

## 8 dB Coupler 5 - 1225 MHz

V3

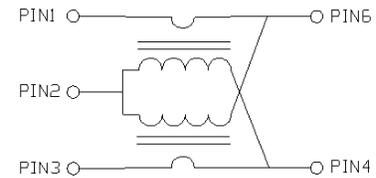
### Features

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

### Description

The MACP-011033 is an 8 dB coupler in a surface mount package. Ideally suited for broadband CATV applications.

### Functional Schematic



### Pin Configuration

Pin #	Function	Pin #	Function
1	Input	4	Isolated
2	Ground	5	Not Connected
3	Coupled	6	Output

### Electrical Specifications: Freq. = 5 - 1225 MHz, T<sub>A</sub> = 25°C, Z<sub>0</sub> = 75 Ω, P<sub>IN</sub> = 0 dBm

Parameter	Conditions	Units	Min.	Typ.	Max.
Coupling Ratio	—	dB	—	8	—
Coupling (Pin 1 - Pin 3)	5 - 1225 MHz	dB	8.5	8.0	6.6
Main Line Loss (Pin 1 - Pin 6)	5 - 1000 MHz 1000 - 1225 MHz	dB	—	1.9 2.6	2.2 2.8
Isolation (Pin 1 - Pin 4)	5 - 1000 MHz 1000 - 1225 MHz	dB	16 14	18 16	—
Input Return Loss (Pin 1)	5 - 1000 MHz 1000 - 1225 MHz	dB	15 12	18 14	—
Output Return Loss (Pin 6)	5 - 1000 MHz 1000 - 1225 MHz	dB	14 12	16 14	—
Coupling Return Loss (Pin 3)	5 - 1000 MHz 1000 - 1225 MHz	dB	13 11	16 13	—

### Ordering Information

Part Number	Description
MACP-011033	900 piece reel
MACP-011033-TB	Sample Test Board

### Absolute Maximum Ratings

Parameter	Absolute Maximum
Input Power	0.5 W
DC Current	500 mA
Operating Temperature	-40°C to +85°C

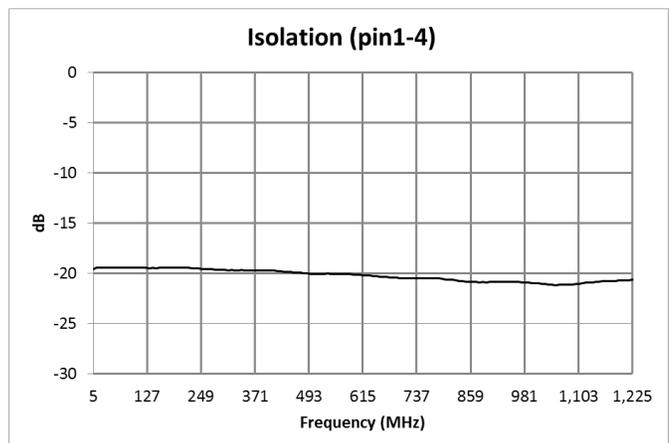
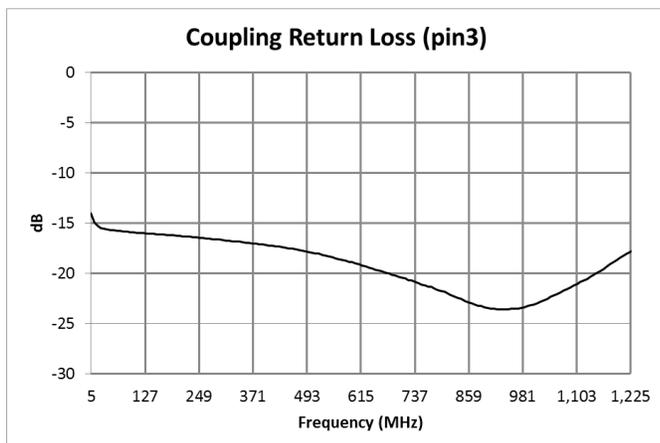
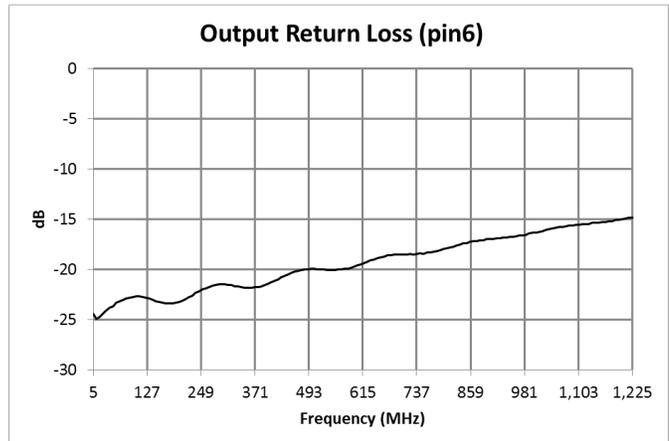
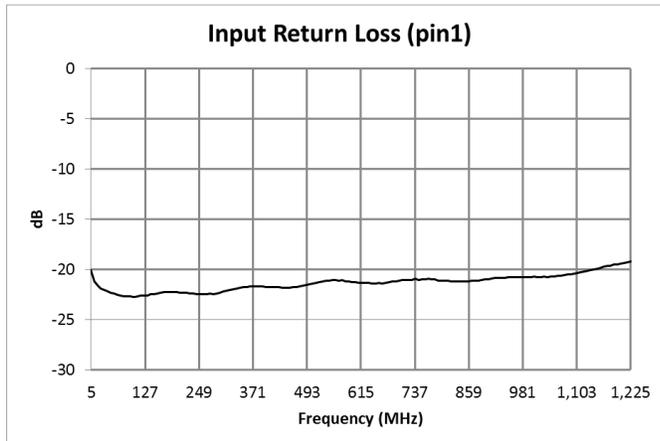
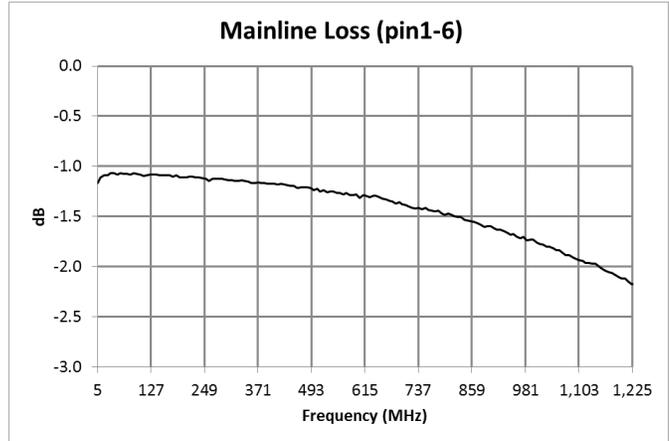
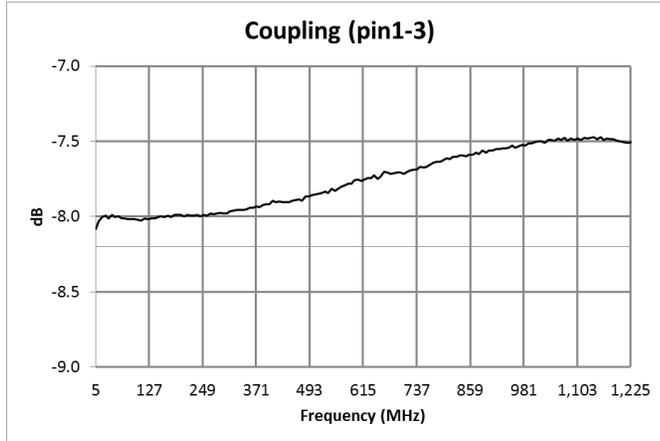
1

