

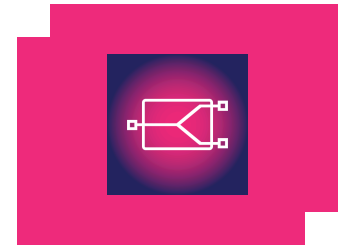
# PDX0516

## 4-Way Wilkinson Power Divider

### DEVICE OVERVIEW

#### General Description

4-Way Wilkinson power dividers can be used for both in-phase power splitting and power combining applications. These power dividers are realized as a cascade of two 1:2 Wilkinson power dividers integrated into a single package. 4-Way Wilkinson power dividers feature the lowest insertion loss (ideally 4 dB 4-way splitting loss), excellent amplitude and phase balance, and high isolation across the entire operating band.



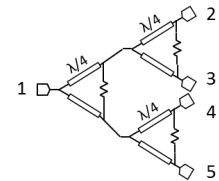
#### Features

- 1 to 20 GHz In-phase Power Splitting
- Outstanding 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 |
|-------------|-------------------------------|------------|---------------------------------|-------------------|-----------------------|
| PDX0516     | 4-Way Wilkinson Power Divider | -          | <a href="#">Consult Factory</a> | Released          | EAR99                 |

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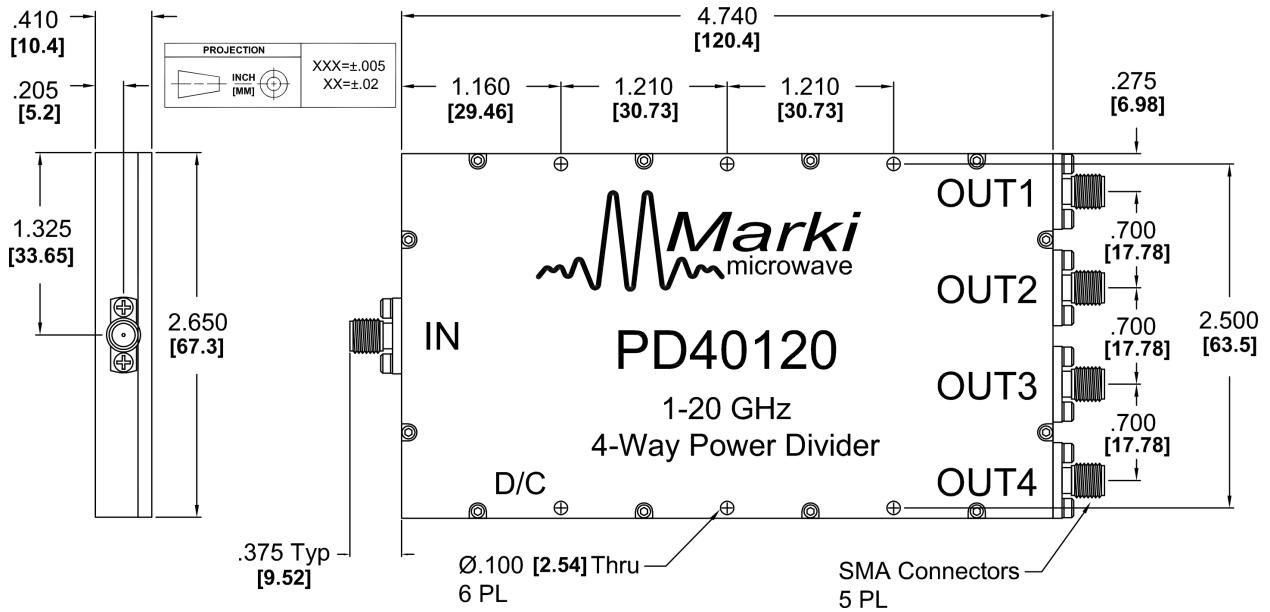
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## Revision History

| Revision Code | Revision Date | Comment               |
|---------------|---------------|-----------------------|
| PRE           | 2023-12-13    | Datasheet Pre-Release |

## Port Configuration and Functions

### Port Diagram



### Port Functions

| Port  | Function             | Connector Type | Description                                   | DC Equivalent Circuit |
|-------|----------------------|----------------|---|-----------------------|
| In    | Divider Common Input | -              | Wilkinson Divider Common Input                | -                     |
| Out 1 | Divider Output 1     | -              | RF divided output 1 of the Wilkinson divider. | -                     |
| Out 2 | Divider Output 2     | -              | RF divided output 2 of the Wilkinson divider. | -                     |
| Out 3 | Divider Output 3     | -              | RF divided output 3 of the Wilkinson divider. | -                     |
| Out 4 | Divider Output 4     | -              | RF divided output 4 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     | -       | 180g            |
| Dimensions | -       | 120.4 × 67.3 mm |

