

MACP-010249-CI08A0



Coupler, 18dB Coupler
5 to 1200 MHz

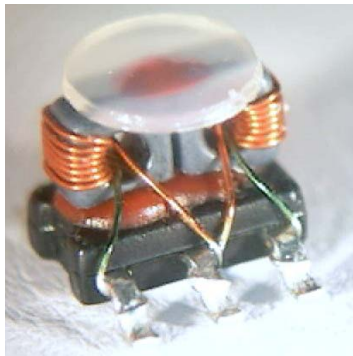
Rev. V1

Features

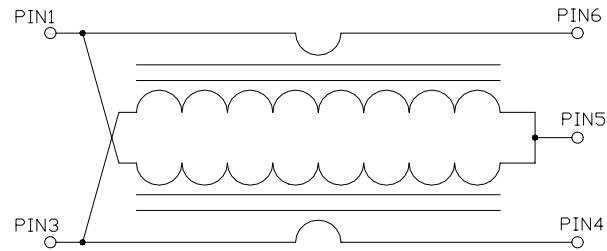
- 18dB Impedance ratio
- Excellent Insertion Loss
- Surface mount
- Available on tape and reel
- 260°C reflow compatible
- RoHS* compliant and lead free
- Excellent temperature stability
- Can be used in both 50Ω and 75Ω systems

Description

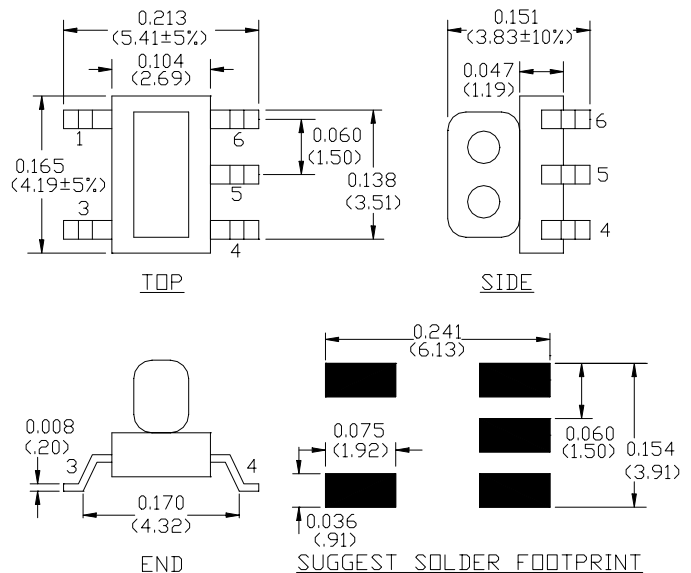
M/A-Com Technology Solutions MACP-010249-CI08A0 is a 18 dB Coupler in a low cost, surface mount package. Ideally suited for broadband CATV applications.



Schematic



Component Dimensions



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

Pin Configuration

| Pin no. | Function |
|---------|------------------------------------|
| 1 | Output |
| 3 | Isolated port (Z_0 termination) |
| 4 | Coupling |
| 5 | Ground |
| 6 | Input |

* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

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PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400
 • **India** Tel: +91.80.43537383 • **China** Tel: +86.21.2407.1588
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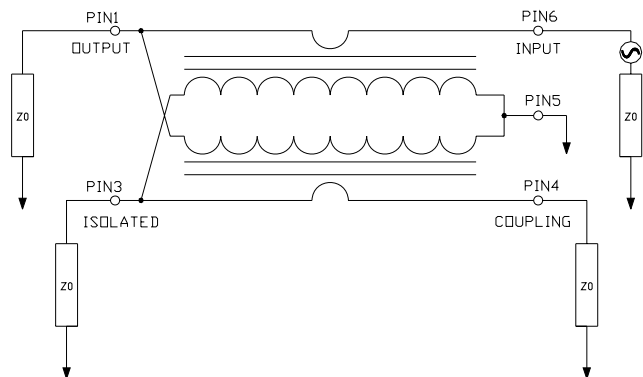
Electrical Specifications: $T_A = 25^\circ\text{C}$, 0dBm , $Z_0 = 75\Omega$, $P_{in} = 0\text{dBm}$

| Parameter | Frequency | Units | Min | Typ | Max |
|------------------------------------|---------------------------|----------|----------|----------|-----------|
| Coupling (Pin 6 to Pin 4) | 5 - 1200MHz | dB | - | 18 | ± 1.0 |
| Main Line Loss (Pin 6 to Pin 1) | 5 - 1200MHz | dB | - | 0.6 | 0.9 |
| Input Return Loss (Pin6) | 5 - 1200MHz | dB | 18 | 34 | - |
| Output Return Loss (Pin1) | 5 - 1200MHz | dB | 18 | 33 | - |
| Coupling Return Loss (Pin4) | 5 - 1200MHz | dB | 18 | 28 | - |
| Isolation Return Loss (Pin3) | 5 - 1200MHz | dB | 18 | 34 | - |
| Isolation (Pin6 - Pin3) | 5 - 50MHz 50 - 1200MHz | dB dB | 35 24 | 42 32 | - - |

