

Broadband CATV, Coupler 5-1000MHz

MACP-008125-CK07F0
V1

Features

- Surface Mount
- Typical Coupling 20dB
- RoHS* Compliant
- RoHS version of ELDC-20.
- 260°C Reflow Compatible
- Available on Tape and Reel.
- All wires are soldered to the substrate using HMP solder

Description

M/A-COM's MACP-008125-CK07F0 is a high performance 75 Ohm Coupler, in a SM-55 low cost, surface mount package. The MACP-008125-CK07F0 is designed for use in high volume CATV applications. Typical applications include Set-top Boxes, Network Interface Units, Broadband Amplifiers and Headend equipment.

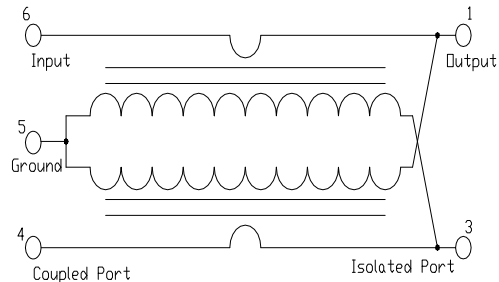


Pin Configuration

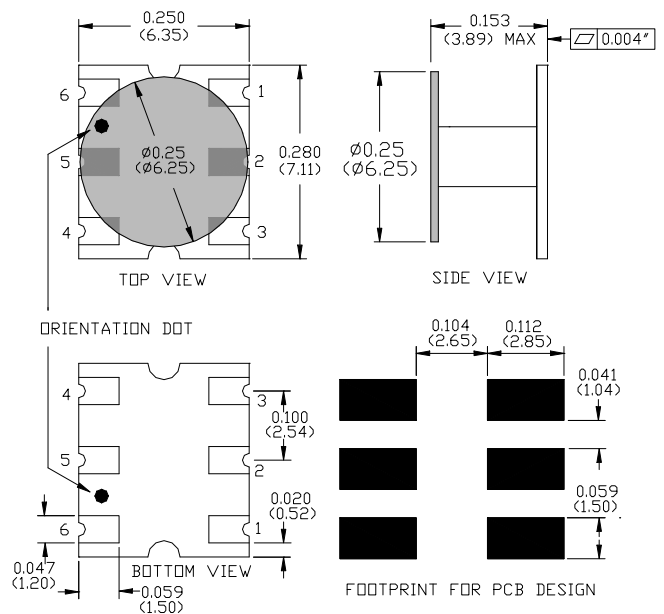
| Pin No. | Function |
|---------|---|
| 1 | Output |
| 2 | Ground, not connected |
| 3 | Isolated (external 75 Ohms termination) |
| 4 | Coupled |
| 5 | Ground |
| 6 | Input |

Note: Reference Application Note **M513** for reel size information.

Schematic



Case Style: SM-127



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

Ordering Information

| Part Number | Package |
|--------------------|---------------------|
| MACP-008125-CK07F0 | 900 piece reel |
| MACP-008125-CK07TB | Customer Test Board |

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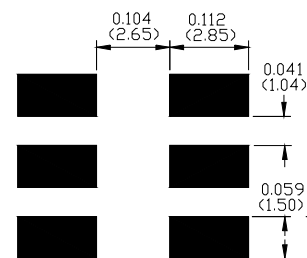
Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$ ¹

| Parameter | Test Conditions | Units | Min | Typ | Max |
|---------------------|-----------------|-------|-----|------|-----------|
| Mainline Loss | 5 - 50 MHz | dB | — | 0.6 | 0.7 |
| | 50 - 870 MHz | dB | — | 0.45 | 0.65 |
| | 870 - 1000 MHz | dB | — | 0.6 | 0.7 |
| Coupling | 5 - 870 MHz | dB | — | 20 | ± 0.8 |
| | 870 - 1000 MHz | dB | — | 20 | ± 1.0 |
| Coupling Flatness | 5 - 1000 MHz | dB | — | — | ± 0.5 |
| Directivity | 5 - 870 MHz | dB | 10 | 14 | — |
| | 870 - 1000 MHz | dB | 7 | 9 | — |
| Input Return Loss | 5 - 50 MHz | dB | 20 | 22 | — |
| | 50 - 1000 MHz | dB | 22 | 27 | — |
| Output Return Loss | 5 - 50 MHz | dB | 20 | 22 | — |
| | 50 - 1000 MHz | dB | 22 | 28 | — |
| Coupled Return Loss | 5 - 50 MHz | dB | 20 | 22 | — |
| | 50 - 1000 MHz | dB | 20 | 27 | — |

Absolute Maximum Ratings ^{1,2}

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

Recommended PCB Configuration



FOOTPRINT FOR PCB DESIGN

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.

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- India Tel: +91.80.4155721
- China Tel: +86.21.2407.1588

