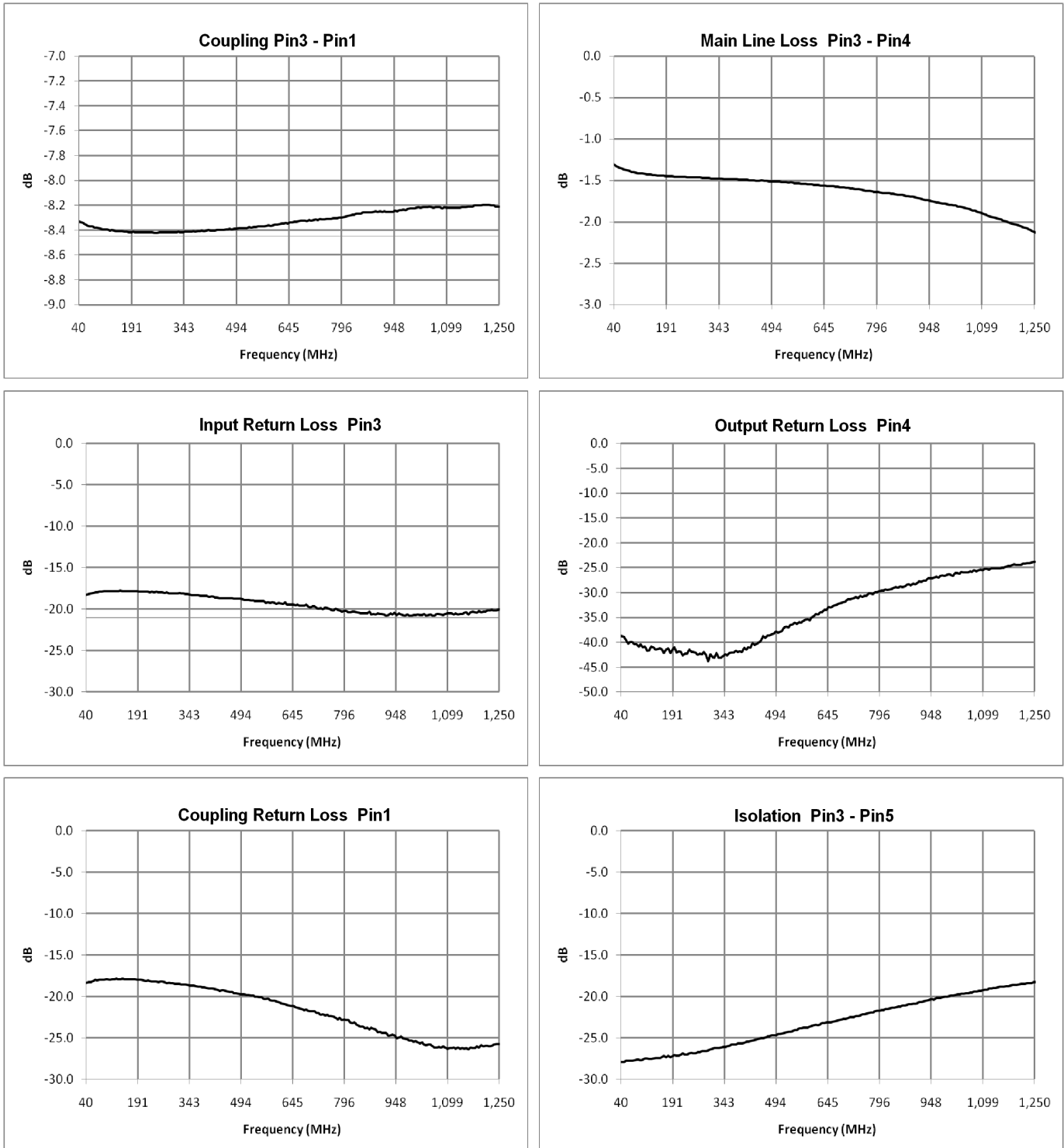
1. Reference Application Note M513 for reel size information.
2. All sample boards include 5 loose parts.

