

8 dB Coupler 40 - 1250 MHz

Rev. V3

Features

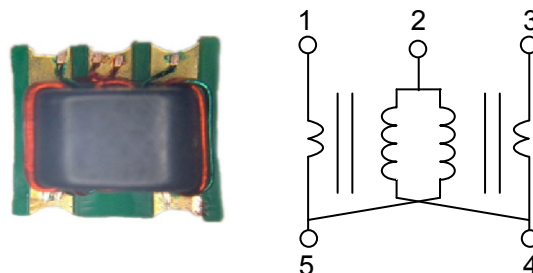
- 8 dB Coupling Ratio
- Surface Mount Package
- RoHS Compliant and Pb Free
- 260°C Reflow Compatible
- Available on Tape & Reel

Description

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

Ideally suited for CATV applications.

Functional Schematic



Pin Configuration³

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_A = +25°C, Z₀ = 75 Ω, P_{IN} = 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^{1,2}

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

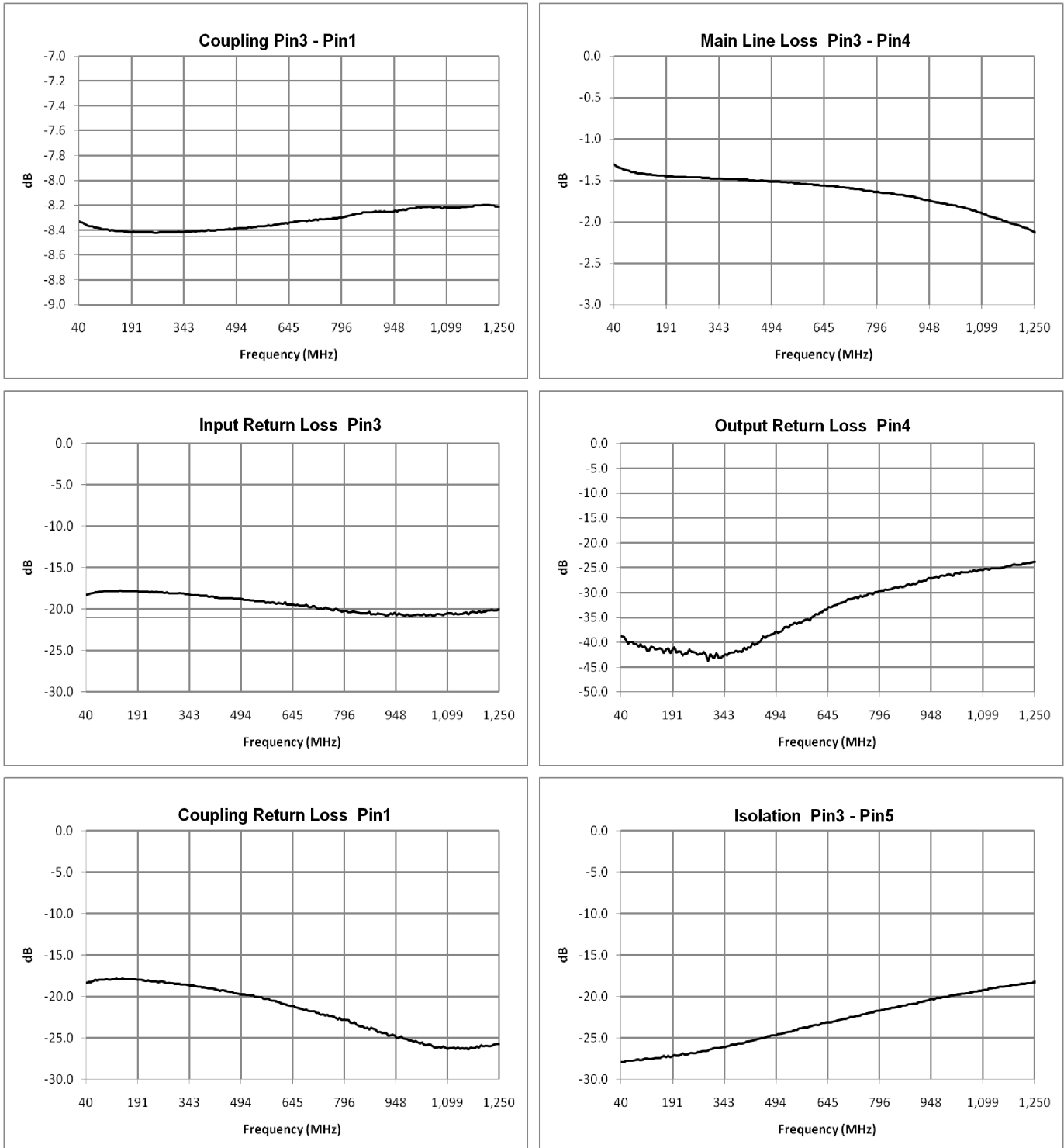
1. Reference Application Note M513 for reel size information.
2. All sample boards include 5 loose parts.

