

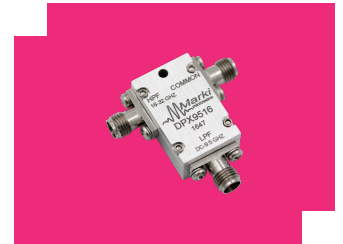
DPX-9516

Broadband Diplexer 16 - 32 Ghz

DEVICE OVERVIEW

General Description

The DPX-9516 is a broadband low pass/high pass diplexer capable of multiplexing low frequency (DC-9.5 GHz) and high frequency (16-32 GHz) signals. The novel design offers extremely low insertion loss for both the low pass and high pass channels. The DPX-9516 is an excellent solution for applications such as high frequency/baseband signal routing (especially following a broadband high frequency mixing stage), low loss power splitting/combination and general-purpose lab use.



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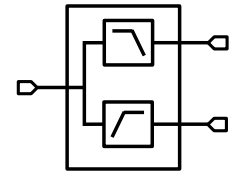
Features

- Broadband performance
- Low insertion loss
- High isolation between low pass and high pass ports
- Lightweight, compact design

Applications

- Reflectionless Filter Applications
- RF Transceivers

Functional Block Diagram



Part Ordering Options

| Part Number | Description | Connectors | Green Status | Product Lifecycle | Export Classification |
|-------------|--------------------------------|-----------------|--------------|-------------------|-----------------------|
| DPX-9516 | Broadband Diplexer 16 - 32 Ghz | <u>Standard</u> | Non-RoHS | Released | EAR99 |

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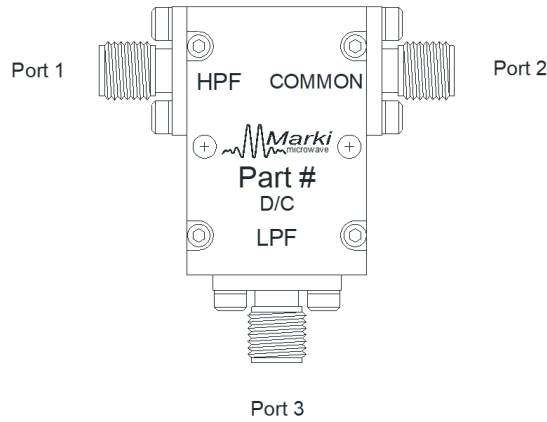
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Revision History

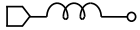
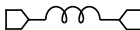
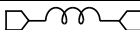
| Revision Code | Revision Date | Comment |
|---------------|---------------|---------------------------|
| - | 2014-04-15 | Datasheet Initial Release |

Port Configuration and Functions

Port Diagram



Port Functions

| Port | Function | Connector Type | Description | Equivalent Circuit for Package |
|--------|------------------|----------------|--------------------------------------------------|---------------------------------------------------------------------------------------|
| Port 1 | High Pass Filter | 2.92F | Port 1 is DC open to Port 2 and Port 3. |  |
| Port 2 | Common/Input | 2.92F | Port 2 is DC open to Port 1 and short to Port 3. |  |
| Port 3 | Low Pass Filter | 2.92F | Port 3 is DC open to Port 1 and short to Port 2. |  |

Specifications

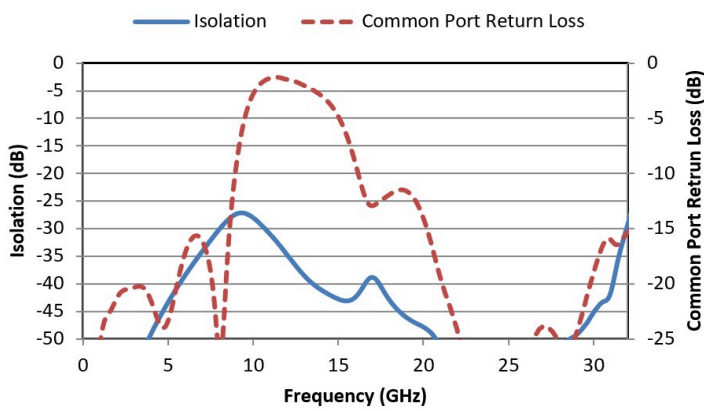
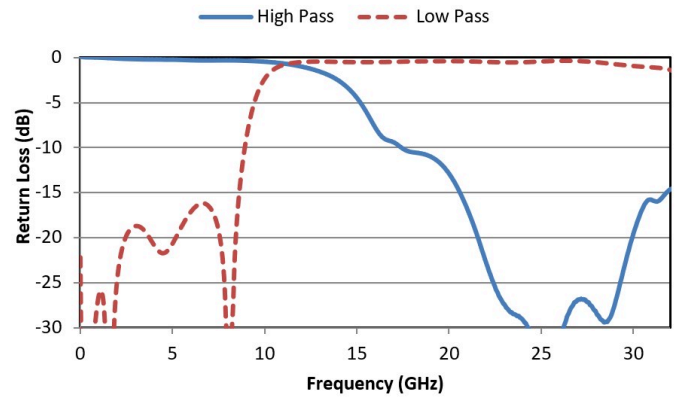
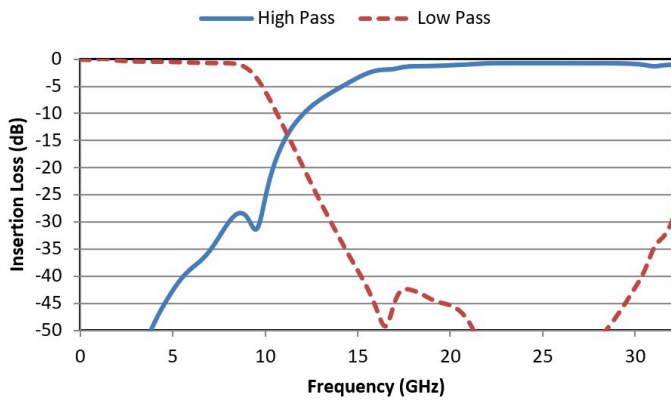
Package Information

