

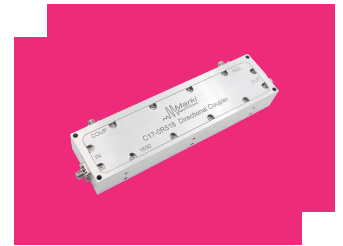
C17-0R506A

Directional Coupler

DEVICE OVERVIEW

General Description

The C17-0R506 is a high power, broadband bidirectional coupler capable of operation to 6 GHz. The multisection stripline design exhibits excellent coupling flatness and VSWR at all ports. This coupler is available with SMA and APC-7 connector option.



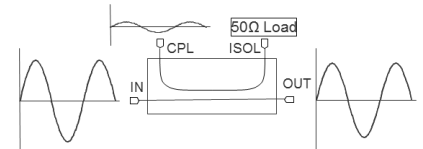
Features

- Low Insertion Loss
- High Power Handling
- Broadband Performance
- High Directivity
- Low VSWR

Applications

N/A

Functional Block Diagram



Part Ordering Options

| Part Number | Description | Connectors | Green Status | Product Lifecycle | Export Classification |
|------------------|---------------------|-----------------|---------------|-------------------|-----------------------|
| C17-0R506A | Directional Coupler | <u>Standard</u> | REACH RoHS | Released | EAR99 |
| <u>C17-0R506</u> | Directional Coupler | <u>Standard</u> | REACH RoHS | Released | EAR99 |

Table Of Contents

- **Device Overview**
 - General Description
 - Features
 - Applications
 - Functional Block Diagram
- **Port Configuration and Functions**
 - Port Diagram
- **Revision History**
- **Specifications**
 - Absolute Maximum Ratings
 - Package Information
 - Electrical Specifications
 - Typical Performance
- **Mechanical Data**
 - Outline Drawing

Revision History

| Revision Code | Revision Date | Comment |
|---------------|---------------|--------------------------------|
| - | 2023-05-05 | Datasheet Initial Release |
| A | 2025-08-14 | Operating Temperature Included |

Specifications

Absolute Maximum Ratings

| Parameter | Maximum Rating | Unit |
|-------------------------------|----------------|------|
| Maximum Operating Temperature | 100 | °C |
| Minimum Operating Temperature | -55 | °C |
| RF Power Handling | 120 | W |
| Minimum Storage Temperature | -65 | °C |
| Maximum Storage Temperature | 125 | °C |
| Minimum Operating Temperature | -55 | °C |
| Maximum Operating Temperature | 100 | °C |

Package Information

| Parameter | Details | Rating |
|------------|---------|------------------|
| Dimensions | - | 182.73 x 46.91mm |

Electrical Specifications

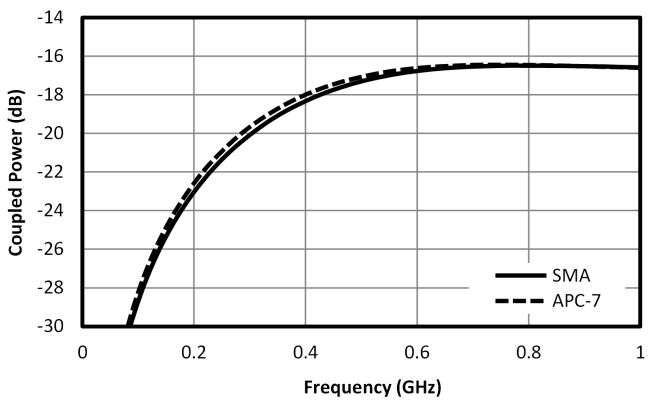
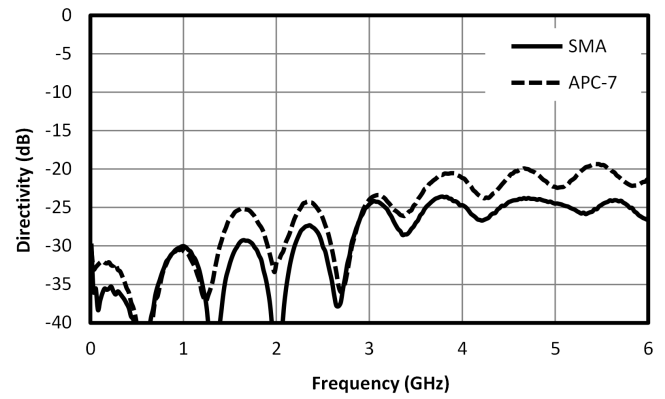
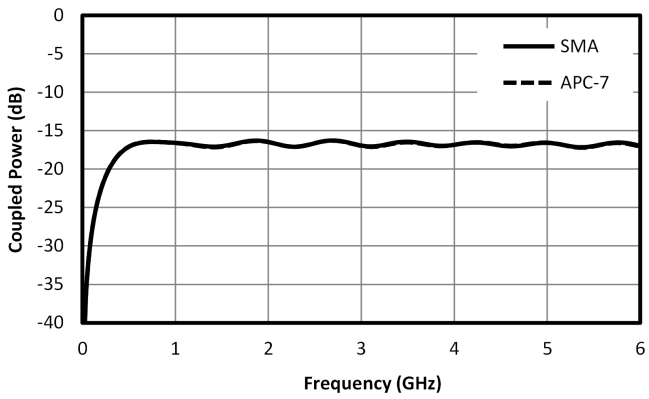
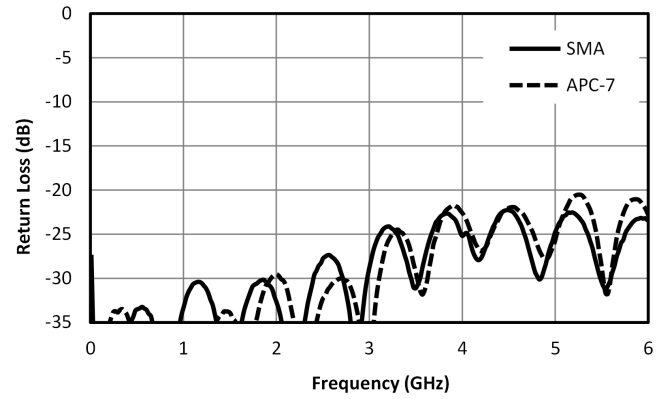
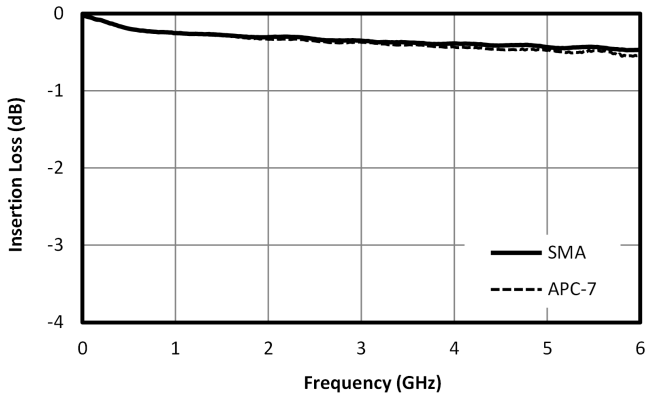
The electrical specifications apply at TA=+25°C in a 50Ω system

