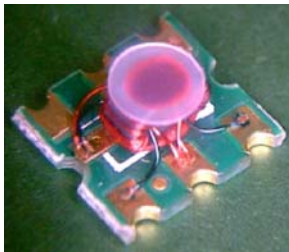


## Features

- Surface Mount
- Typical Coupling +17dB
- 260°C Reflow Compatible
- RoHS\* Compliant, lead free
- Available on Tape and Reel
- All wires are welded to the substrate

## Description

M/A-COM Technology Solutions MACP-009943-CH07F0 is a 17dB broadband Coupler in a low cost, surface mount package. It offers low loss, good Isolation, good input/output matching and exceptional coupling repeatability. Ideally suited for high volume CATV/Broadband applications.



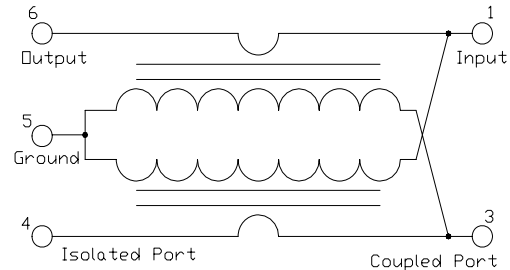
## Pin Configuration

Pin No.	Function
1	Input
2	Not Used (short to ground)
3	Coupled
4	Isolated (external 75 Ohms termination)
5	Ground
6	Output

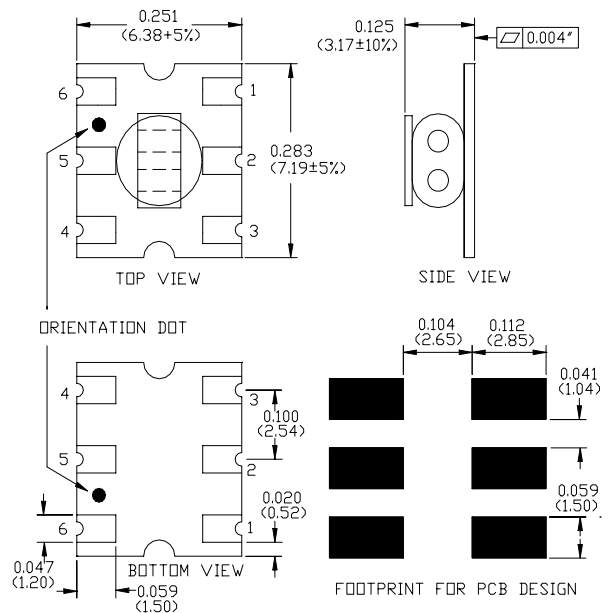
Note: Reference Application Note **M513** for reel size information.

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

## Schematic



## Case Style: SM-55A



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

## Ordering Information

Part number	Description
MACP-009943-CH07F0	900 piece reel
MABA-009943-CH07TB	Customer Test Board

**ADVANCED:** Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

**PRELIMINARY:** Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.

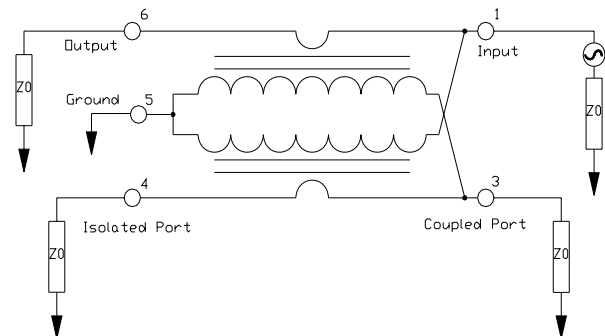
**Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $0\text{dBm}$ ,  $Z_0 = 75\Omega$ ,  $P_{in} = 0\text{dBm}$**