| Parameter | Details | Rating |
|------------|---------|------------------|
| Weight | - | 35g |
| Dimensions | - | 16.51 x 26.04 mm |

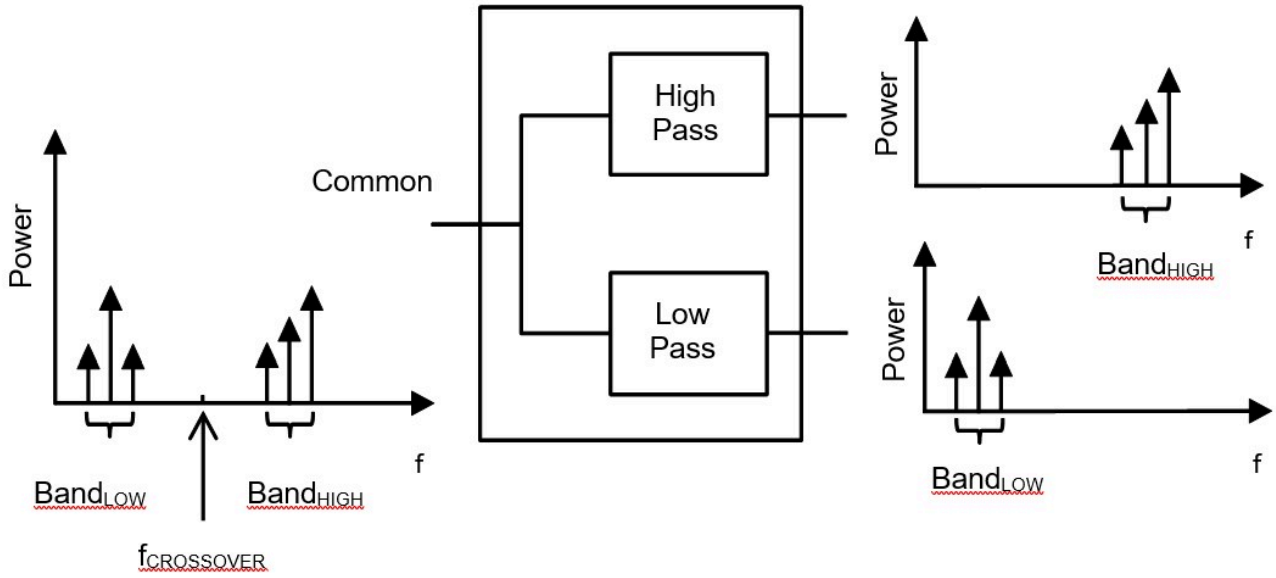
Electrical Specifications

| Parameter | Test Conditions | Minimum Frequency (GHz) | Maximum Frequency (GHz) | Min | Typ | Max | Unit |
|--------------------------------------------|-----------------|-------------------------|-------------------------|-----|-----|-----|------|
| 30 dBc Low Pass Rejection Point | - | 0 | 9.5 | 25 | 30 | - | dB |
| Common Port Return Loss | - | 16 | 32 | 8 | 13 | - | dB |
| Common Port Return Loss | - | 0 | 8.5 | 13 | 17 | - | dB |
| High Frequency Passband | - | - | - | 16 | - | 32 | GHz |
| High Pass Filter, Pass Band Insertion Loss | - | 16 | 32 | - | 1.5 | - | dB |
