tyco Electronics

RoHS Compliant

MACOM

17dB Coupler
5-870 MHz

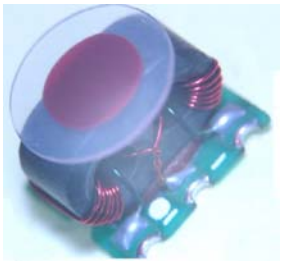
MACP-008248-CH0670
V1

Features

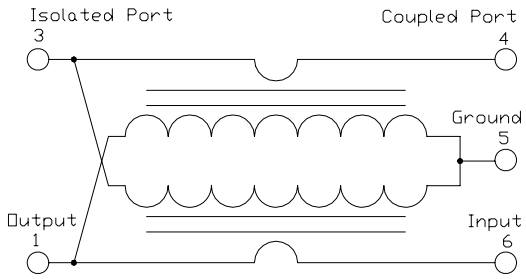
- Surface Mount
- Coupling 17.5 dB Typical
- 260°C Reflow Compatible
- RoHS* Compliant
- RoHS version of MACPCT0002
- Available on Tape and Reel. Reel quantity 900

Description

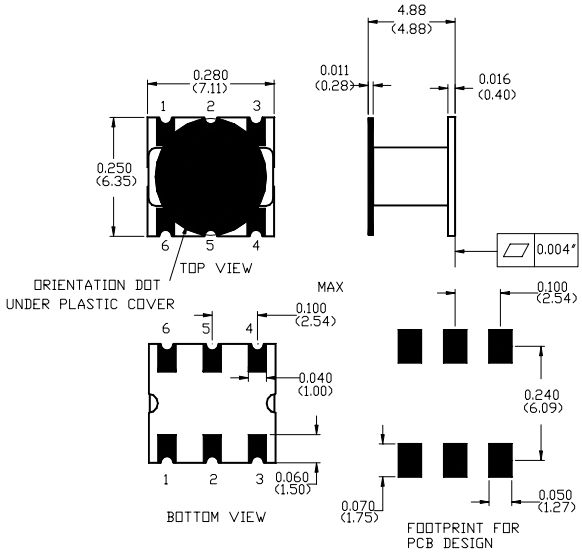
M/A-COM's MACP-008248-CH0670 is a high performance 75 ohm Coupler, in an SM-103 low cost, surface mount package. The MACP-008248-CH0670 is specifically designed for extremely low intermod distortion in CATV applications.



Schematic



Case Style: SM-103-A



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

Note: The SM-103-A incorporates the plastic cover & also has the dot removed from the bottom of the PCB

Pin Configuration

Pin No.	Function
1	Output
2	Not connected
3	External 75 ohms
4	Coupled
5	Ground
6	Input

Ordering Information

Part Number	Package
MACP-008248-CH0670	900
MACP-008248-CH06TB	Customer Test Board

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

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

- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

Visit www.macom.com for additional data sheets and product information.

17dB Coupler
5-870 MHz

Electrical Specifications: T_A = 25°C, Z_0 = 75Ω [1]

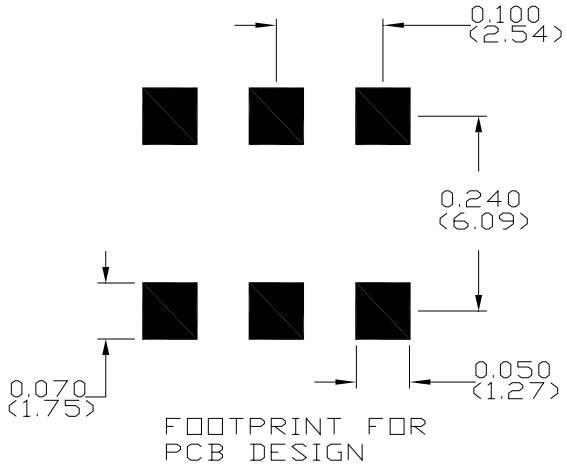
Parameter	Frequency	Units	Min	Typ	Max
Main Line Loss {Pins 6-1} {Pins 4-3}	5 - 40 MHz 40 - 750 MHz 750 - 1000 MHz	dB dB dB	- - -	0.5 0.7 0.9	0.8 1.0 1.2
Coupling Forward {Pins 6-4}	5 - 870 MHz	dB	-	17.5	±0.5
Coupling Reverse {Pins 1-3}	5 - 200 MHz 200-500 MHz 500 - 870 MHz	dB dB dB	-	17.5 18.5 19.5	±0.5 ±1.5 ±1.5
Coupling Flatness	5 - 870 MHz	dB	-	-	1.0
Inductance {Pin 6-1 & Pin 4-3}	5 MHz	nH	240	245	260
Input Return Loss	5 - 40 MHz 40-870 MHz	dB d**B**	22 18	25 22	- -
Output Return Loss	5 - 40 MHz 40-870 MHz	dB dB	22 18	25 22	-
Coupling Port Return Loss	5 - 40 MHz 40-870 MHz	dB dB	22 18	25 22	
Directivity	5 - 40 MHz 40-870 MHz	dB dB	20 10	25 15	- -

