THE DATASHEET OF

MACP-009945-CH0670

MACP-009945-CH0670

Broadband CATV 17.5 dB Directional Coupler
5 to 1200 MHz

Rev. V3

Features

- Surface Mount
- Coupling 17.5dB Typical
- Excellent Temperature stability
- 260°C Reflow Compatible
- RoHS* Compliant, lead free
- Available on Tape and Reel.

Description

M/A-COM Technology Solutions MACP-009945-CH0670 is a low cost 17.5dB directional coupler designed in a low cost, surface mount package. Ideally suited for high volume CATV/Broadband applications. Suitable for use in 50 Ohm and 75 Ohm systems.

Note:

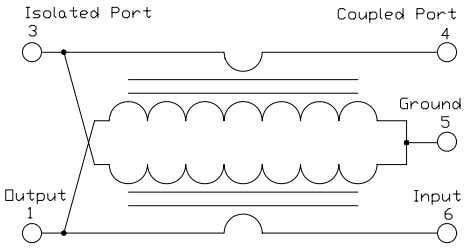
There is no orientation dot on the bottom of the PCB.

Pin Configuration

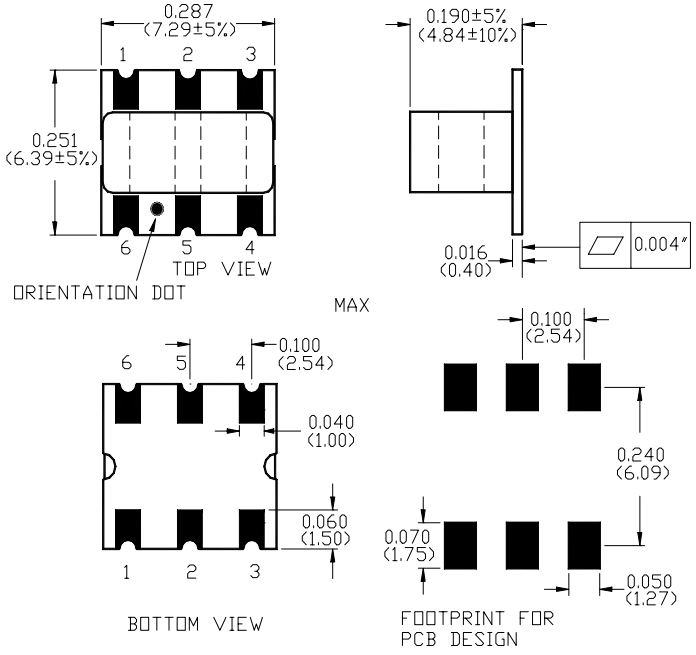
Pin No.	Function
1	Output
2	Not Connected (ground)
3	Isolated (external 75 Ohm Load)
4	Coupling
5	Ground
6	Input

Note: Reference Application Note **M513** for reel size information.

Schematic



Case Style: SM-103



Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010, unless otherwise stated

Ordering Information

Part number	Description
MACP-009945-CH0670	900 piece reel
MACP-009945-CH06TB	Customer Test Board

* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400
• **India** Tel: +91.80.43537383 • **China** Tel: +86.21.2407.1588
Visit www.macomtech.com for additional data sheets and product information.

Electrical Specifications: T_A = 25°C, 0dBm, Z_0 = 75Ω, P_{in} = 0dBm

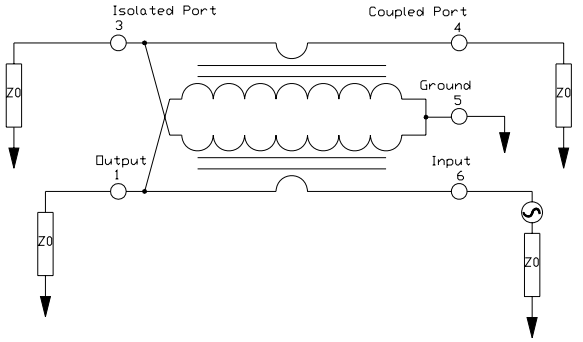
* Monitored during production tune/test.

Parameter	Test Conditions	Units	Min	Typ	Max
Main Line Loss (Pin 6-1) forward *	5 - 870 MHz 870 - 1002 MHz 1002 - 1200 MHz	dB dB dB	- - -	0.5 1.0 1.3	1.0 1.2 1.6
Main Line Loss (Pin 3-4) Reverse *	5 - 870 MHz 870 - 1002 MHz 1002 - 1200 MHz	dB dB dB	- - -	0.5 1.0 1.3	1.0 1.2 1.6
Coupling -17.5dB (Pin 6-4) Forward *	5 - 1002 MHz 1002 - 1200 MHz	dB dB	- -	17.5 17.5	±0.5 ±1.0
Coupling -17.5dB (Pin 1-3) Reverse *	5 - 200 MHz 200 - 500 MHz 500 - 870 MHz 870 - 1002 MHz 1002 - 1200 MHz	dB dB dB dB dB	- - - - 15.0	17.5 18.5 19.5 18.5 17.5	±0.7 ±1.5 ±1.5 ±1.5 19.5
Input Return Loss (Pin 6) *	5 - 870 MHz 870 - 1002 MHz 1002 - 1200 MHz	dB dB dB	22 20 16	27 26 24	- - -
Output Return Loss (Pin 1) *	5 - 870 MHz 870 - 1002 MHz 1002 - 1200 MHz	dB dB dB	22 18 15	33 33 21	- - -
Coupling Return Loss (Pin 4) *	5 - 870 MHz 870 - 1002 MHz 1002 - 1200 MHz	dB dB dB	22 20 18	28 23 23	- - -
Directivity	5 - 870 MHz 870 - 1002 MHz 1002 - 1200 MHz	dB dB dB	30 8 4	40 15 10	- - -
Inductance @ 5 MHz (Pins 6-1 & 4-3)	5 MHz	nH	240	245	260

