

MACP-010507-CH0160

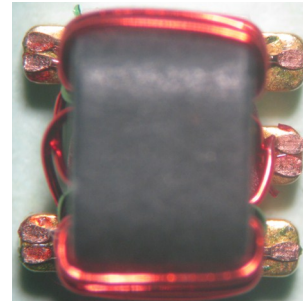


17dB Coupler
5 – 300 MHz

Rev. V2

Features

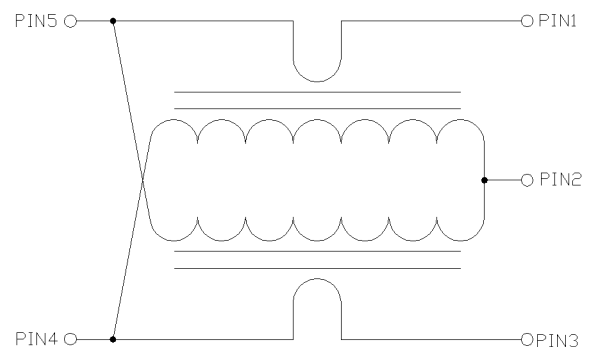
- 17dB Coupling ratio
- Surface mount
- Available on tape and reel
- 260° reflow compatible
- RoHS compliant and Pb free
- Excellent temperature stability
- Can be used on 50Ω and 75Ω systems
- Suitable for all CATV, Broadband and FTTX applications.



Description

MACOM's MACP-010507-CH0160 is a 17dB Coupler in a low cost surface mount package. Ideally suited for CATV Broadband applications.

Functional Schematic



Ordering Information

| Part Number | Package |
|--------------------|---------------------|
| MACP-010507-CH0160 | Tape & Reel |
| MACP-010507-CH01TB | Customer test board |

Pin Configuration

| Pin No. | Function |
|---------|----------|
| 1 | Output |
| 2 | Ground |
| 3 | Isolated |
| 4 | Coupled |
| 5 | Input |

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

| Parameter | Conditions | Units | Min | Typ | Max |
|--------------------------------|---------------|----------|------|-----|------|
| Frequency Range | | MHz | 5 | | 300 |
| Impedance | | Ω | | 75 | |
| Coupling Ratio | | dB | | 17 | |
| Coupling (Pin5-4) | 5 - 120 MHz | dB | 16.0 | 17 | 18.0 |
| | 120 - 300 MHz | dB | 16.5 | 17 | 17.5 |
| Coupling Flatness | 5 - 120 MHz | dB | - | - | 0.4 |
| | 120 - 300 MHz | dB | - | - | 0.2 |
| Main Line Loss (Pin5-1) | 5 - 120 MHz | dB | - | 0.4 | 0.8 |
| | 120 - 300 MHz | dB | - | 0.4 | 0.5 |
| Directivity | 5 - 120 MHz | dB | 16.0 | 19 | - |
| | 120 - 300 MHz | dB | 12.5 | 19 | - |
| Input Return Loss (Pin5) | 5 - 120 MHz | dB | 20 | 31 | - |
| | 120 - 300 MHz | dB | 20 | 31 | - |
| Output Return Loss (Pin1) | 5 - 120 MHz | dB | 20 | 27 | - |
| | 120 - 300 MHz | dB | 20 | 27 | - |
| Coupling Return Loss (Pin4) | 5 - 120 MHz | dB | 20 | 31 | - |
| | 120 - 300 MHz | dB | 20 | 31 | - |

Recommended Maximum Ratings

| Parameter | Units | Min | Max |
|-----------------------------|------------------|-----|-----|
| Input RF Power | W | | 0.5 |
| DC Current | mA | | 500 |
| Operating Temperature Range | $^\circ\text{C}$ | -40 | +85 |

Full temperature plots available on request

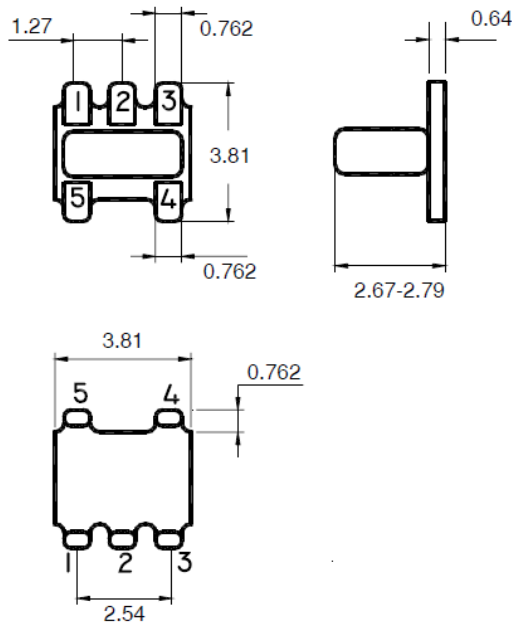
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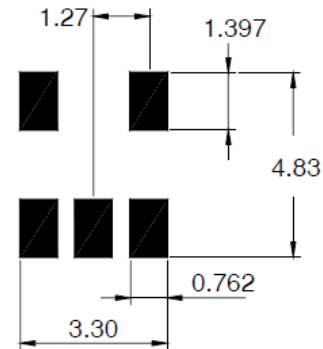
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Outline Drawing



PCB Layout

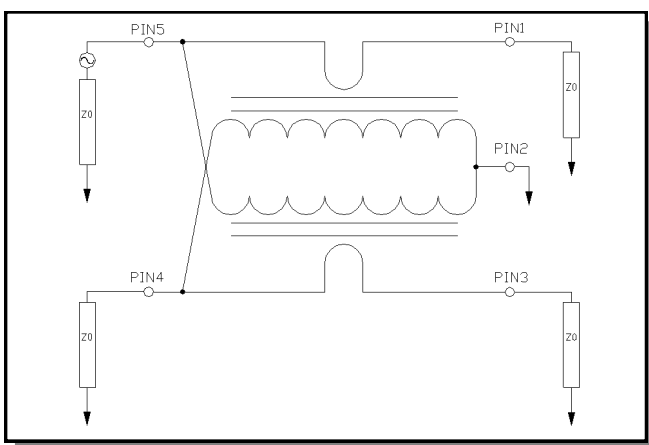


1. Dimensions in mm.
2. Tolerance: ± 0.2 mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Lead plating (CuSn6) Lead finish SAC-305.

Tape & Reel Information

| Parameter | Units | Value |
|--|-------|-------|
| Qty per reel | - | 2000 |
| Reel Size | mm | 330 |
| Tape Width | mm | 12.00 |
| Pitch | mm | 8.00 |
| Ao | mm | 4.00 |
| Bo | mm | 4.00 |
| Ko | mm | 2.90 |
| Orientation | - | F5 |
| Reference Application Note ANI-019 for orientation | | |

Application Circuit



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Typical Performance Curves