Absolute Maximum Ratings [1,2]

Parameter	Absolute Maximum
RF Power	1 Watt
Internal Load Dissipation	0.125 Watt
Pin Temperature (10 Seconds)	260 °C
Operating/Storage Temperature	-20°C to +85°C

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.

Recommended PCB Configuration



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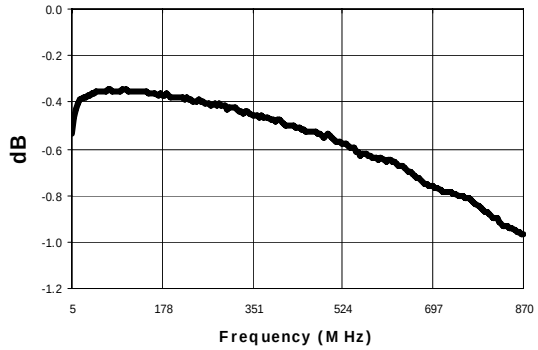
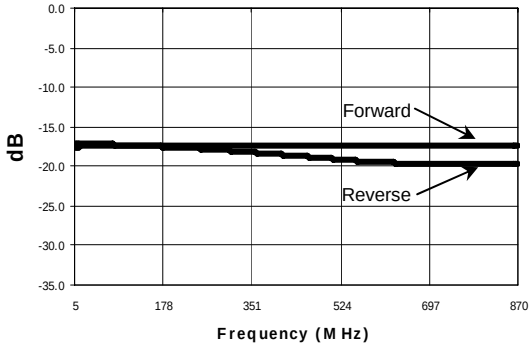
Typical Performance Curves: T_A = 25°C, Z_0 = 75Ω [1]

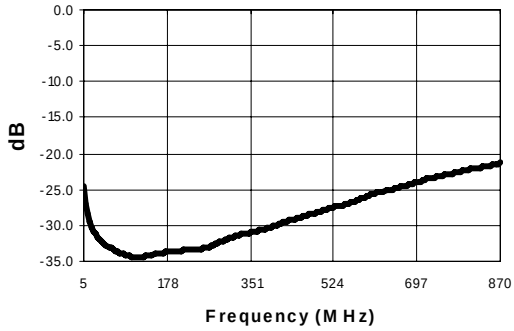
Main Line Loss



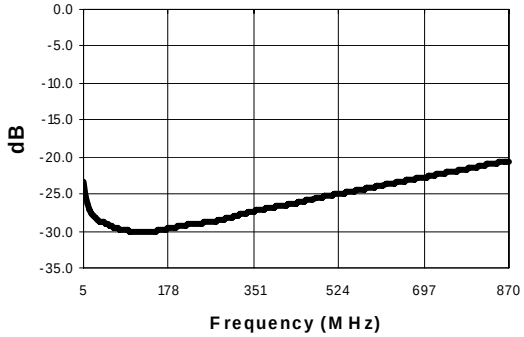
Coupling



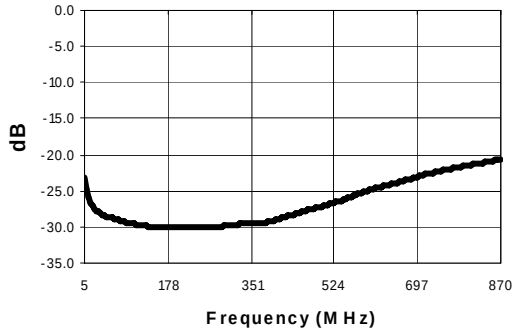
Return Loss: Output



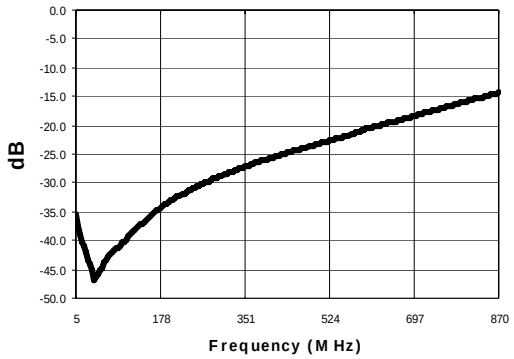
Return Loss; Input



Return Loss: Coupling



Directivity



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