Recommended Maximum Ratings

Parameter	Value
RF power	250mW
DC current	30mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C

Application Circuit



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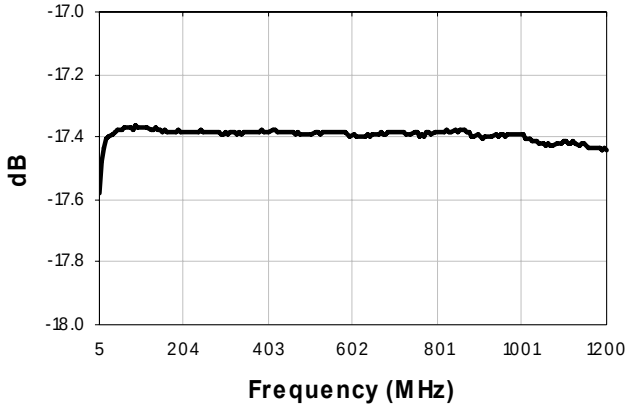
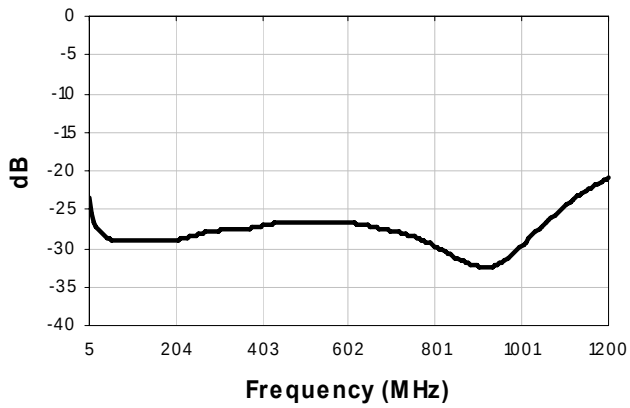
Typical Performance Curves: T_A = 25°C, 0dBm, Z_0 = 75Ω, P_{in} = 0dBm

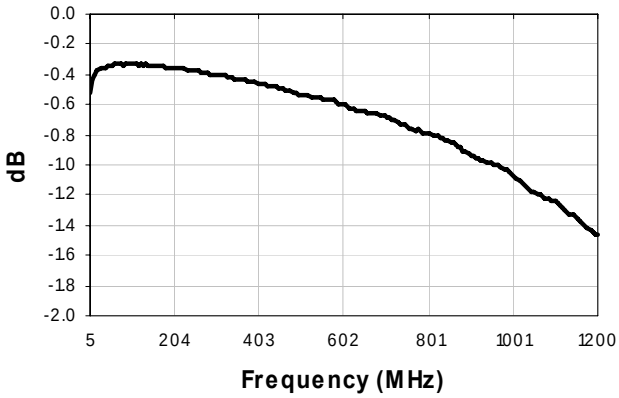
Coupling Forward (Pin 6 to 4)



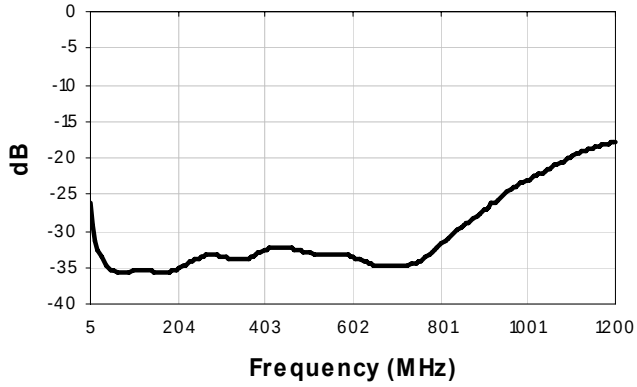
Return Loss: Input (Pin 6)



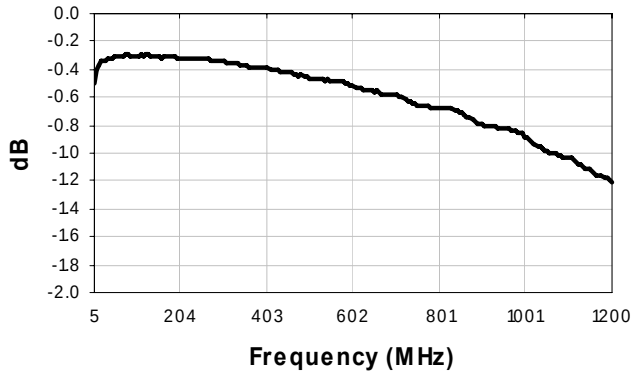
Main Line Loss Forward (Pin 6-1)



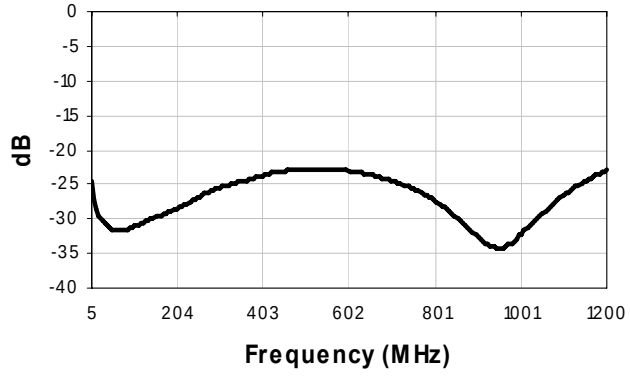
Return Loss: Output (Pin 1)



Main Line Loss Reverse (Pin 3-4)



Return Loss: Coupled (Pin 4)



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