Recommended Maximum Ratings

| Parameter | Value |
|------------------------------|---|
| Input power | At least 250mW |
| DC current (tested at 5V) | At least 30mA |
| Operating Temperature | -40°C to $+85^\circ\text{C}$ |
| Storage Temperature | -55°C to $+100^\circ\text{C}$ |

Application Circuit



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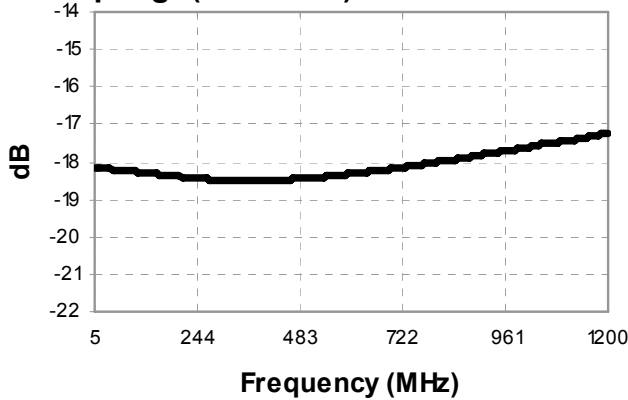


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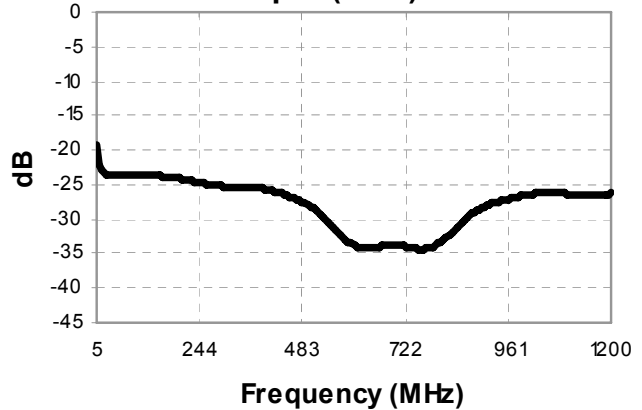
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Typical Performance Curves: $T_A = 25^\circ\text{C}$, 0dBm , $Z_0 = 75\Omega$, $P_{in} = 0\text{dBm}$

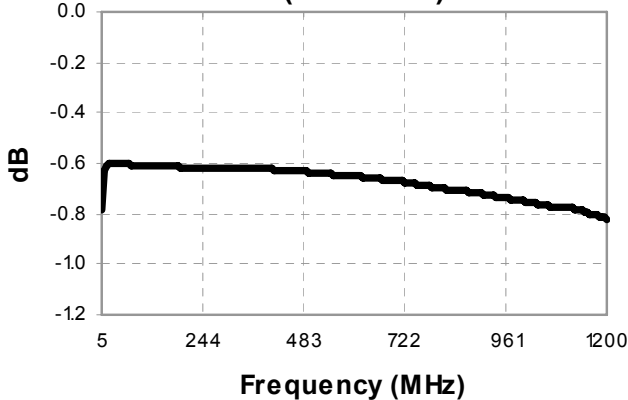
Coupling: (Pin 6 to 4)



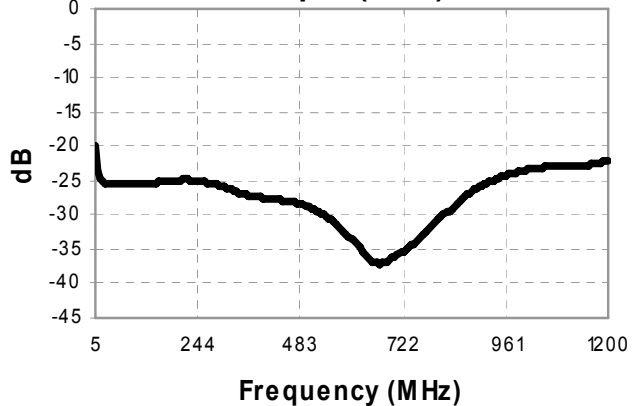
Return Loss: Input (Pin6)



