

# MACPCT0030



Broadband CATV, 16dB Coupler  
5-1200 MHz

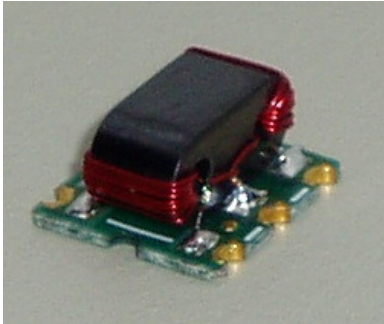
Rev. V2

## Features

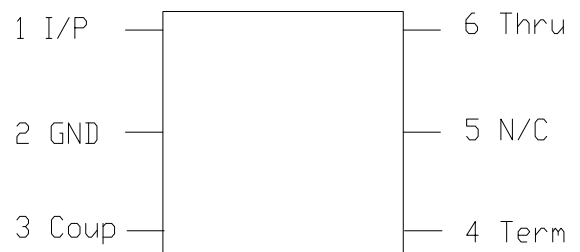
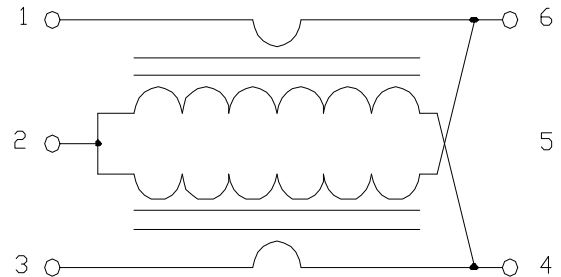
- Surface mount
- Typical coupling +16dB
- 260 °C reflow compatible
- RoHS compliant and Pb free
- Available on tape and reel, reel quantity 1000

## Description

M/A-COM's MACPCT0030 is a 16dB broadband Coupler in a low cost, surface mount package. It offers low loss, good isolation, good input/output matching and exceptional matching in return loss. Ideally suited for high volume CATV/Broadband applications.



## Schematic

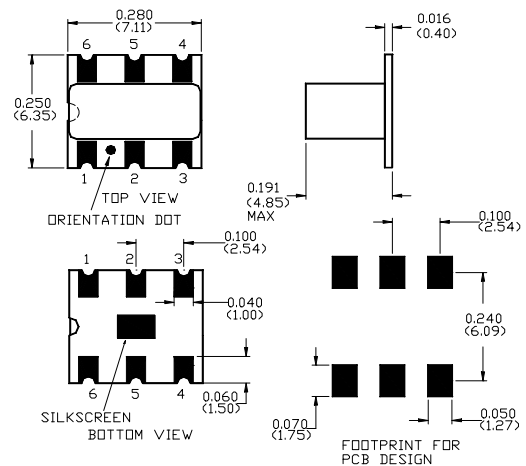


## Pin Configuration

Pin No.	Function
1	Input
5	N/C
2	Ground
3	Coupled
4	Isolated (external 75 Ohms termination)
6	Output

Part Number	Package
MACPCT0030	1000 piece reel
MACP-007977-CT30TB	Test Board

## Case Style: SM-123



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

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

**Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$  <sup>1</sup>**

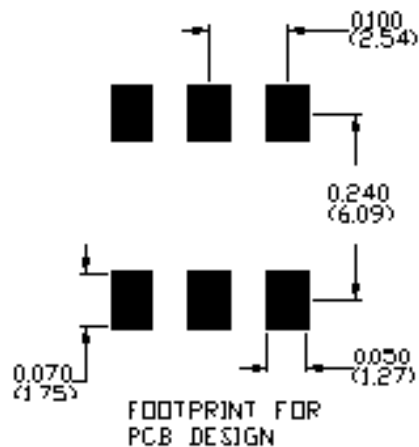
Parameter	Test Conditions	Units	Min	Typ	Max
Coupling	5 - 40 MHz	dB	-	15.8	16.0
	40 - 1000 MHz	dB	-	16.4	17.5
	1000 - 1200 MHz	dB	-	16.8	18.5
Main Line Loss	5 - 1000 MHz	dB	-	1.0	1.25
	1000 - 1200 MHz	dB	-	1.2	1.60
Input Return Loss	5 - 40 MHz	dB	20.0	23.0	-
	40 - 1000 MHz	dB	24.0	27.0	-
	1000 - 1200 MHz	dB	22.0	28.0	-
Output Return Loss	5 - 40 MHz	dB	20.0	23.7	-
	40 - 1000MHz	dB	25.0	29.8	-
	1000 - 1200 MHz	dB	20.0	24.1	-
Isolation	5 - 1000MHz	dB	25	29.0	-
	1000 - 1200MHz	dB	23	27.0	-
Coupling Return Loss	5 - 1000MHz	dB	20.0	22.3	-
	1000 - 1200 MHz	dB	16.0	22.0	-

**Absolute Maximum Ratings <sup>1,2</sup>**

Parameter	Absolute Maximum
Max Input Power	250mW
DC current	30mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C

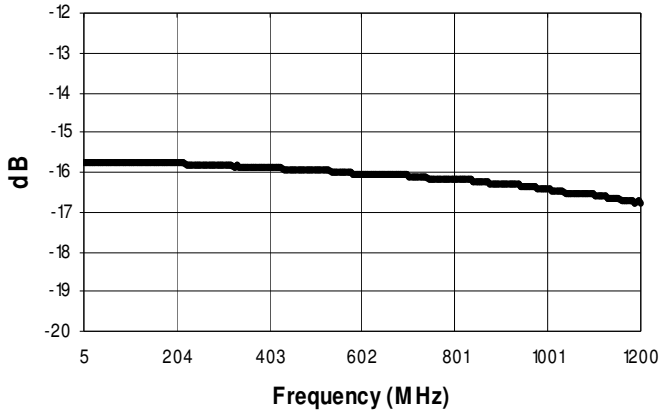
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.