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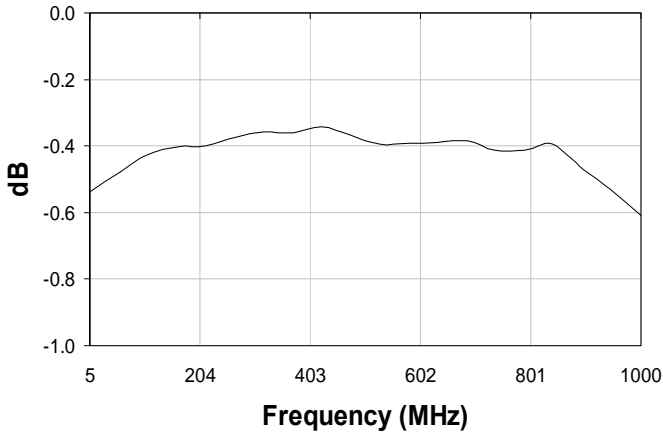
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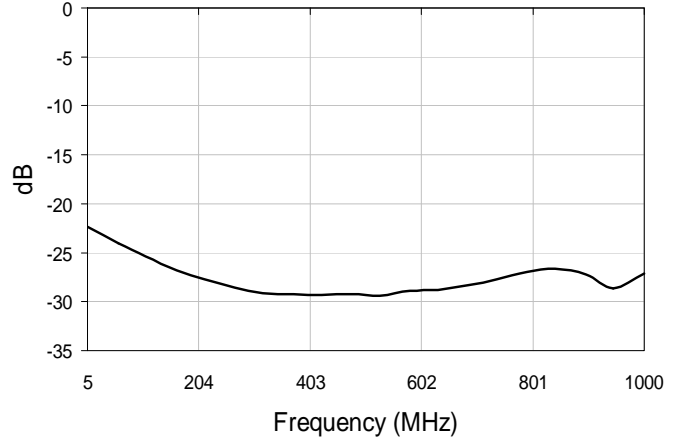
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Typical Performance Curves $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$

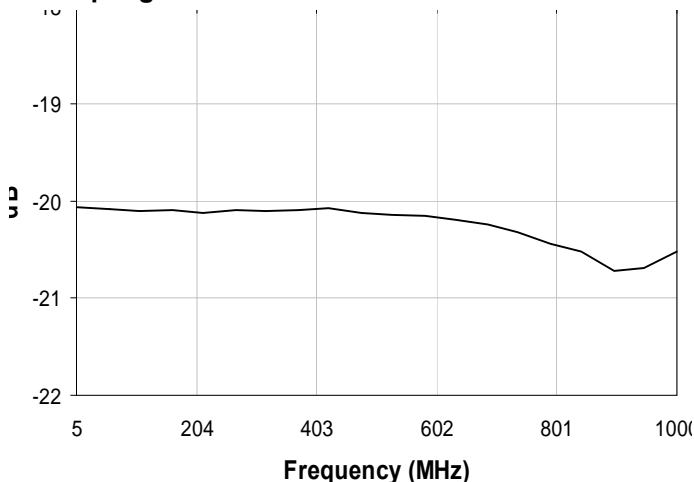
Main Line Loss



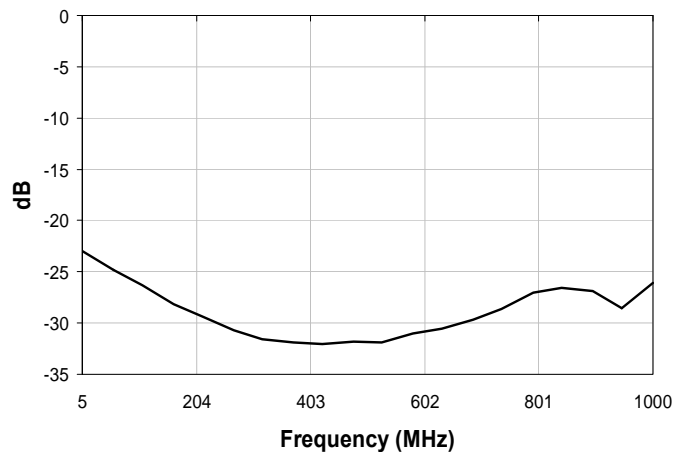
Return Loss: Input



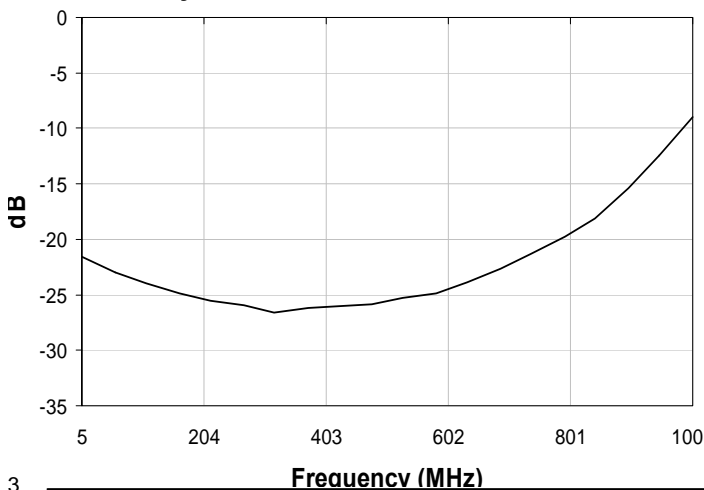
Coupling



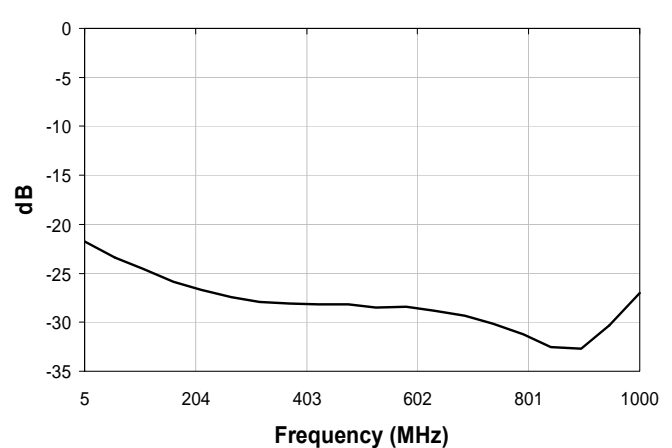
Return Loss: Output



Directivity



Return Loss: Coupled



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