

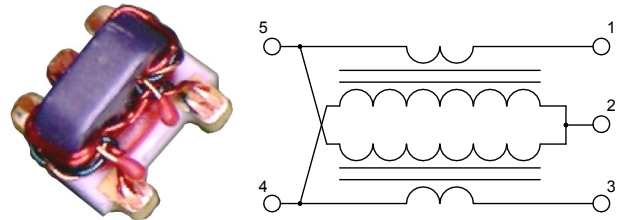
## Features

- Surface Mount
- Typical Coupling +10dB
- 260°C compatible
- RoHS Compliant
- Available on Tape and Reel
- Pb Free

## Description

MACPCT0040 is a 10 dB 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.

## Functional Schematic



## Pin Configuration

Pin No.	Function
1	Input
2	Ground
3	Coupled
4	Isolated (external 50 Ω termination)
5	Output

## Electrical Specifications: $T_A = 25^\circ\text{C}$ , $Z_0 = 50 \Omega$

Parameter	Test Conditions	Units	Min	Typ	Max
Coupling	5 - 500 MHz	dB	—	9.95	$10 \pm 0.4$
	500 - 1000 MHz			9.90	$10 \pm 0.6$
Main Line Loss	5 - 500 MHz	dB	—	1.1	1.4
	500 - 1000 MHz			1.3	1.7
Directivity	5 - 50 MHz	dB	20	22	—
	50 - 500 MHz		18	21	
	500 - 1000 MHz		13	18	
Input Return Loss	5 - 1000 MHz	dB	16	21	—
Output Return Loss	5 - 50 MHz	dB	20	30	—
	50 - 500 MHz		28	40	
	500 - 1000 MHz		20	35	
Coupling Return Loss	5 - 500 MHz	dB	16	20	—
	500 - 1000 MHz		13	18	
Isolation Return Loss	5 - 50 MHz	dB	20	30	—
	50 - 500 MHz		25	43	
	500 - 1000 MHz		16	25	

## Ordering Information

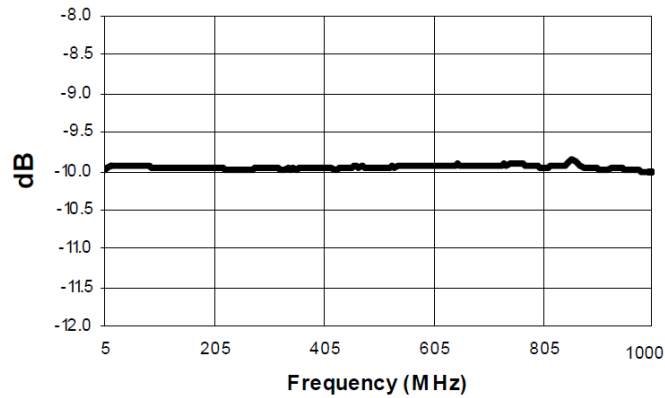
Part Number	Package
MACPCT0040TR	2000 piece reel

## Absolute Maximum Ratings

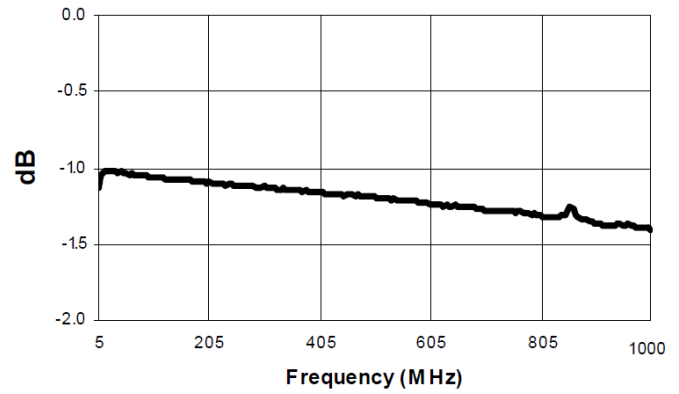
Parameter	Absolute Maximum
Input Power	250 mW
DC Current	30 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C