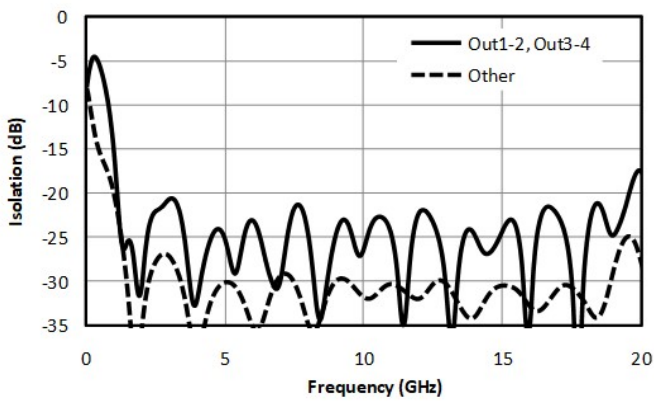
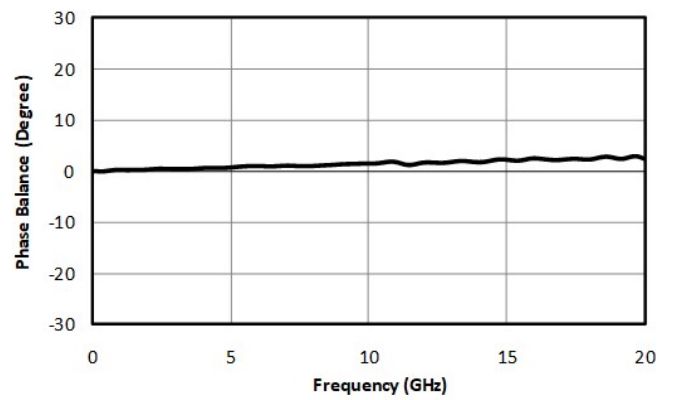
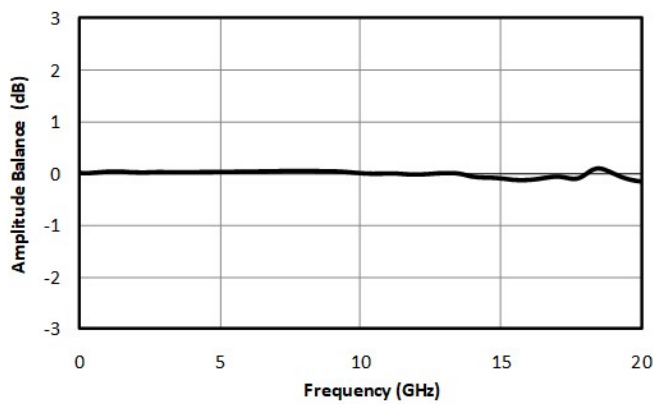
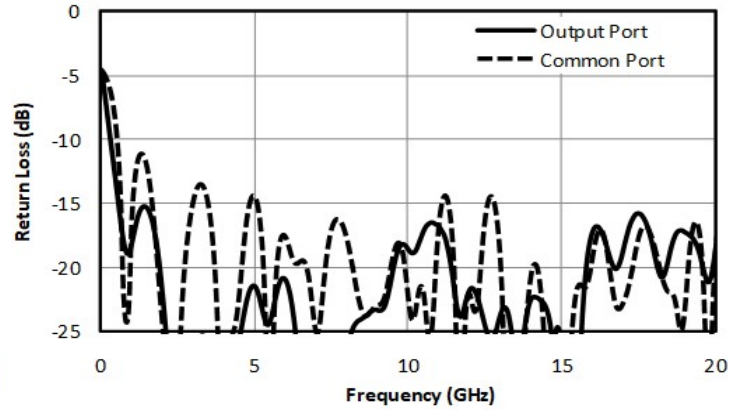
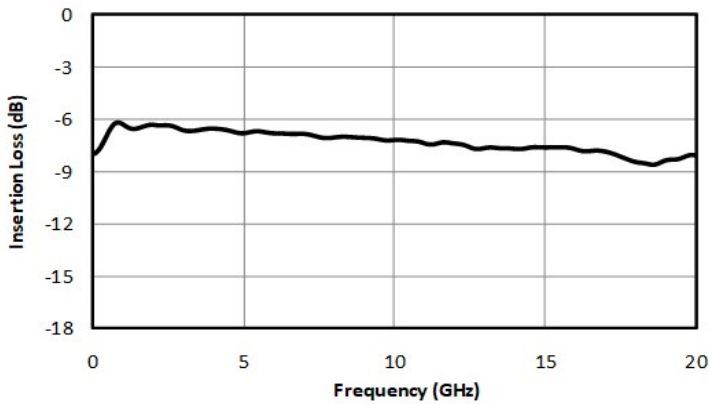
### Electrical Specifications

