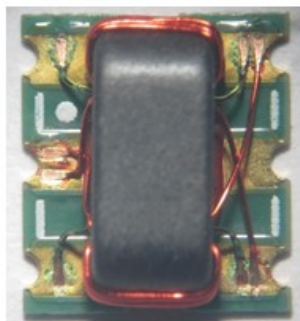


## Features

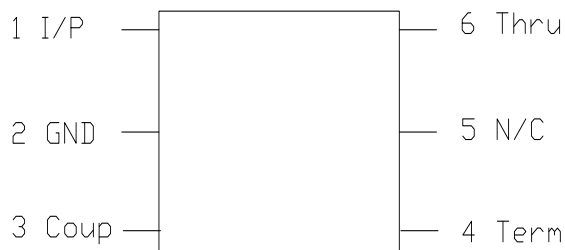
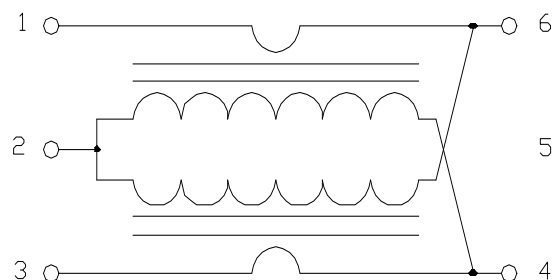
- Surface Mount
- Typical Coupling +18 dB
- 260°C Reflow Compatible
- Available on Tape and Reel,
- RoHS Compliant and Pb Free

## Description

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



## Functional Schematic



## Ordering Information<sup>1,2</sup>

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 x loose parts.

## Pin Configuration

Pin No.	Function
1	Input
2	Ground
3	Coupled
4	Isolated (external 75 Ω termination)
5	No Connection

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

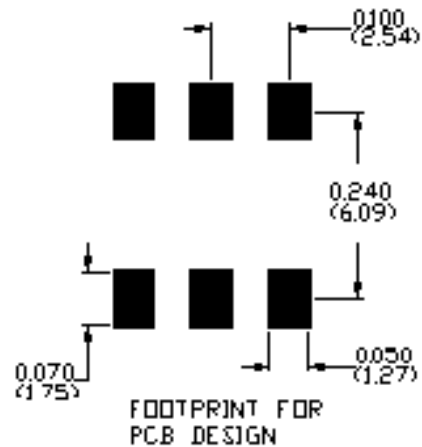
Parameter	Test Conditions	Units	Min.	Typ.	Max.
Coupling	5 - 40 MHz	dB	—	18.2	18.3
	40 - 1000 MHz			18.2	20.0
	1000 - 1200MHz			18.7	22.0
Main Line Loss	5 - 1000 MHz	dB	—	1.00	1.25
	1000 - 1200 MHz			1.40	1.8
Input Return Loss	5 - 40 MHz	dB	25.0	27.3	—
	40 - 1000 MHz		23.0	31.9	
	1000 - 1200 MHz		19.0	23.4	
Output Return Loss	5 - 40 MHz	dB	25.0	29.20	—
	40 - 1000 MHz		23.0	27.10	
	1000 - 1200 MHz		19.0	21.24	
Isolation	5 - 1000 MHz	dB	23.0	28.90	—
	1000 - 1200 MHz		20.0	26.25	
Coupling Return Loss	5 - 1000 MHz	dB	15.0	21.15	—
	1000 - 1200 MHz		10.0	16.70	