**Recommended PCB Configuration**

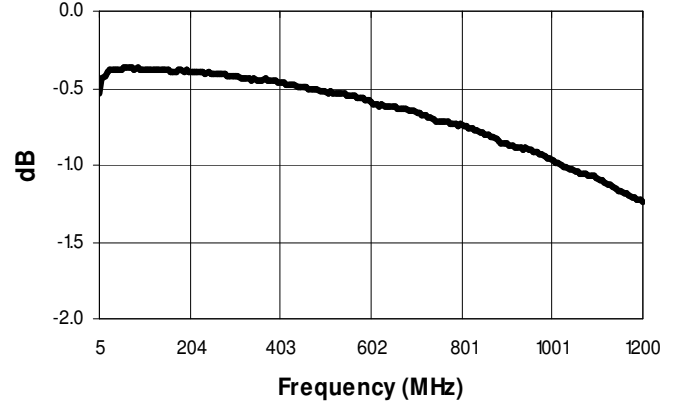


Typical Performance Curves  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$

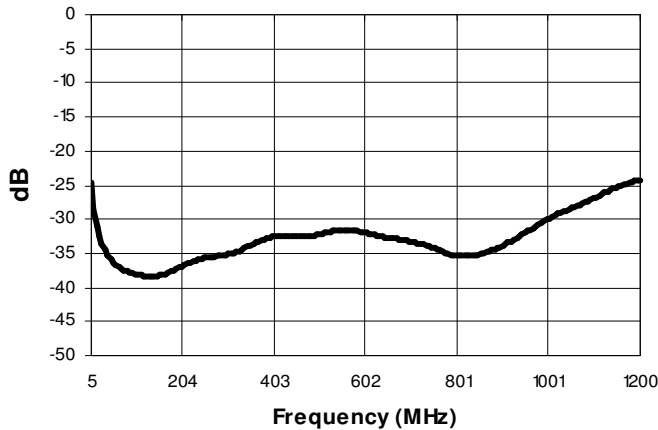
**Coupling**



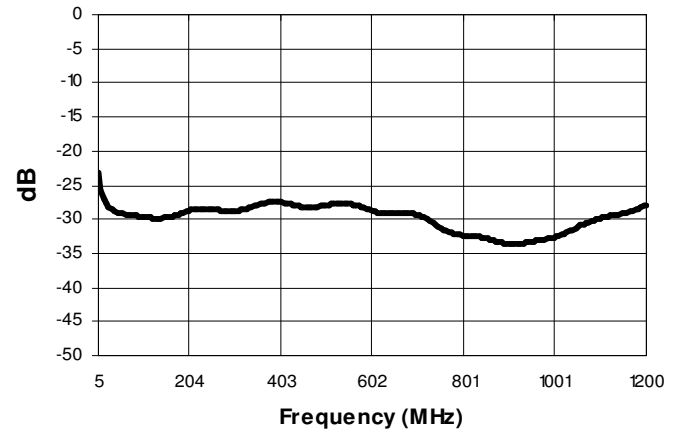
**Main Line Loss**



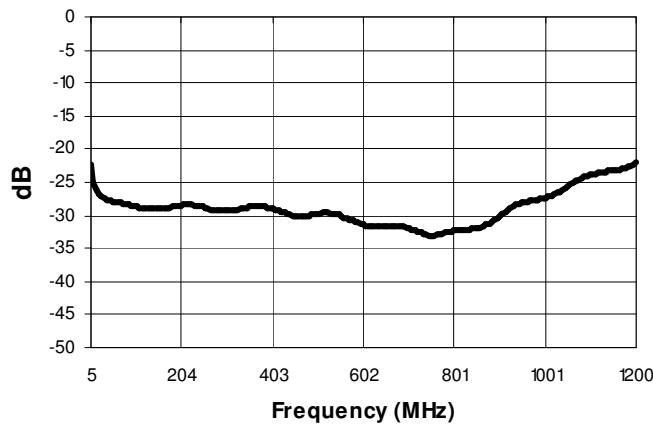
**Output Return Loss**



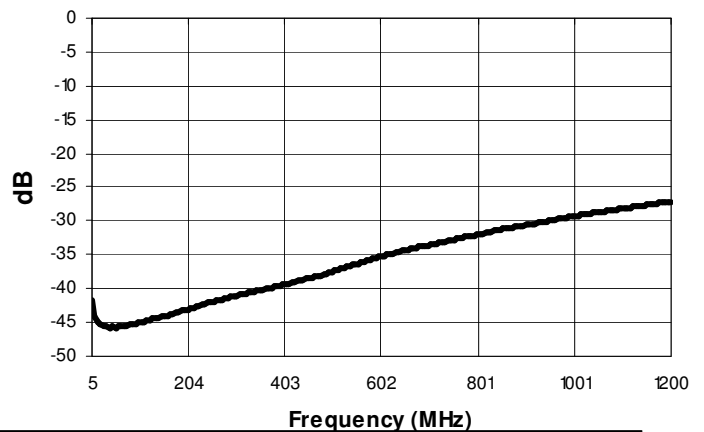
**Input Return Loss**



**Coupling Return Loss**



**Isolation**



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