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

| Parameter                          | Test Conditions | Minimum Frequency (GHz) | Maximum Frequency (GHz) | Min | Typ  | Max  | Unit |
|------------------------------------|-----------------|-------------------------|-------------------------|-----|------|------|------|
| Amplitude Balance                  | -               | 1                       | 20                      | -   | 0.25 | 0.75 | dB   |
| Excess Insertion Loss <sup>1</sup> | -               | 1                       | 20                      | -   | 1.5  | -    | dB   |
| Isolation                          | -               | 19                      | 20                      | 10  | -    | -    | dB   |
| Isolation                          | -               | 1.6                     | 19                      | 15  | 25   | -    | dB   |
| Isolation                          | -               | 1                       | 1.6                     | 10  | -    | -    | dB   |
| Nominal Phase Shift                | -               | 1                       | 20                      | -   | 0    | -    | °    |
| Nominal Power Splitting            | -               | 1                       | 20                      | -   | 6    | -    | dB   |
| Phase Balance                      | -               | 1                       | 20                      | -   | 3    | 10   | °    |
| VSWR                               | -               | 1.8                     | 20                      | -   | 1.4  | -    |      |
| VSWR                               | -               | 1                       | 1.8                     | -   | 1.6  | -    |      |

<sup>[1]</sup> Excess Insertion Loss = (Input Port to Common Port Insertion Loss) - 6dB

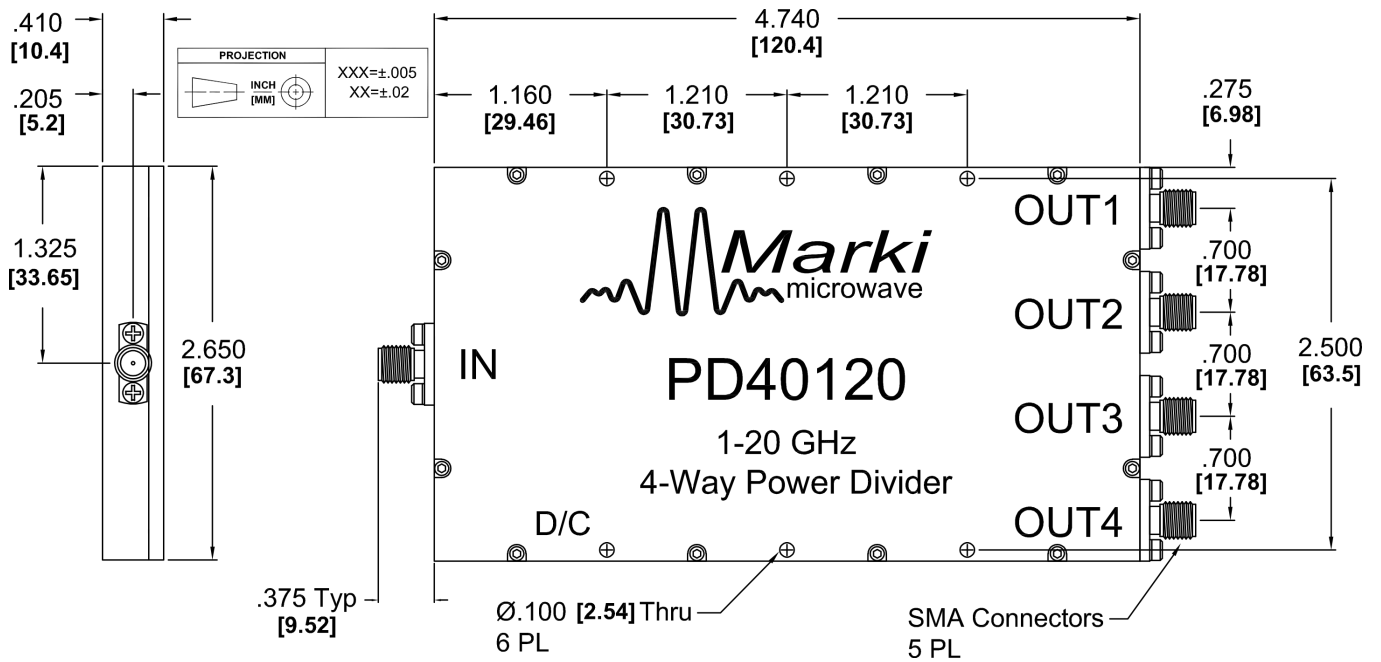
**Typical Performance Plots**



**Mechanical Data**

**Outline Drawing**

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



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