Absolute Maximum Ratings^{4,5}

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.

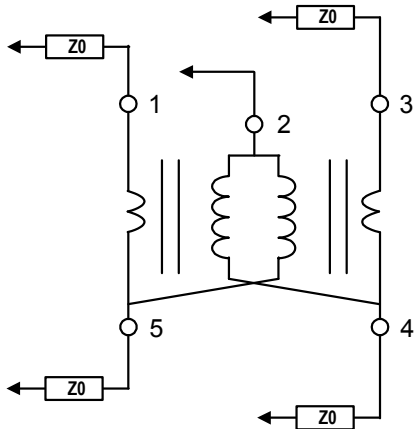
Typical Performance Curves⁶



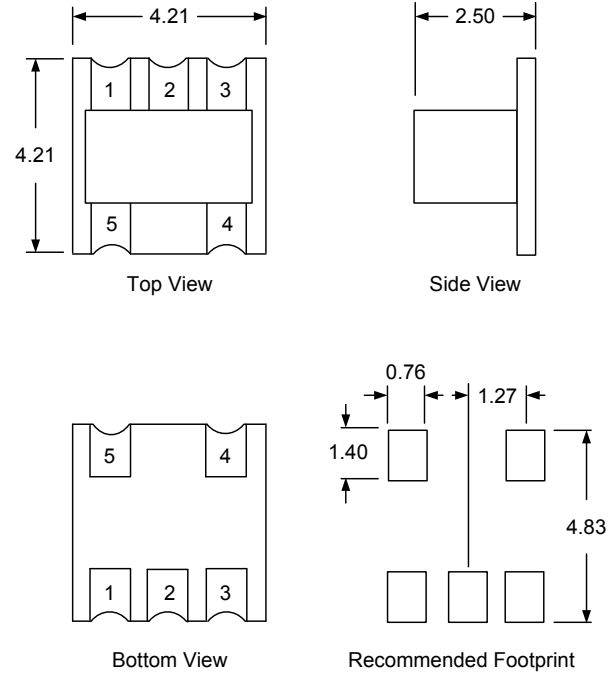
2 6. Full temperature plots available on request.

MACOM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.

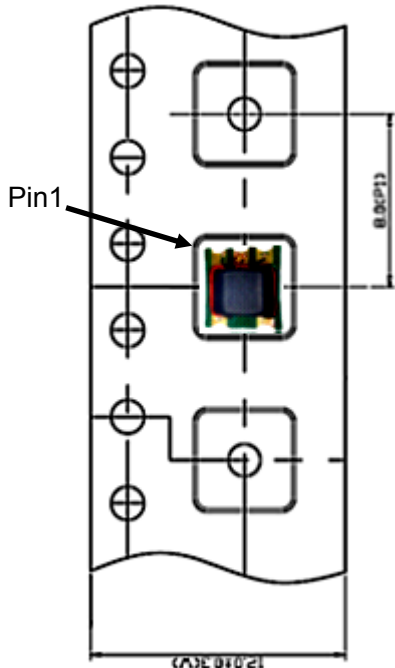
Application Schematic



Outline Drawing^{7,8,9,10}



Carrier Tape Orientation



- 7. Dimensions in mm.
- 8. Tolerance: ± 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		

MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.