

Features

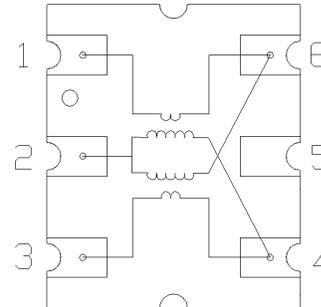
- Surface Mount Package
- 17.3 dB Coupler
- 260°C Reflow Compatible
- RoHS Compliant and Lead Free
- Available on Tape and Reel

Description

The MACP-011068 is a 17.3 dB coupler offered in a surface mount package.

Ideally suited for 75 Ω power monitoring in CATV DOCSIS 3.1 nodes and line extenders.

Functional Schematic



Pin Configuration¹

Pin #	Function	Pin #	Function
1	Input	4	External 75 Ω
2	Ground	5	Not Connected
3	Coupled	6	Output

1. MACOM recommends connecting unused package pins to ground.

Electrical Specifications: Freq. = 5 - 2000 MHz, $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$, $P_{IN} = 0 \text{ dBm}$

Parameter	Frequency Test Conditions (MHz)	Units	Min.	Typ.	Max.
Coupling (pin1-3)	5 - 2000	dB	16.8	17.3	17.8
Main Line Loss (pin 1-6)	5 - 1225 1225 - 1800 1800 - 2000	dB	—	0.6 1.1 1.4	0.7 1.25 1.6
Input Return Loss (pin 1)	5 - 1225 1225 - 1800 1800 - 2000	dB	20 18 16	26 24 20	—
Output Return Loss (pin 6)	5 - 1225 1225 - 1800 1800 - 2000	dB	18 15 14	26 19 17	—
Coupled Return Loss (pin 3)	5 - 1225 1225 - 1800 1800 - 2000	dB	20 20 20	27 25 23	—
Isolation (Pin 1-4)	5 - 1225 1225 - 1800 1800 - 2000	dB	26 21 20	34 26 23	—

Ordering Information^{2,3}

Part Number	Package
MACP-011068	900 piece reel
MACP-011068-TB	Sample Board

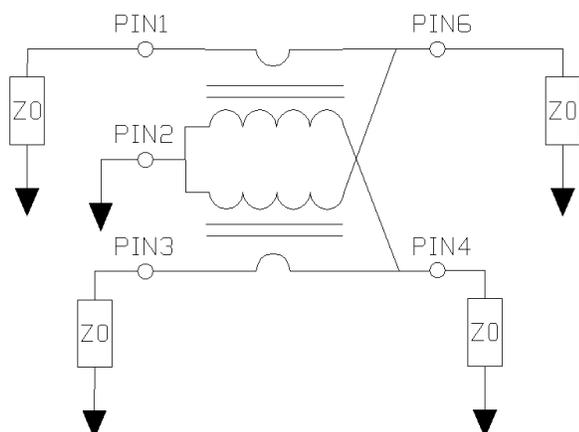
2. Reference Application Note M513 for reel size information.
3. All sample boards include 5 loose parts.

Absolute Maximum Ratings^{4,5}

Parameter	Absolute Maximum
Input Power ⁶	2 W
DC Current	500 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.
6. Specified at +25°C only and measured at 800 MHz.

