

17dB Coupler 5-870 MHz

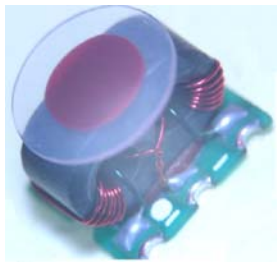
MACP-008248-CH0670
V1

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.



Pin Configuration

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

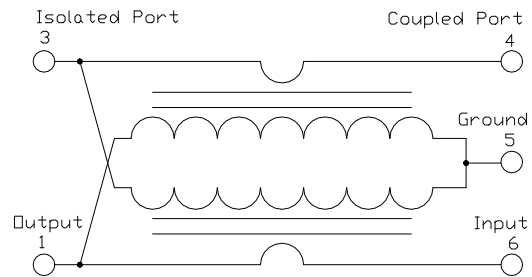
Ordering Information

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

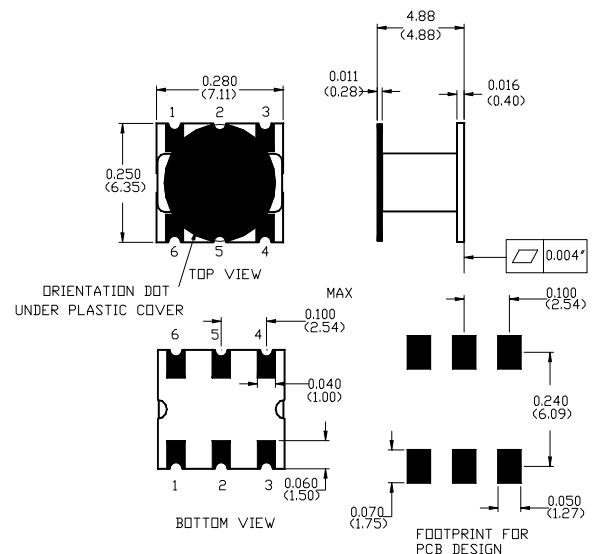
Note: Reference Application Note **M513** for reel size information.

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

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

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Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$ ¹

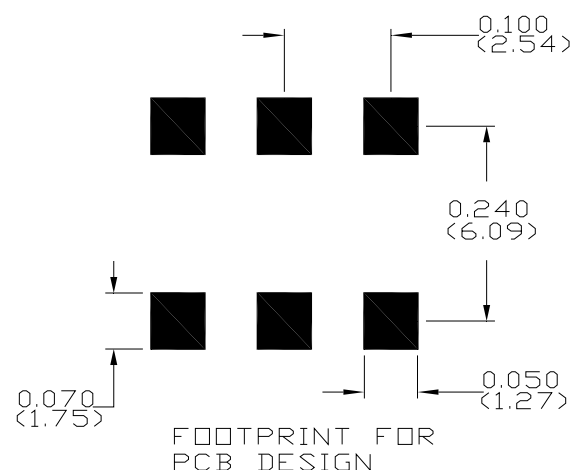
Parameter	Frequency	Units	Min	Typ	Max
Main Line Loss {Pins 6-1} {Pins 4-3}	5 - 40 MHz	dB	-	0.5	0.8
	40 - 750 MHz	dB	-	0.7	1.0
	750 - 1000 MHz	dB	-	0.9	1.2
Coupling Forward {Pins 6-4}	5 - 870 MHz	dB	-	17.5	±0.5
Coupling Reverse {Pins 1-3}	5 - 200 MHz	dB	-	17.5	±0.5
	200-500 MHz	dB	-	18.5	±1.5
	500 - 870 MHz	dB	-	19.5	±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	dB	22	25	-
	40-870 MHz	dB	18	22	-
Output Return Loss	5 - 40 MHz	dB	22	25	-
	40-870 MHz	dB	18	22	-
Coupling Port Return Loss	5 - 40 MHz	dB	22	25	-
	40-870 MHz	dB	18	22	-
Directivity	5 - 40 MHz	dB	20	25	-
	40-870 MHz	dB	10	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

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

Recommended PCB Configuration

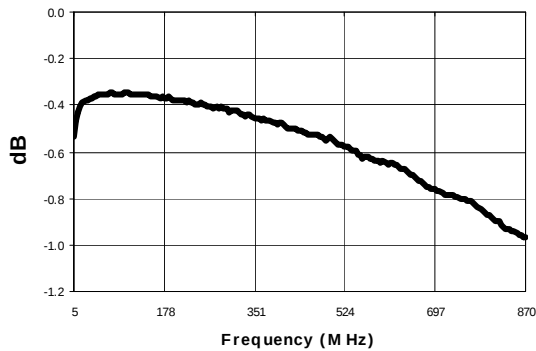


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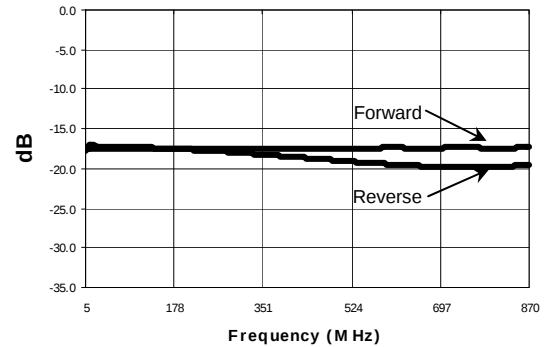
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Typical Performance Curves: $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$ ¹

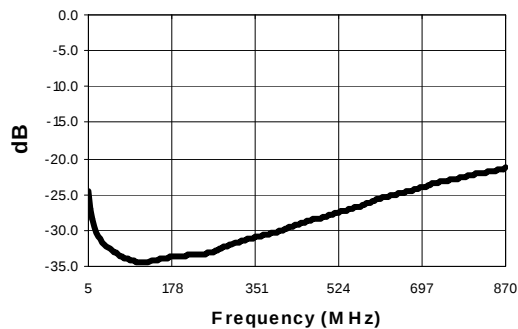
Main Line Loss



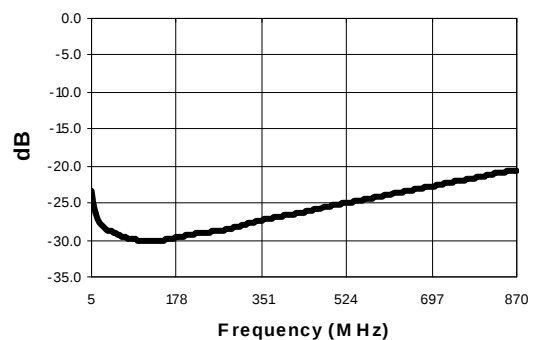
Coupling



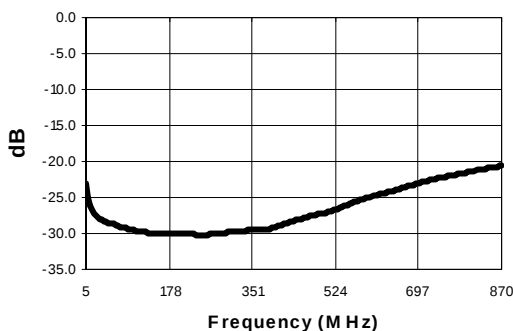
Return Loss: Output



Return Loss; Input



Return Loss: Coupling



Directivity