**Absolute Maximum Ratings<sup>3,4</sup>**

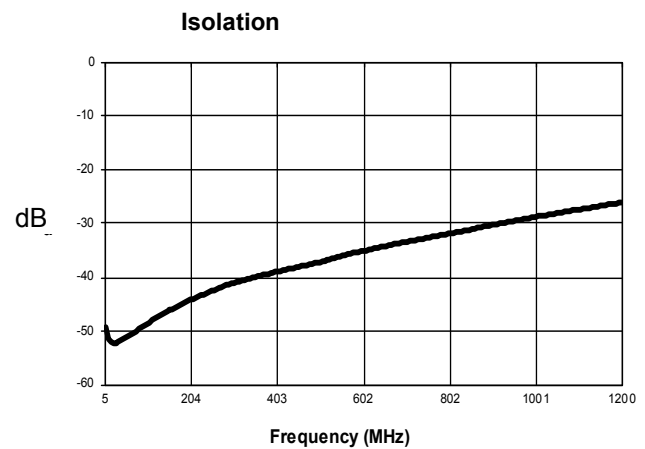
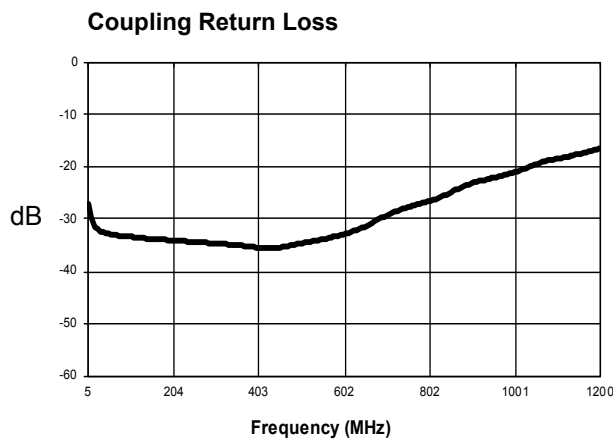
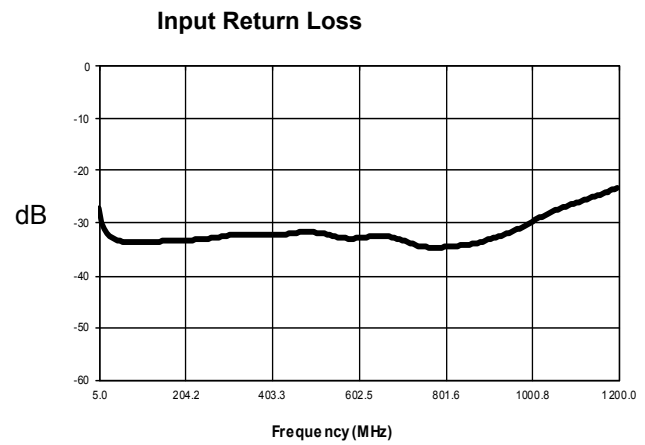
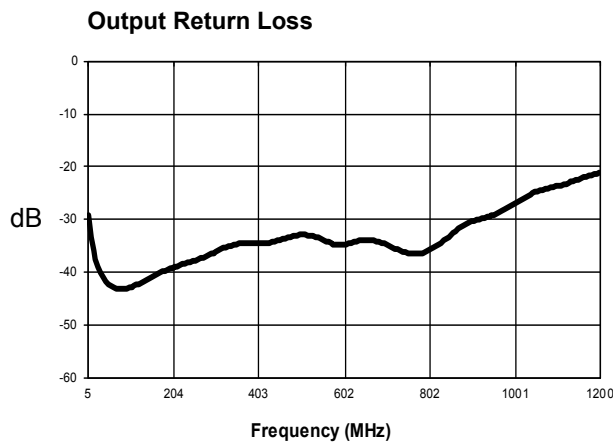
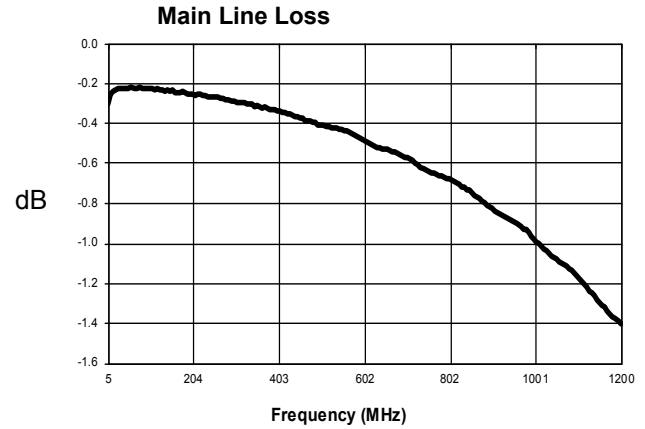
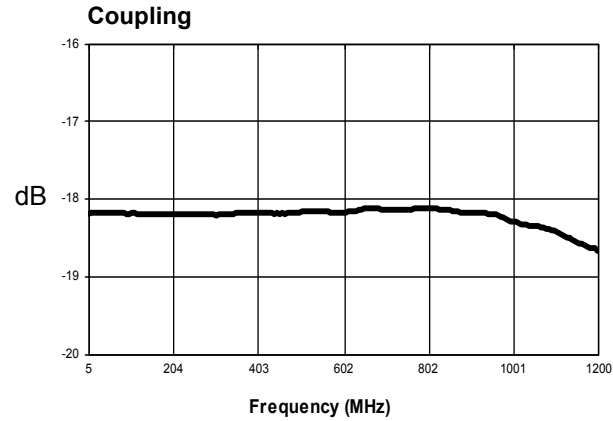
Parameter	Absolute Maximum
Input Power	250 mW
DC current	30 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C

- 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.

**Recommended PCB Configuration**



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



MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.