### Absolute Maximum Ratings<sup>4,5</sup>

Parameter	Absolute Maximum
Input Power	250 mW
DC Current	30 mA
Operating Temperature	-40°C to +85°C

4. Exceeding any one or combination of these limits may cause permanent damage to this device.
5. MACOM does not recommend sustained operation near these survivability limits.

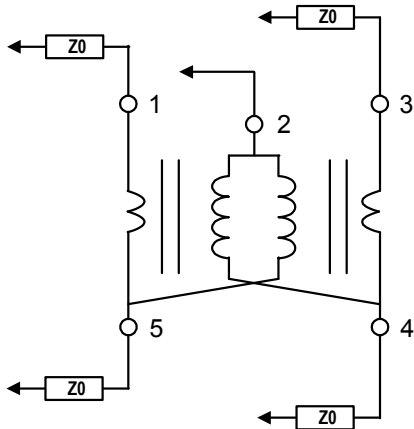
## Typical Performance Curves<sup>6</sup>



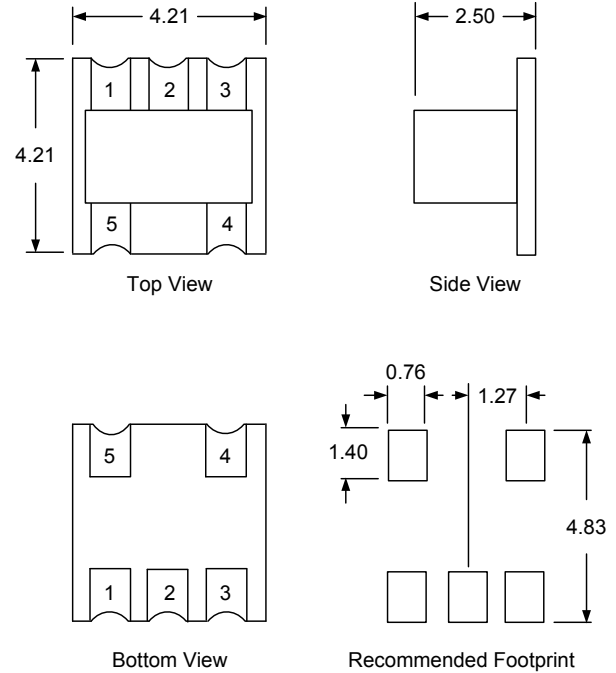
2 6. Full temperature plots available on request.

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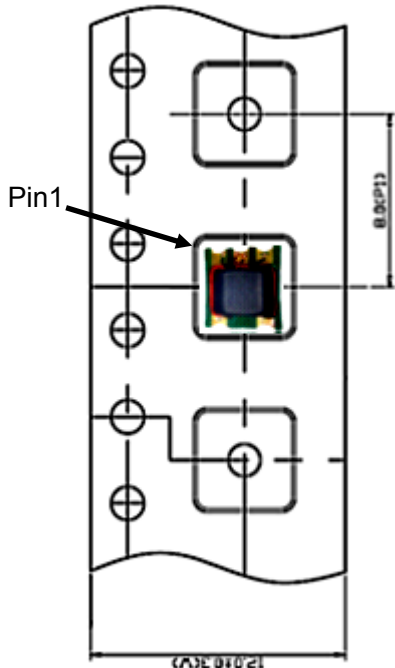
## Application Schematic



## Outline Drawing<sup>7,8,9,10</sup>



## Carrier Tape Orientation



- 7. Dimensions in mm.
- 8. Tolerance:  $\pm 0.2$  mm unless otherwise noted.
- 9. Model number and lot code are printed on the reel.
- 10. Finish: Electroless nickel immersion gold (ENIG).

## Tape & Reel Information

Parameter	Units	Value
Tape Width	mm	12.0
Pitch	mm	8.0
Orientation	-	F31
Reference Application Note ANI-019 for orientation		

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