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](http://www.macom.com) for additional data sheets and product information.

For further information and support please visit:  
<https://www.macom.com/support>

DC-0011752

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

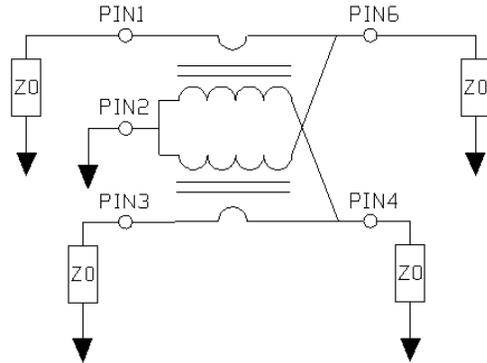


1. Full temperature plots available on request.

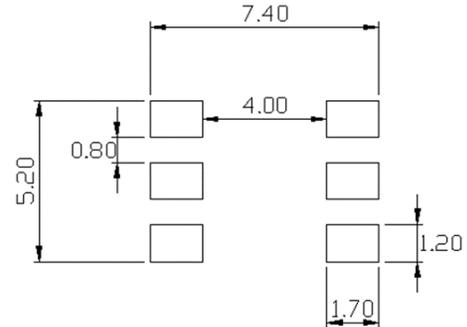
**8 dB Coupler**  
**5 - 1225 MHz**

V3

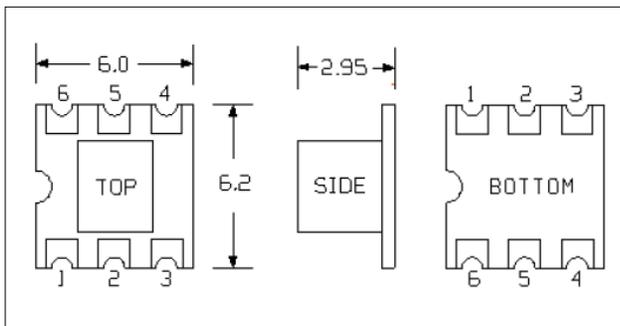
## Application Schematic



## PCB Layout

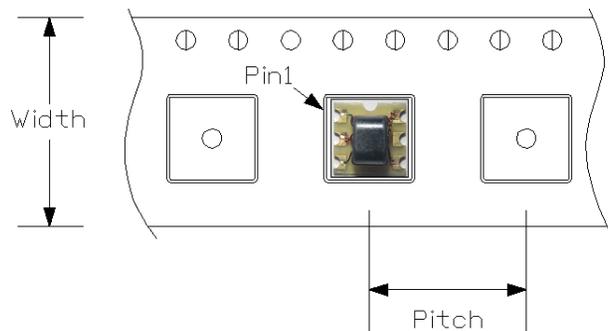


## Outline Drawing



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	-	F45
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.