

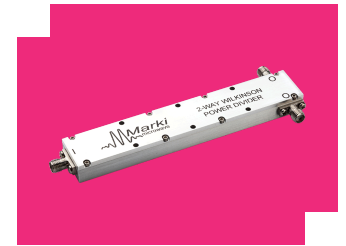
# PD-0R413

## Ultra-wideband Wilkinson Power Divider

### DEVICE OVERVIEW

#### General Description

2-Way Wilkinson power dividers can be used for both in-phase power splitting and power combining applications. These power dividers feature the lowest insertion loss (ideally 3 dB splitting loss), excellent amplitude and phase balance, and high isolation across the entire operating band. High isolation can be critically important for power combining applications, such as when performing accurate intermodulation distortion (IMD) tests.



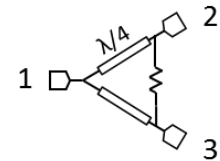
#### Features

- 0.4 to 13.2 GHz In-phase Power Splitting
- 24 dB Typical Output to Output Isolation
- Outstanding Phase and Amplitude Balance

#### Applications

N/A

#### Functional Block Diagram



#### Part Ordering Options

Part Number	Description	Connectors	Green Status	Product Lifecycle	Export Classification
PD-0R413	Ultra-wideband Wilkinson Power Divider	<u>Standard</u>	REACH RoHS	Released	EAR99

**Table Of Contents**

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

**Revision History**

Revision Code	Revision Date	Comment
-	2012-11-13	Datasheet Initial Released
A	2025-12-17	Power Handling Updated

**Port Configuration and Functions**

**Port Functions**

Port	Function	Connector Type	Description	DC Equivalent Circuit
In	Divider Common Input	SMAF	Wilkinson divider input port	-
Out 1	Divider Output 1	SMAF	RF divided output 1 of the Wilkinson divider.	-
Out 2	Divider Output 2	SMAF	RF divided output 2 of the Wilkinson divider.	-

**Specifications**

**Absolute Maximum Ratings**

Parameter	Maximum Rating	Unit
RF Power Handling as a Power Combiner	1	W
RF Power Handling as a Power Divider	10	W

**Package Information**

Parameter	Details	Rating
Weight	-	84g
Dimensions	-	167.13 x 20.32mm

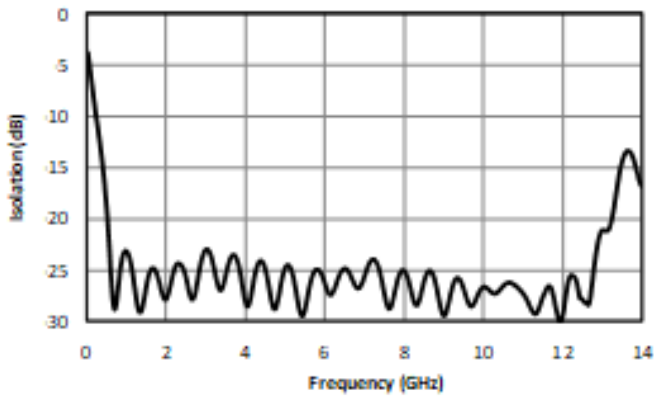
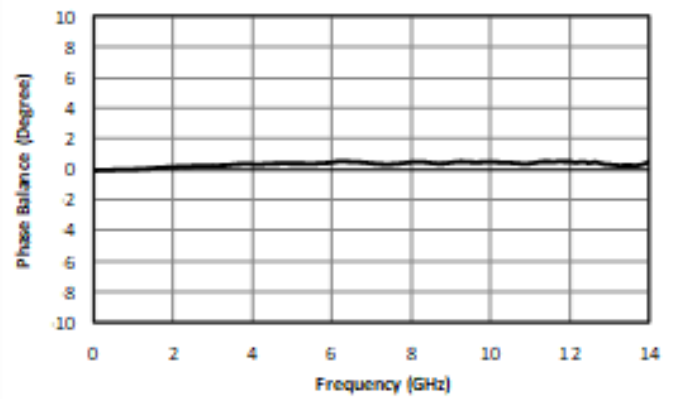
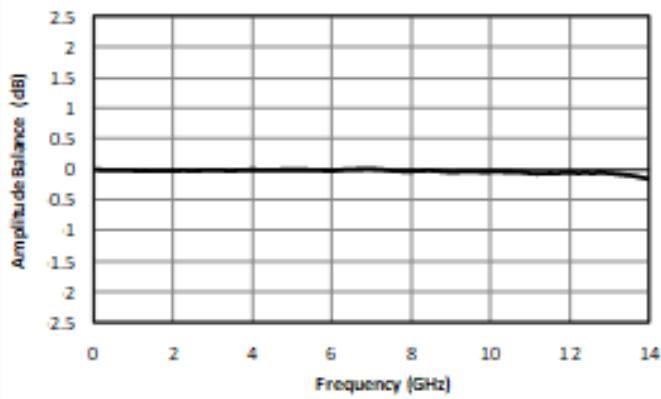
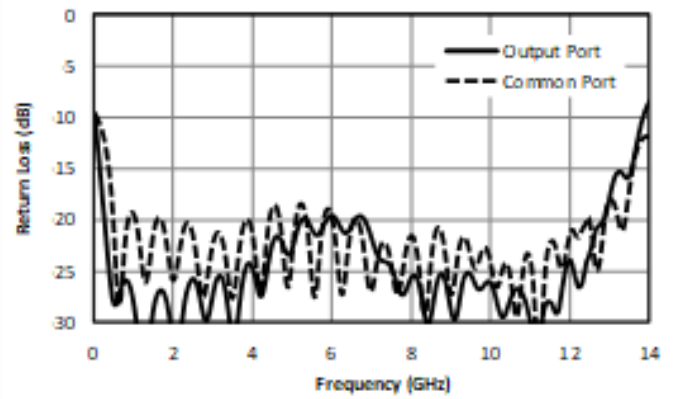
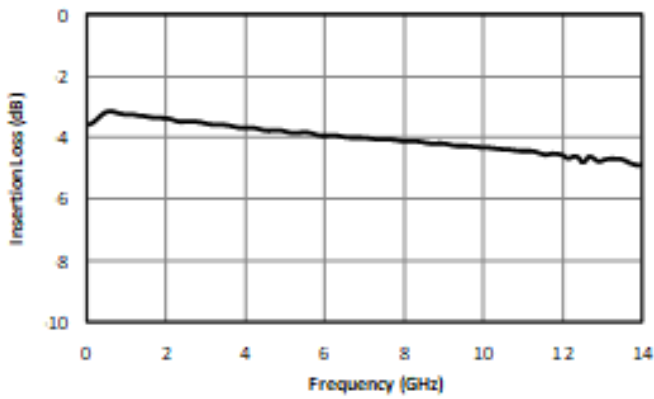
**Electrical Specifications**

Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Amplitude Balance	-	0.4	13.2	-	0.05	0.5	dB
Insertion Loss <sup>1</sup>	-	0.4	13.2	-	1	2	dB
Isolation	-	0.6	13.2	15	24	-	dB
Isolation	-	0.4	0.6	10	15	-	dB
Nominal Phase Shift	-	0.4	13.2	-	0	-	°
Nominal Power Splitting (dB)	-	0.4	13.2	-	3	-	dB
Phase Balance	-	0.4	13.2	-	1	5	°
VSWR	-	0.6	12.8	-	1.2	1.5	
VSWR	-	0.4	13.2	-	1.5	1.8	

<sup>[1]</sup> Excess Insertion Loss = (Input Port to Common Port Insertion Loss) - 3dB

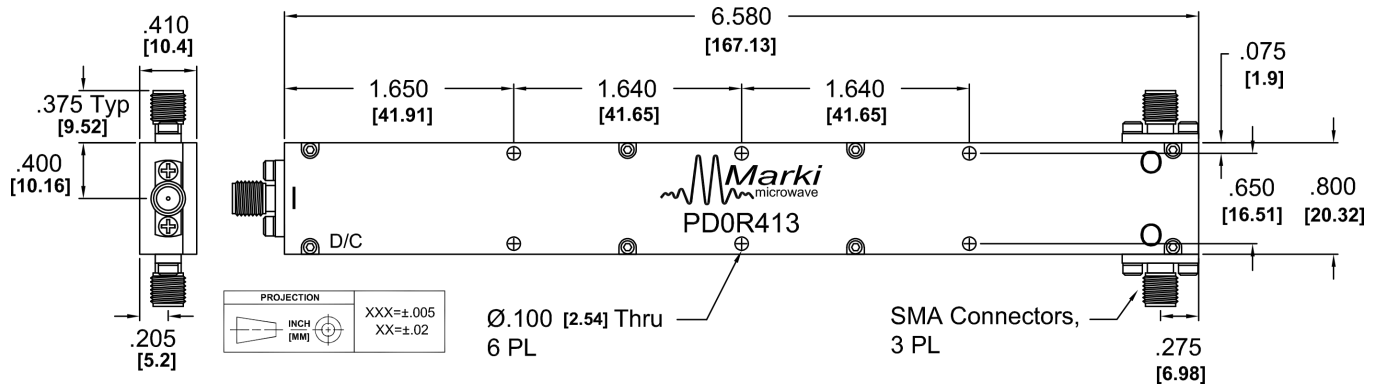
Typical Performance Plots



**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.

© 2012, 2025, Marki Microwave, LLC