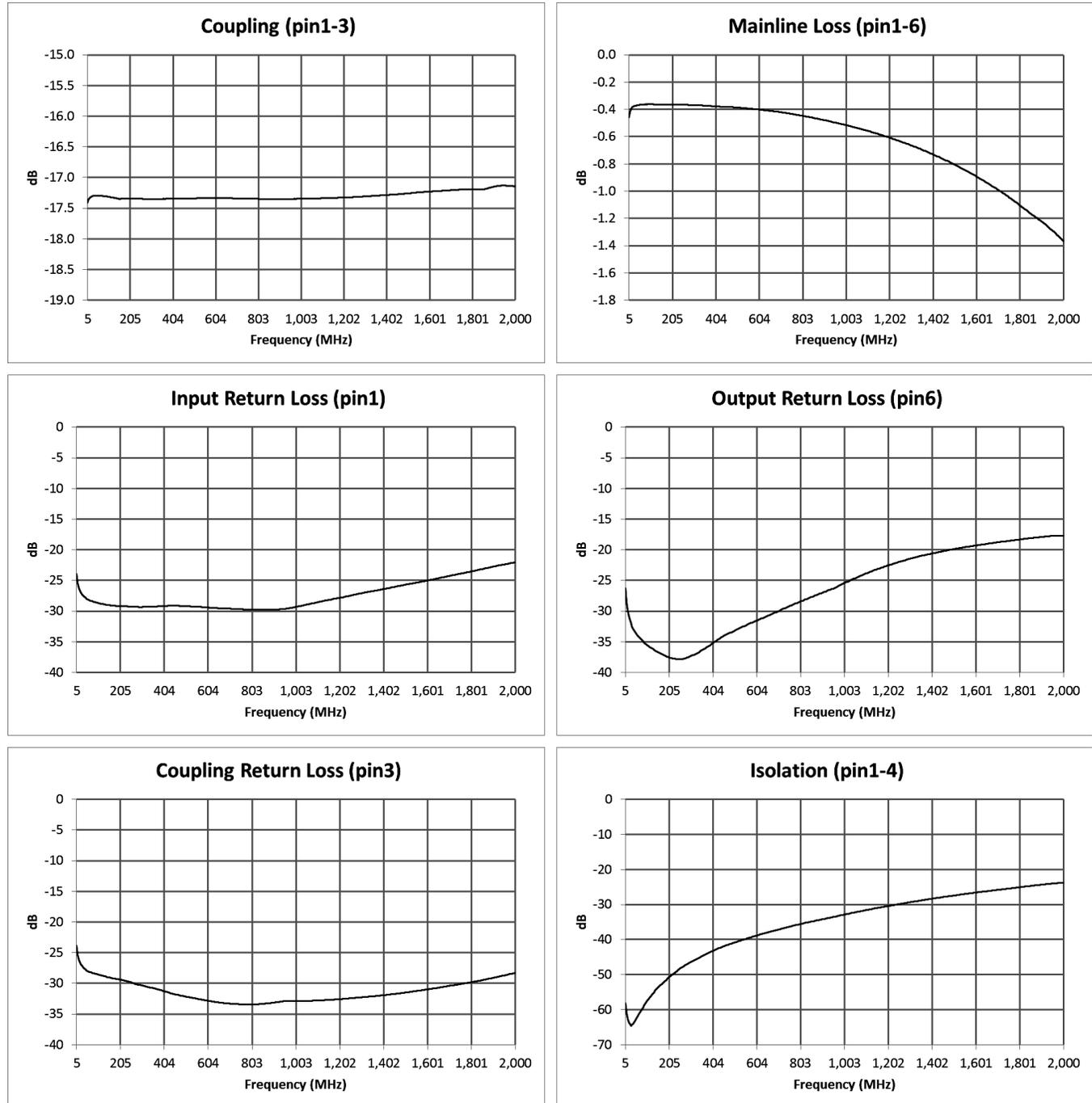
Application Schematic



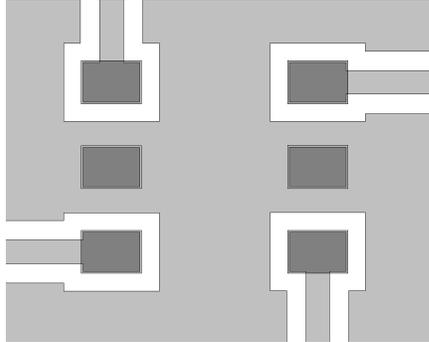
17.3 dB Coupler 5 - 2000 MHz

Rev. V2

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

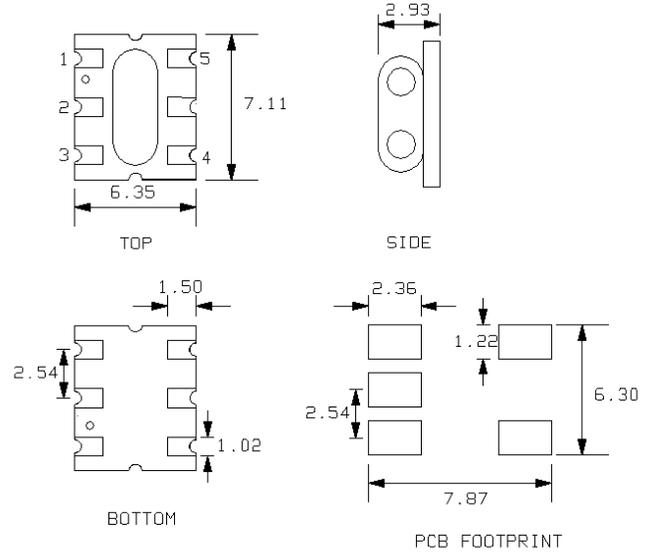


PCB Layout⁷



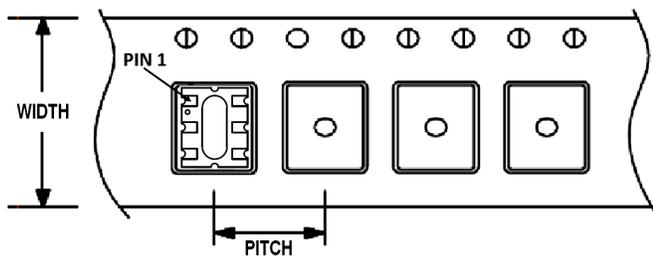
7. Recommended PCB layout shown above uses 1.6 mm FR4, Grounded coplanar wave guide, transmission line width 0.70 mm and gap 0.57 mm.

Outline Drawing^{8,9,10,11}



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

Carrier Tape Orientation



Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	900
Reel Size	mm	330
Tape Width	mm	16.0
Pitch	mm	12.0
Orientation	-	F15
Reference Application Note ANI-019 for orientation		

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