

Broadband CATV, 16 dB Coupler 5 - 1200 MHz

Rev. V4

Features

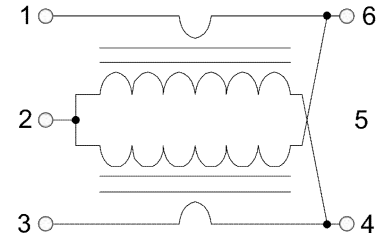
- Surface mount
- Typical coupling +16dB
- 260°C reflow compatible
- RoHS compliant and Pb free
- Available on tape and reel, reel quantity 1000

Description

The MACPCT0030 is a 16 dB broadband coupler in a 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 #	Function	Pin #	Function
1	Input	4	Isolated (external 75 Ω termination)
2	Ground	5	N/C
3	Coupled	6	Output

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

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

Ordering Information¹

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

1. Reference Application Note M513 for reel size information.

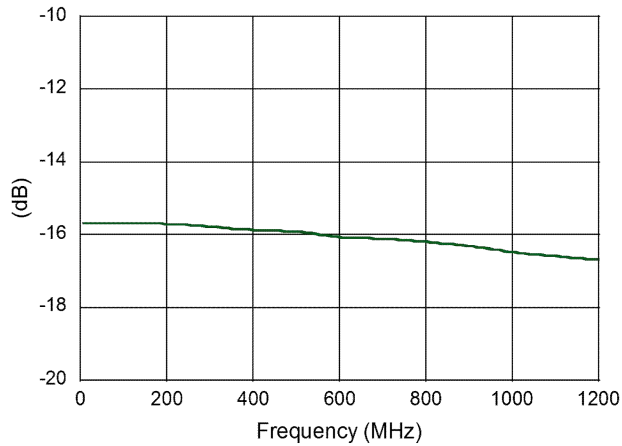
Absolute Maximum Ratings^{2,3}

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

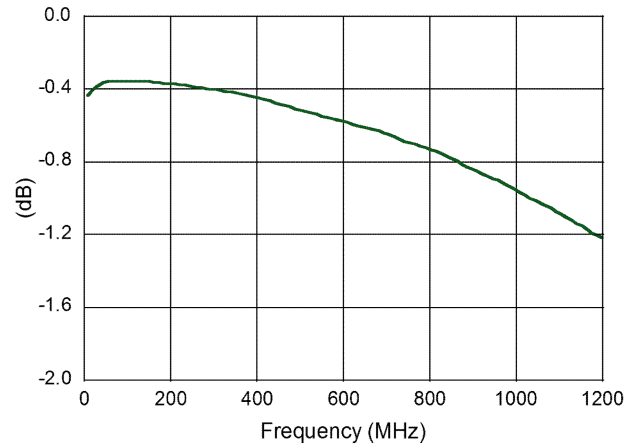
2. Exceeding any one or combination of these limits may cause permanent damage to this device.
3. MACOM does not recommend sustained operation near these survivability limits.

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

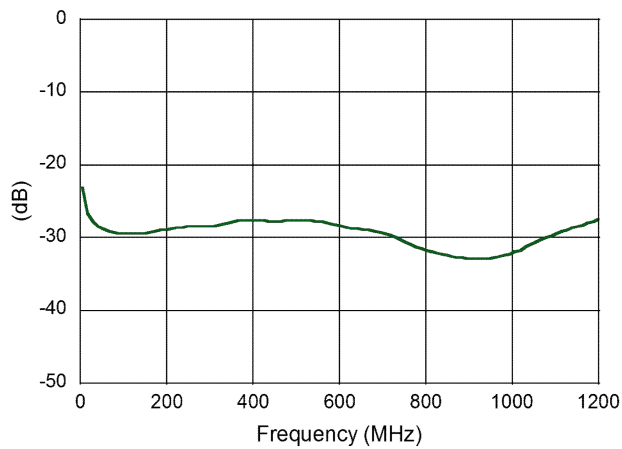
Coupling



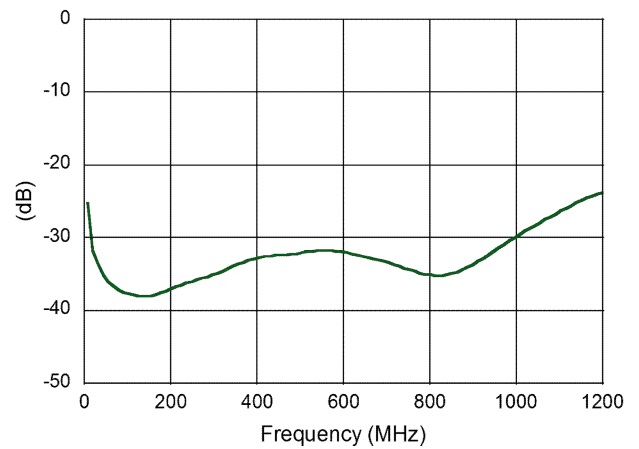
Main Line Loss



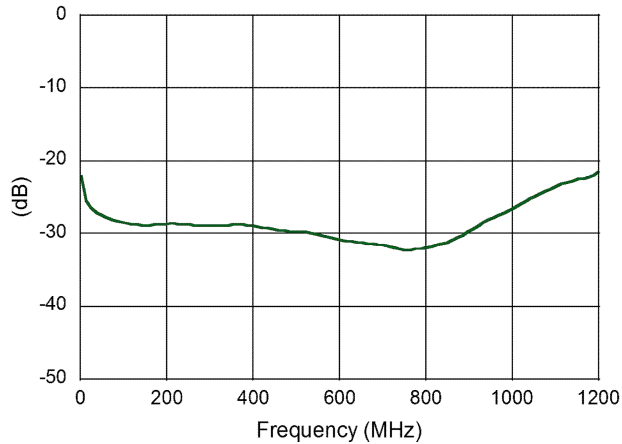
Input Return Loss



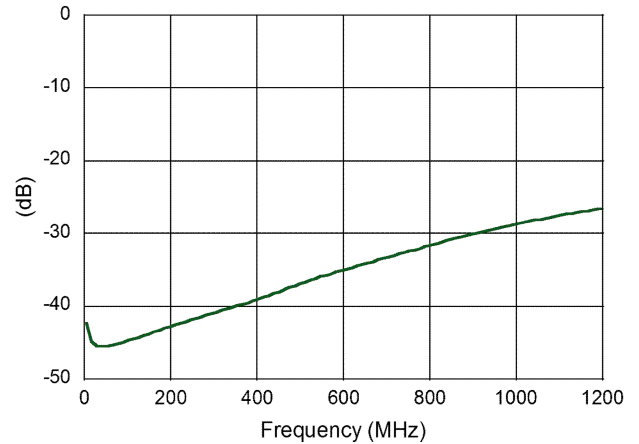
Output Return Loss



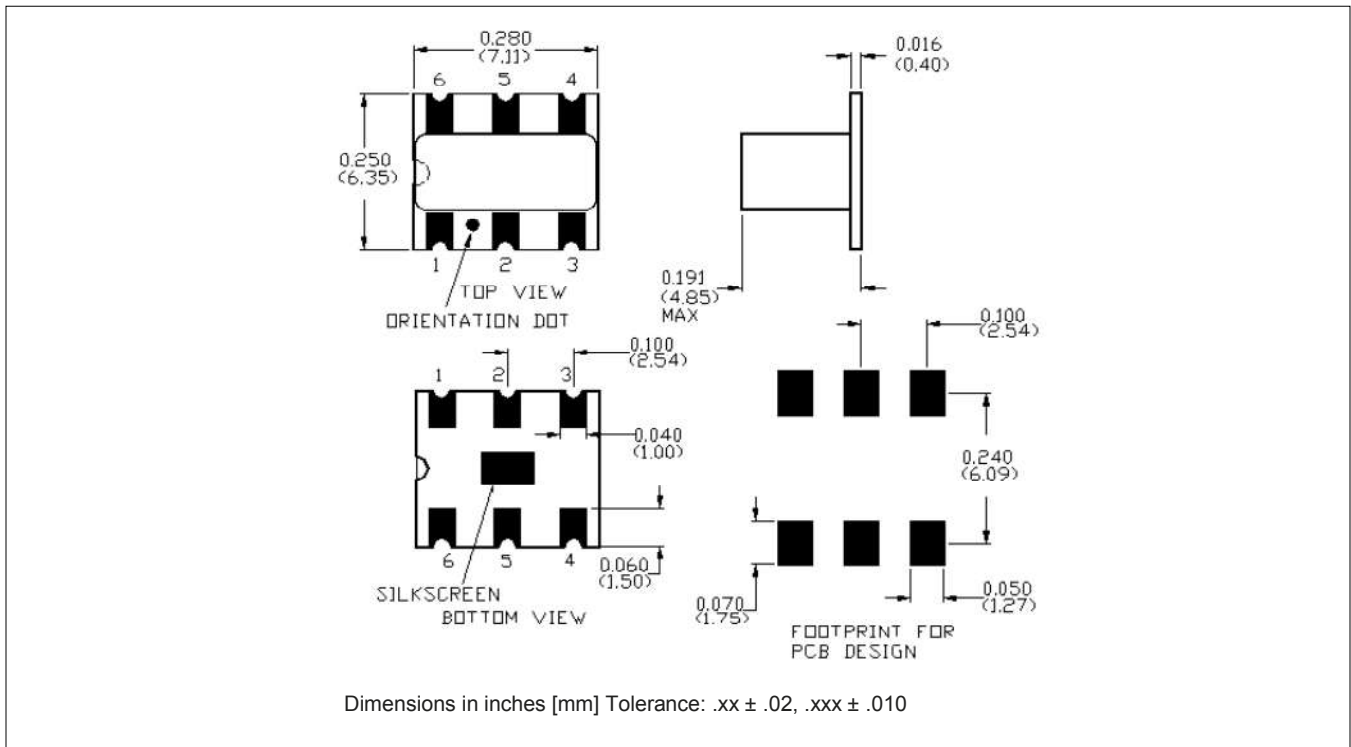
Coupling Return Loss



Isolation



Case Style: SM-123



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