| High Pass Filter, Pass Band Return Loss | - | 18 | 32 | 8 | 13 | - | dB |
| Impedance | - | - | - | - | 50 | - | Ω |
| Isolation | - | 0 | 9.5 | 25 | 30 | - | dB |
| Isolation | - | 16 | 32 | 30 | 40 | - | dB |
| Low Frequency Passband | - | - | - | 0 | - | 9.5 | GHz |
| Low Pass Filter, Pass Band Insertion Loss | - | 0 | 9.5 | - | 1.5 | - | dB |
| Low Pass Filter, Pass Band Return Loss | - | 0 | 8.5 | 13 | 17 | - | dB |
| Low Pass Filter, Stop Band Rejection | - | 16 | 32 | 30 | 45 | - | dB |
| RF Power | - | - | - | - | - | 1 | W |

Typical Performance Plots



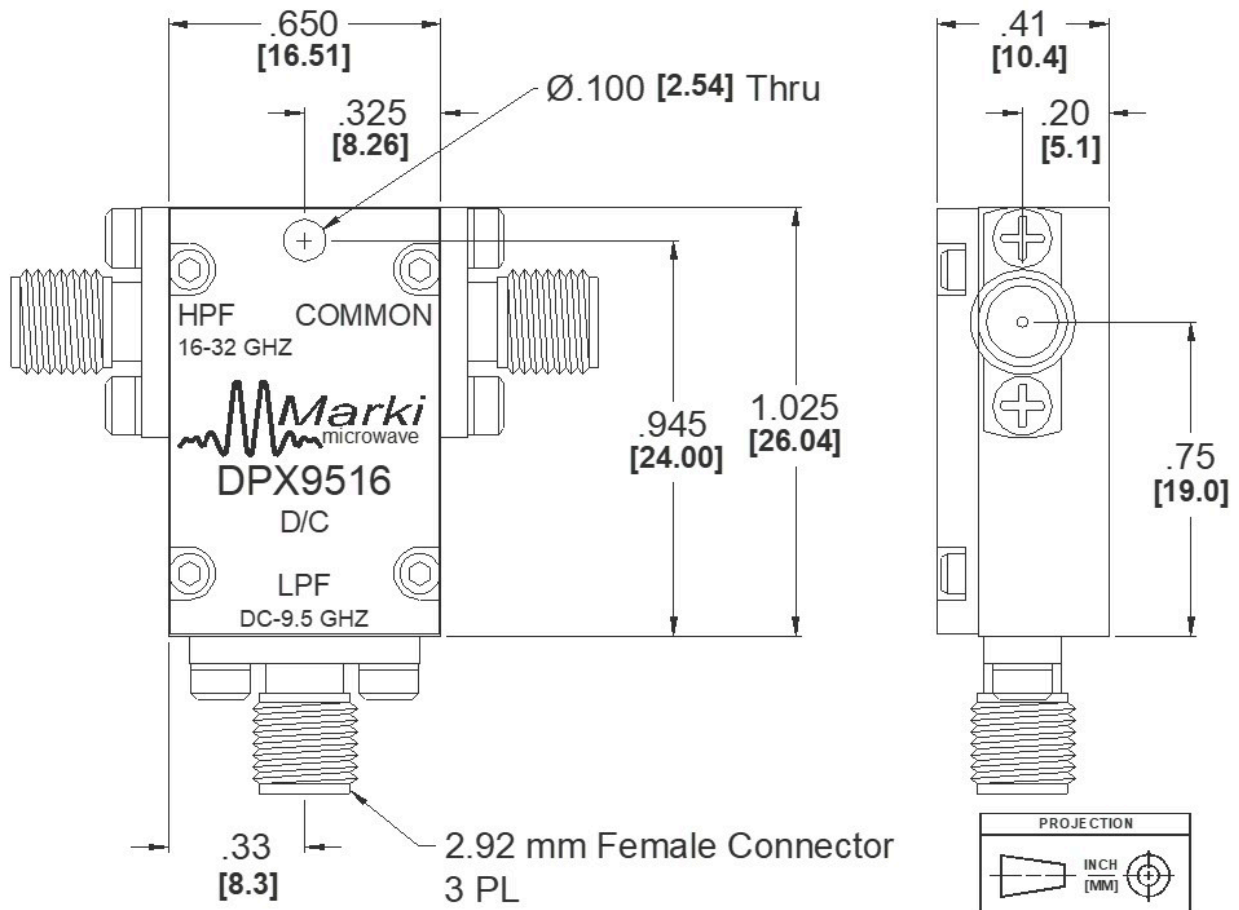
Application Circuit



Mechanical Data

Outline Drawing

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



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