

Broadband CATV, 18 dB Coupler 5 - 1200 MHz

Features

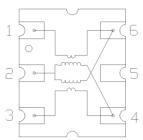
- Surface Mount Package
- Typical Coupling +18 dB
- 260°C Reflow Compatible
- Available on Tape and Reel,
- RoHS Compliant and Pb Free

Description

The MACP-007727-CI07B0 is an 18 dB broadband coupler, 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.

Functional Schematic



Pin Configuration³

Pin #	Function	Pin #	Function	
1	Input	4	External 75 Ω	
2	Ground	5	No Connection	
3	Coupled	6	Output	

3. MACOM recommends connecting unused package pins to ground.

Electrical Specifications: Freq. = 5 - 1250 MHz, $T_A = 25^{\circ}C$, $Z_0 = 75 \Omega$, PIN = 0 dBm

Parameter	Test Conditions Frequency (MHz)	Units	Min.	Тур.	Max.
Coupling	5 - 40 40 - 1000 1000 - 1200	dB	_	18.2 18.2 18.7	18.3 20.0 22.0
Main Line Loss	5 - 1000 1000 - 1200	dB	_	1.00 1.40	1.25 1.80
Isolation	5 - 1000 1000 - 1200	dB	23.0 20.0	28.90 26.25	—
Input Return Loss	5 - 40 40 - 1000 1000 - 1200	dB	25.0 23.0 19.0	27.3 31.9 23.4	
Output Return Loss	5 - 40 40 - 1000 1000 - 1200	dB	25.0 230 19.0	29.20 27.10 21.24	
Coupling Return Loss	5 - 1000 1000 - 1200	dB	15.0 10.0	21.15 16.70	

Ordering Information^{1,2}

Part Number	Package	
MACP-007727-CI07B0	1000 piece reel	
MACP-007727-CT30TB	Test Board	

1. Reference Application Note M513 for reel size information.

2. All sample boards include 5 loose parts.

Absolute Maximum Ratings^{4,5}

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		

4. Exceeding any one or combination of these limits may cause permanent damage to this device.

 MACOM does not recommend sustained operation near these survivability limits.

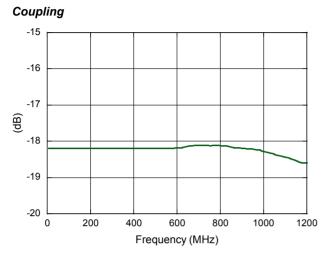
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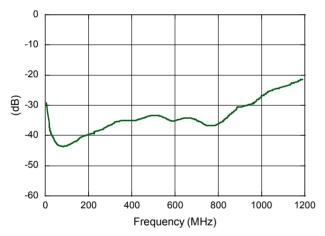
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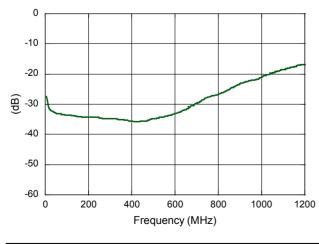
Typical Performance Curves⁶

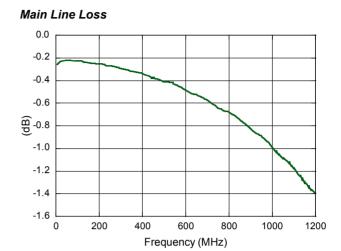


Output Return Loss

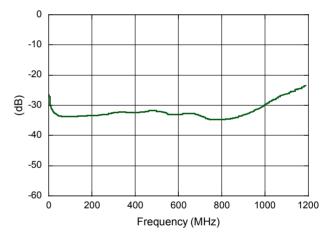


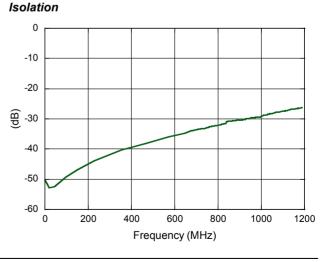






Input Return Loss





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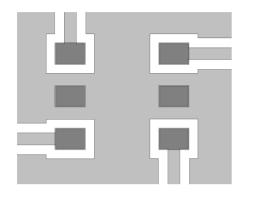
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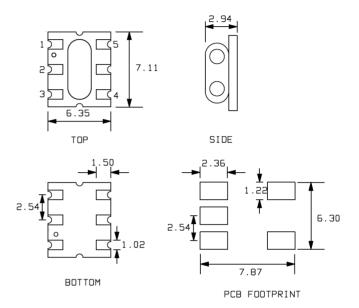
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Recommended Board Layout⁷



7. Recommended PCB layout shown above uses 1.6 mm FR4, rounded coplanar wave guide, transmission line width 0.70 mm and gap 0.57 mm.

Outline Drawing^{8,9,10,11}



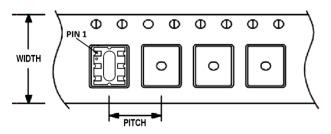
8. Dimensions in mm.

9. Tolerance: ±0.2 mm unless otherwise noted.

10. Model number and lot code printed on reel.

11. Finish: Electroless Nickel Immersion Gold.

Carrier Tape Orientation



Tape & Reel Information

Parameter	Units	Value		
Qty per reel	-	1000		
Reel Size	mm	330		
Tape Width	mm	16.0		
Pitch	mm	12.0		
Orientation	-	F15		
Reference Application Note ANI-019 for orientation				

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