

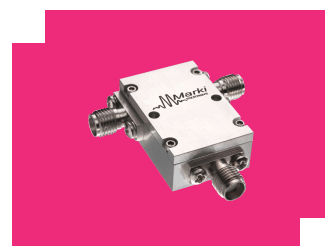
DPX-1721

Broadband Diplexer 21.5 - 40 GHz

DEVICE OVERVIEW

General Description

The DPX-1721 is a broadband low pass/high pass diplexer capable of multiplexing low frequency (DC-17 GHz) and high frequency (21.5-40 GHz) signals. The novel design offers extremely low insertion loss and high isolation between the low pass and high pass channels. The DPX-1721 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, separation of harmonic tones, and general-purpose lab use.



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Features

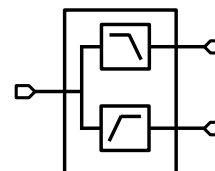
- Broadband performance
- Low insertion loss
- High isolation between low pass and high pass ports
- Lightweight, compact design

Applications

- Reflectionless Filter Applications
- RF Transceivers

Functional Block

Diagram



Part Ordering Options

Part Number	Description	Connectors	Green Status	Product Lifecycle	Export Classification
DPX-1721	Broadband Diplexer 21.5 - 40 GHz	<u>Standard</u>	Non-RoHS REACH REACH	Released	EAR99

Table Of Contents

■ Device Overview

- General Description
- Features
- Applications
- Functional Block Diagram

■ Port Configuration and Functions

- Port Diagram
- Port Functions

■ Revision History

■ Specifications

- Package Information
- Electrical Specifications
- Typical Performance Plots

■ Mechanical Data

- Outline Drawing

■ Operation

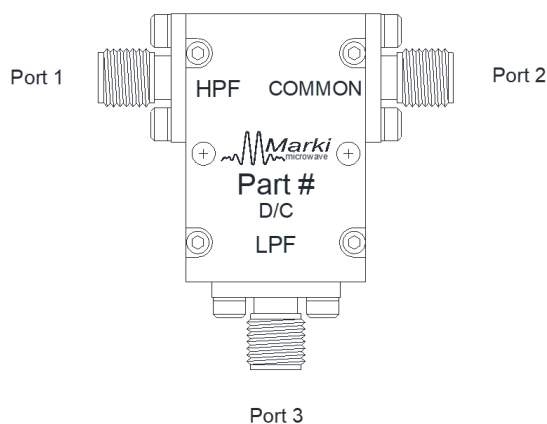
- Application Circuit

Revision History

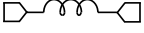
Revision Code	Revision Date	Comment
-	2014-04-15	Datasheet Initial Release

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	SMAF	Port 3 is DC open to Port 1 and short to Port 2.	

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Specifications

Package Information

Parameter	Details	Rating
Weight	-	20g
Dimensions	-	19.56 x 29.21 mm

Electrical Specifications

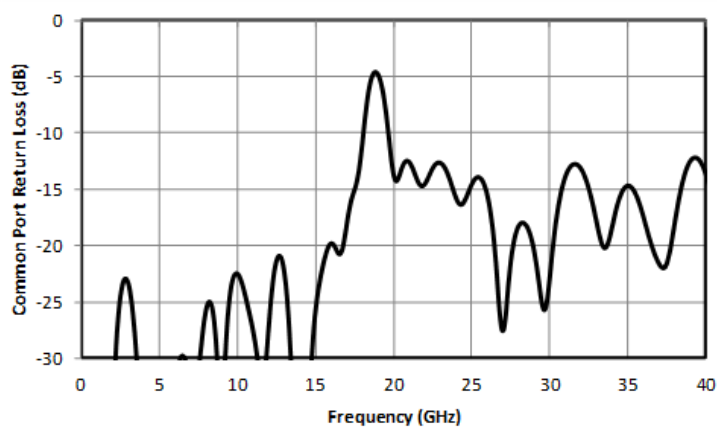
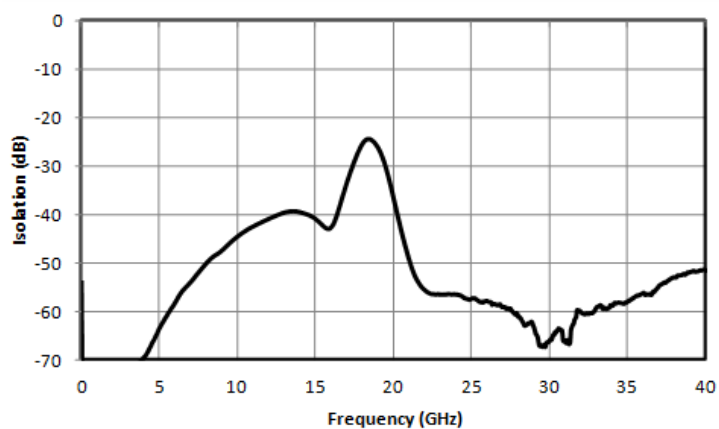
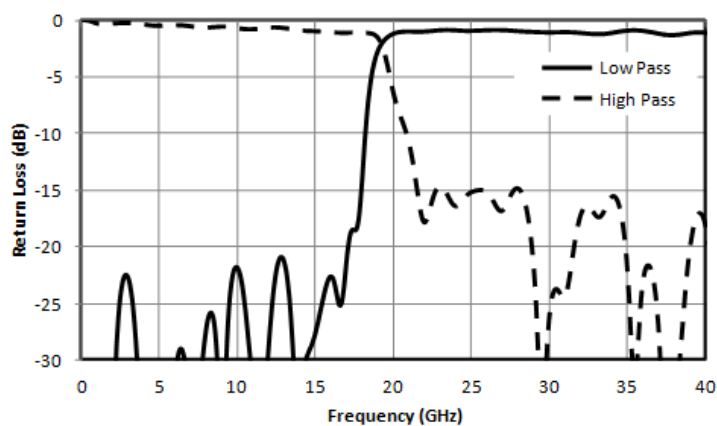
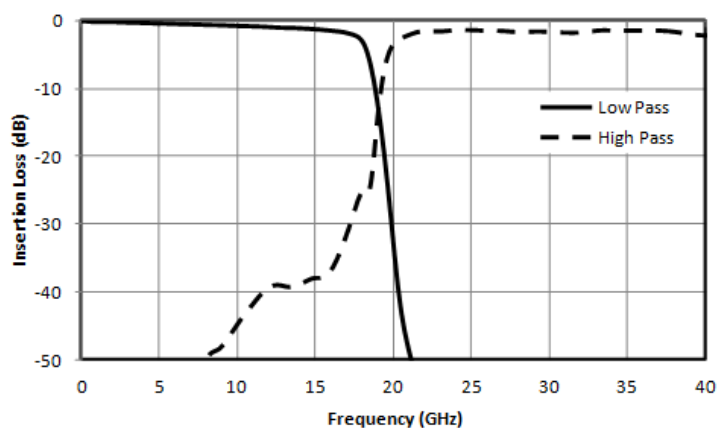
Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Low Frequency Passband	-	-	-	0	-	17	GHz
High Frequency Passband	-	-	-	21.5	-	40	GHz
High Pass Filter, