

# CA-40 AIR-LINE DIRECTIONAL COUPLER

## DEVICE OVERVIEW

### General Description

The CA-40 is a low loss directional coupler capable of operation to 40 GHz. This coupler features a unique air-line construction that simultaneously enables extremely low loss, minimal return loss, and outstanding directivity throughout the entire frequency range to 40 GHz. This coupler can be used for low loss and high power applications. The useable operating frequencies extend below 1 GHz for applications where calibration of the frequency response is available.



[Download s-parameters here](#)

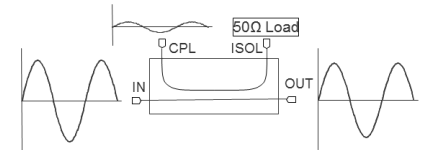
### Features

- Low Insertion Loss and VSWR
- Broadband Performance
- High Directivity
- Compact Size and Lightweight

### Applications

N/A

### Functional Block Diagram



### Part Ordering Options

Part Number	Description	Connectors	Green Status	Product Lifecycle	Export Classification
CA-40	AIR-LINE DIRECTIONAL COUPLER	<u>Standard</u>	REACH RoHS	Released	EAR99

## Table Of Contents

### ■ Device Overview

- General Description
- Features
- Applications
- Functional Block Diagram

### ■ Specifications

- Absolute Maximum Ratings
- Package Information
- Electrical Specifications
- Typical Performance

### ■ Mechanical Data

- Outline Drawing

**Specifications**

**Absolute Maximum Ratings**

Parameter	Maximum Rating	Unit
RF Power Handling	20	W

**Package Information**

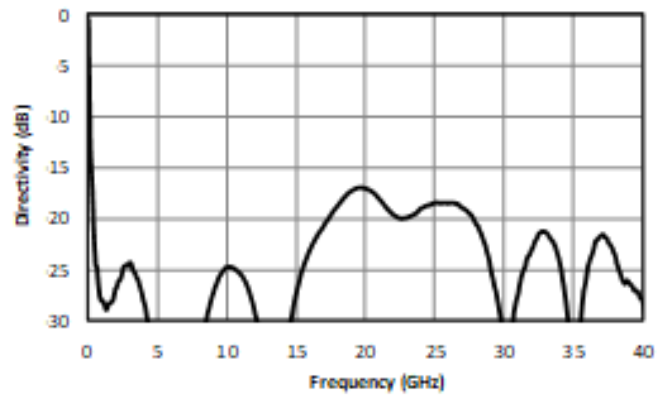
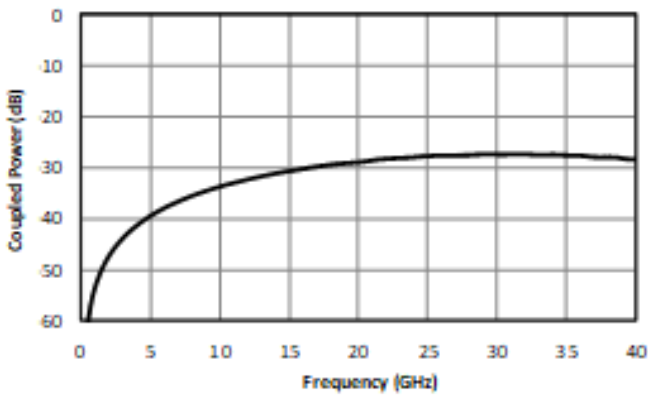
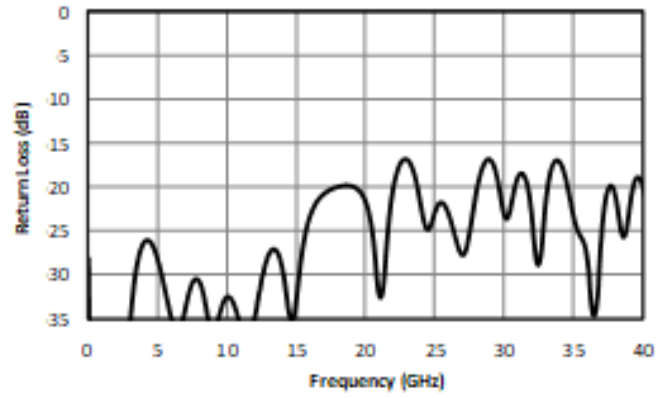
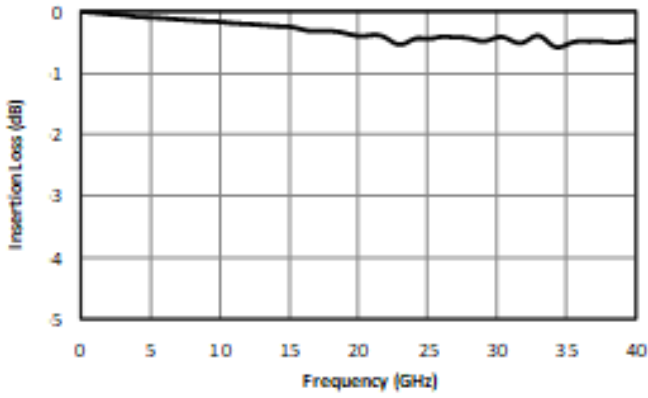
Parameter	Details	Rating
Weight	-	36g
Dimensions	-	30.48 x 30.48 mm

**Electrical Specifications**

Specifications guaranteed when operated in a 50Ω system.

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Directivity	-	1	15	18	24	-	dB
Directivity	-	15	40	13	18	-	dB
Direct Line Insertion Loss	DC to 20 GHz	-	-	-	0.3	0.6	dB
Direct Line Insertion Loss	-	20	40	-	0.5	1	dB
Mean Coupling	-	20	40	32	27	25	dB
Mean Coupling	-	1	1	-	53	-	dB
VSWR	-	1	15	-	1.1	1.4	
VSWR	-	15	40	-	1.3	1.6	

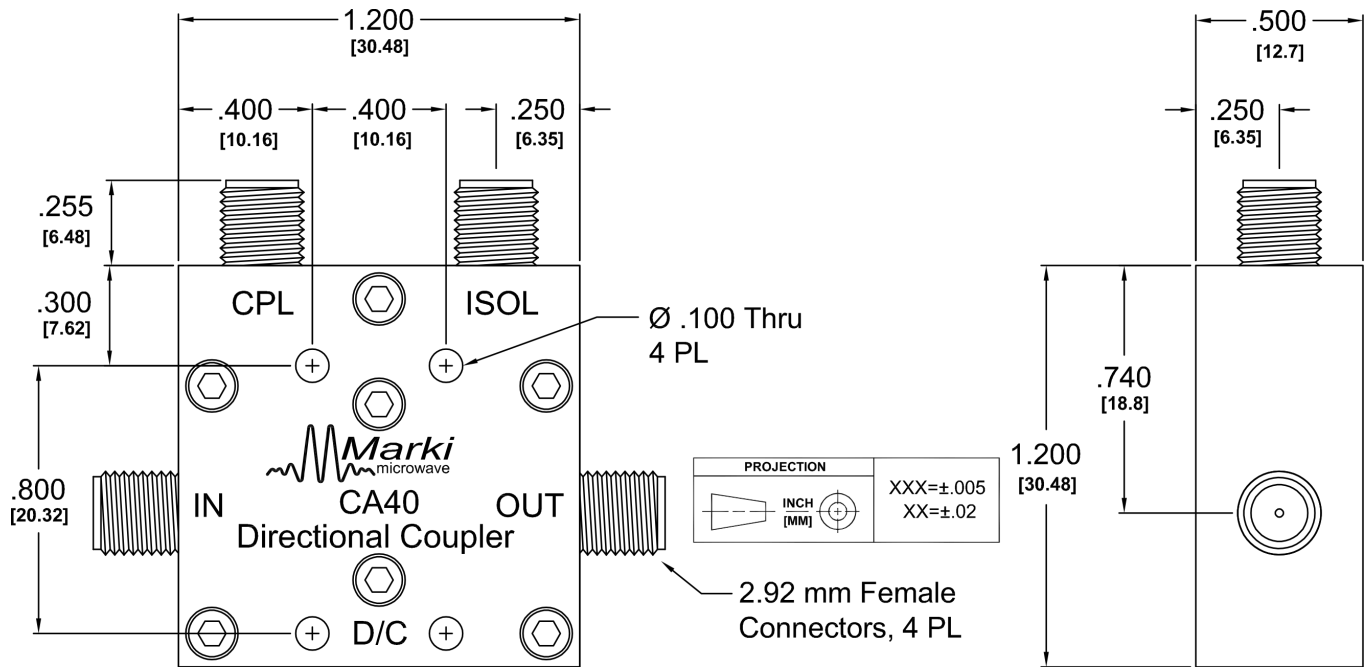
**Typical Performance**



Mechanical Data

Outline Drawing

Download : [Outline 2D Drawing](#) | [Outline 3D Drawing](#) | [Outline 3D STP](#)



**DISCLAIMER**

MARKI MICROWAVE, LLC., ("MARKI") PROVIDES TECHNICAL SPECIFICATIONS AND DATA (INCLUDING DATASHEETS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, AND OTHER INFORMATION AND RESOURCES "AS IS" AND WITH ALL FAULTS. MARKI DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

These resources are intended for developers skilled in the art designing with Marki products. You are solely responsible for (1) selecting the appropriate products for your application, (2) designing, validating, and testing your application, and (3) ensuring your application meets applicable standards and other requirements. Marki makes no guarantee regarding the suitability of its products for any particular purpose, nor does Marki assume any liability whatsoever arising out of your use or application of any Marki product.

Marki grants you permission to use these resources only for development of an application that uses Marki products. Other reproduction or use of these resources is strictly prohibited. No license is granted to any other Marki intellectual property or to any third-party intellectual property. Marki reserves the right to make changes to the product(s) or information contained herein without notice.

MARKI MICROWAVE and T3 MIXER are trademarks or registered trademarks of Marki Microwave, LLC. All other trademarks used are the property of their respective owners.

© 2022 - 2026, Marki Microwave, LLC