Typical Performance Curves:  $T_A = +25^\circ\text{C}$ ,  $Z_0 = 50 \Omega^1$

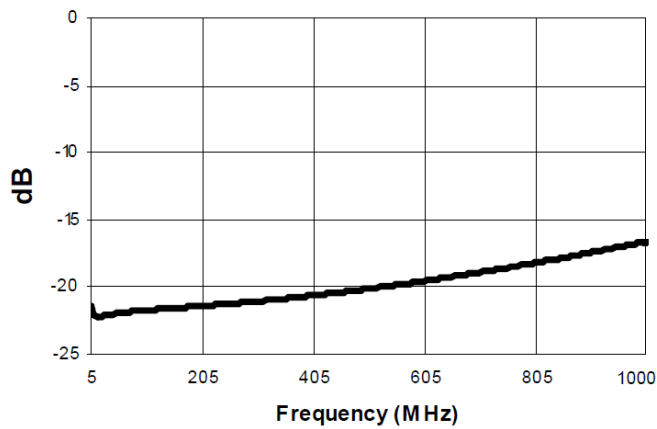
**Coupling**



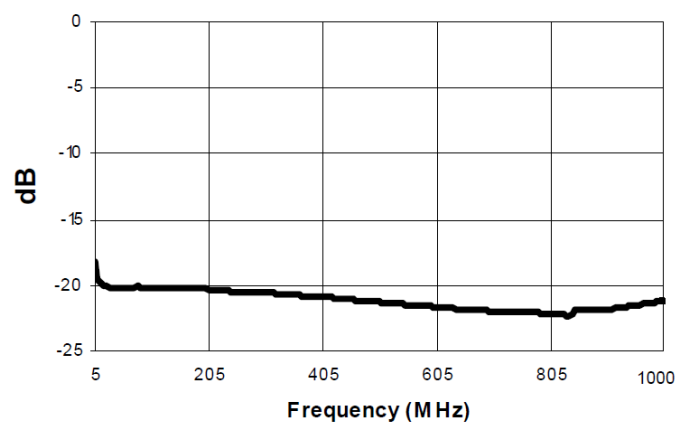
**Main Line Loss**



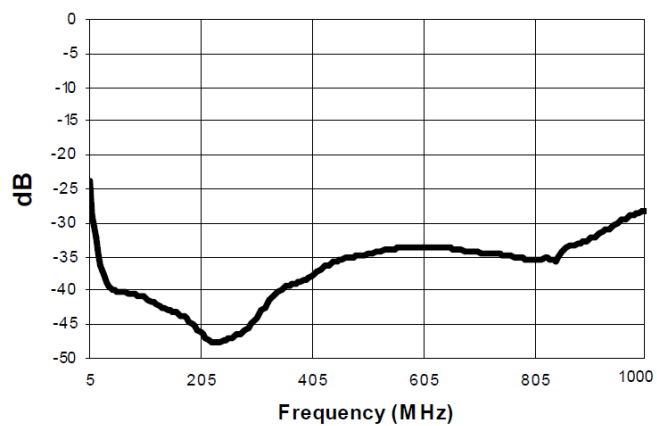
**Directivity**



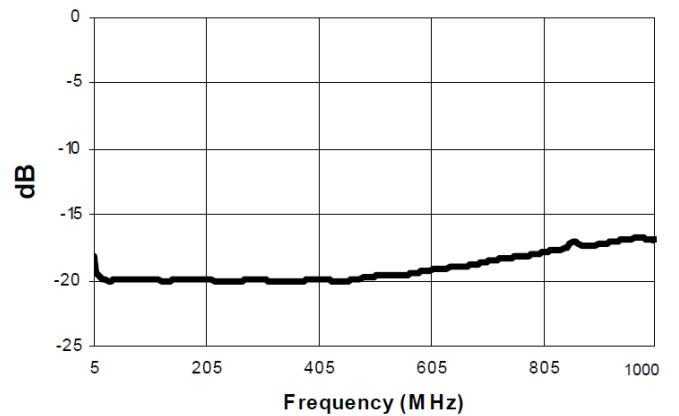
**Input Return Loss**



**Output Return Loss**



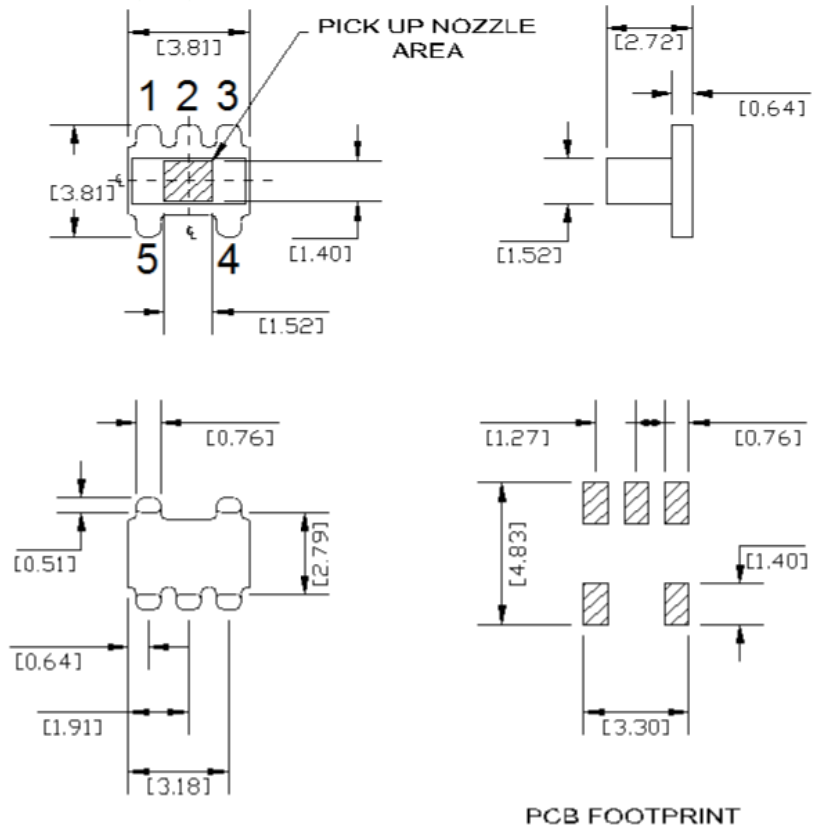
**Coupling Return Loss**



2 1. Full Temperature Plots Available on request.

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## Dimensions



1. Dimensions in mm
2. Tolerance:  $\pm 0.2$  mm unless otherwise noted
3. Model number and lot code are printed on reel
4. Lead Finish: Gold

## Tape & Reel Information

Parameter	Units	Value
Qty Per Reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.00
Pitch	mm	8.00
Orientation	-	F5
Reference Application Note ANI-019 for orientation		

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