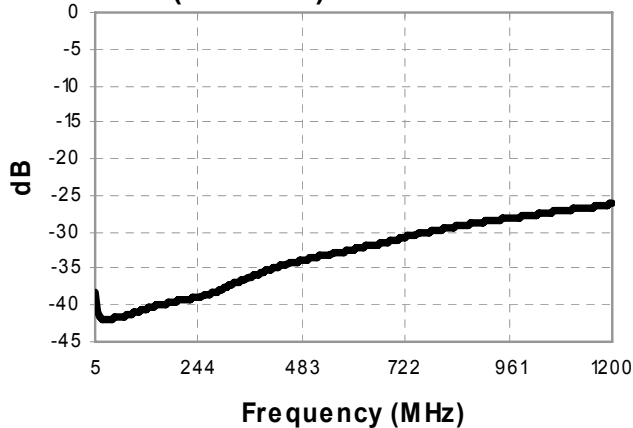
Main Line Loss: (Pin 6 to 1)



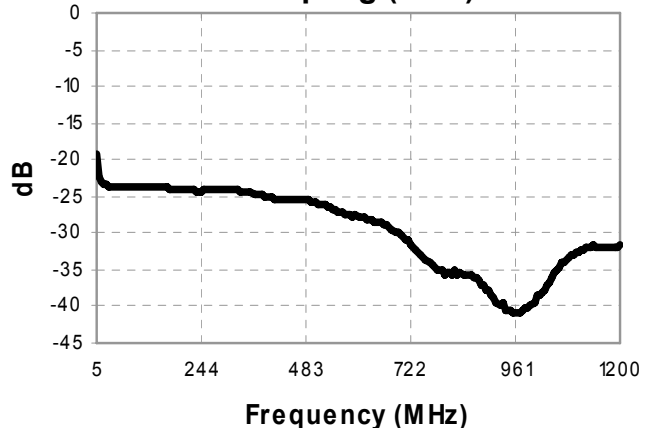
Return Loss: Output (Pin1)



Isolation (Pin6 to 3)



Return Loss: Coupling (Pin4)

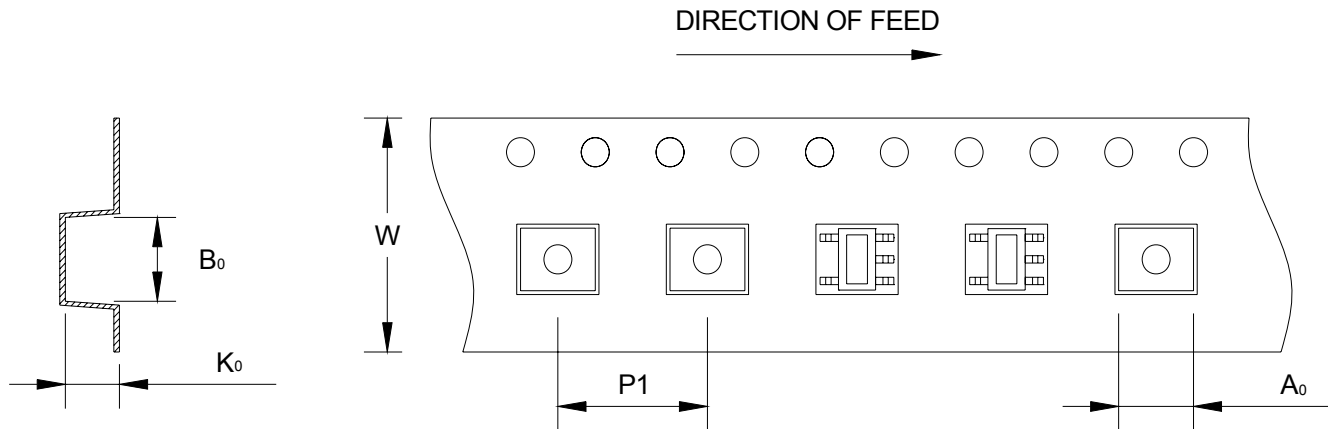


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Tape & Reel Information



| Item | Dimension |
|----------------|------------------|
| A ₀ | 6.1mm +/- 0.1mm |
| B ₀ | 4.6mm +/- 0.1mm |
| K ₀ | 4.0mm +/- 0.1mm |
| W | 12.0mm +/- 0.3mm |
| P ₁ | 8.00mm +/- 0.1mm |

Ordering Information

| Part number | Description |
|--------------------|---------------------|
| MACP-010249-CI08A0 | 2000 piece reel |
| MACP-010249-CI08TB | Customer Test Board |