| Parameter | Test Conditions | Minimum Frequency (GHz) | Maximum Frequency (GHz) | Min | Typ | Max | Unit |
|---------------------------------|-----------------|-------------------------|-------------------------|-----|------|------|------|
| Amplitude Flatness ¹ | - | 0.5 | 6 | - | 0.6 | 1.2 | dB |
| Directivity | - | 0.5 | 6 | 15 | 20 | - | dB |
| Direct Line Insertion Loss | - | 0.5 | 6 | - | 0.4 | - | dB |
| Direct Line Insertion Loss | - | 0.5 | 6 | - | 0.17 | - | dB |
| Mean Coupling | - | 0.5 | 6 | - | 17.5 | - | dB |
| VSWR | - | 0.5 | 6 | - | 1.2 | 1.45 | |
| Weight ² | - | - | - | - | 600 | - | g |

^[1] Deviation from average coupling.

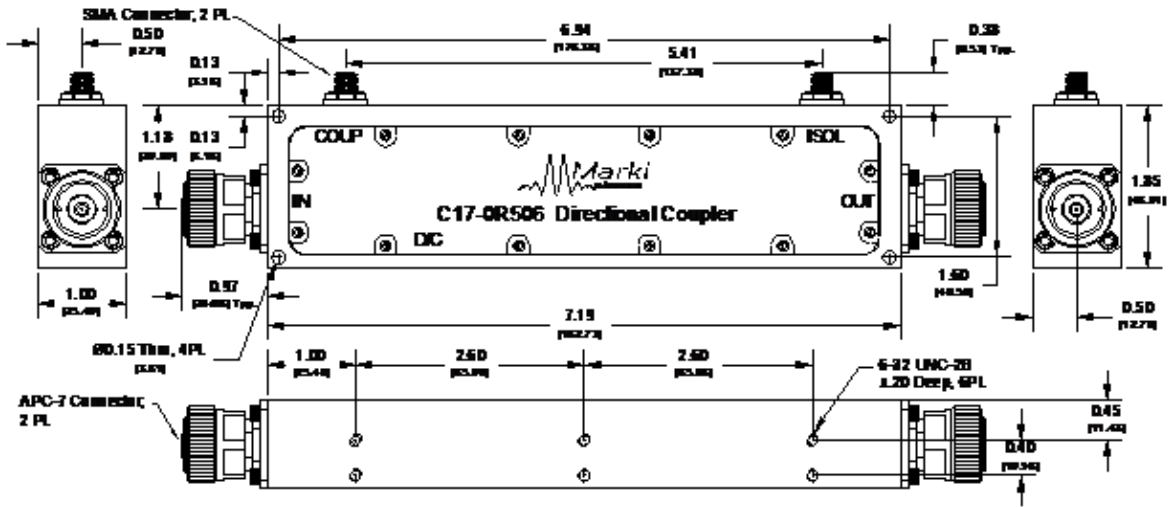
^[2] Weight listed is for SMA connectorized package. Each APC-7 connector is an additional 50 grams.

Typical Performance



Mechanical Data

Outline Drawing



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