Parameter	Test Conditions	Units	Min	Typ	Max
Coupling	5 - 860 MHz	dB	-	17.2	$\pm 0.7$
	860 - 1000 MHz	dB	-	17.0	$\pm 0.8$
Main Line Loss	5 - 860 MHz	dB	-	0.6	1.0
	860 - 1000 MHz	dB	-	0.8	1.2
Coupling Flatness	5 - 1000 MHz	dB	-	-	1.0
Directivity	5 - 50 MHz	dB	30	40	-
	50 - 500 MHz	dB	12	20	-
	500 - 1000 MHz	dB	5	12	-
Input Return Loss	5 - 50 MHz	dB	24	28	-
	50 - 500 MHz	dB	24	28	-
	500 - 1000 MHz	dB	20	25	-
Output Return Loss	5 - 50 MHz	dB	20	25	-
	50 - 500 MHz	dB	20	25	-
	500 - 1000 MHz	dB	20	23	-
Coupling Return Loss	5 - 50 MHz	dB	20	25	-
	50 - 500 MHz	dB	20	25	-
	500 - 1000 MHz	dB	18	23	-

## Recommended Maximum Ratings

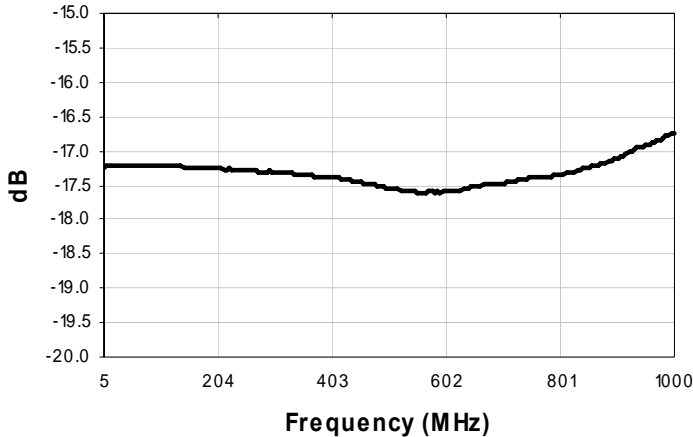
Parameter	Value
Max Input Power	250mW
DC current	30mA
Operating Temperature	$-40^\circ\text{C}$ to $+85^\circ\text{C}$
Storage Temperature	$-55^\circ\text{C}$ to $+100^\circ\text{C}$

## Application Circuit

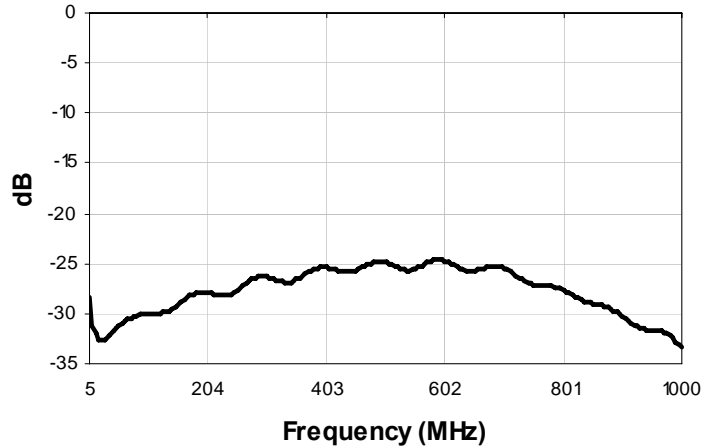


Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $0\text{dBm}$ ,  $Z_0 = 75\Omega$ ,  $P_{in} = 0\text{dBm}$

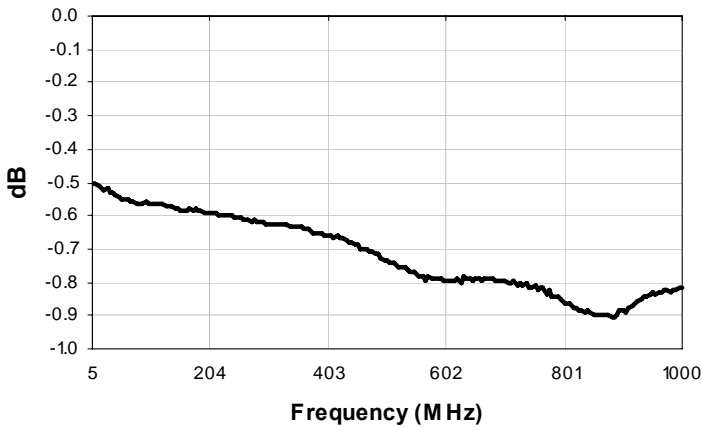
**Coupling (Pin1 - Pin3)**



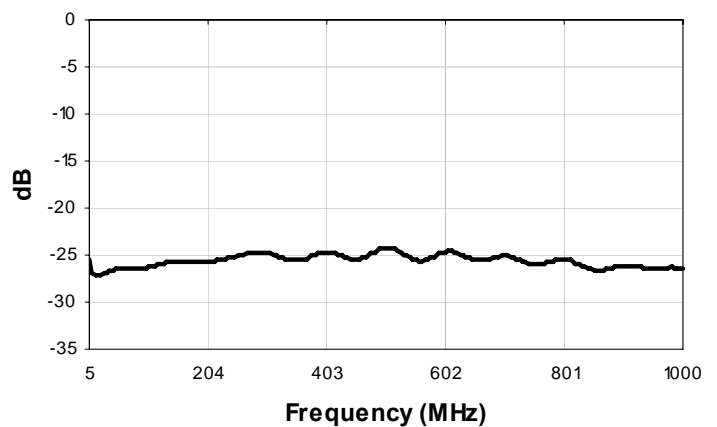
**Return Loss: Input (Pin 1)**



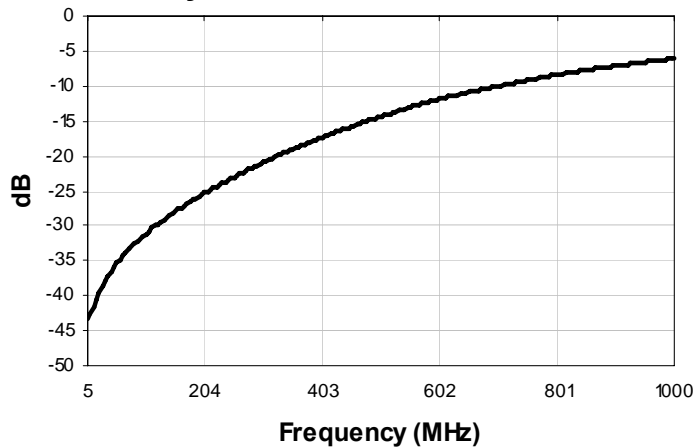
**Main Line Loss (Pin1 - Pin6)**



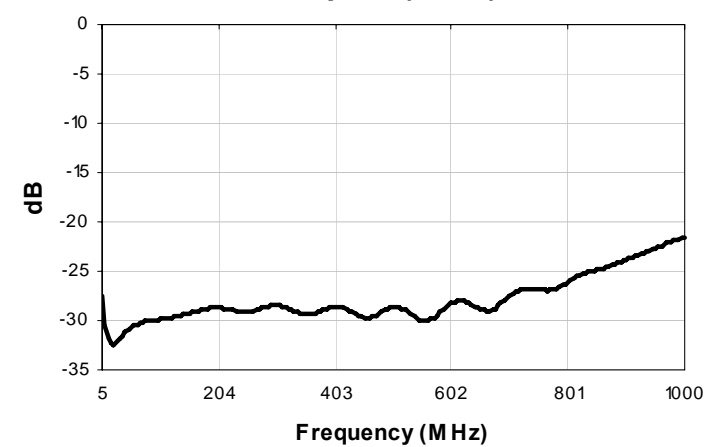
**Return Loss: Output (Pin 6)**



**Directivity**



**Return Loss: Coupled (Pin 3)**



3

**ADVANCED:** Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.  
**PRELIMINARY:** Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.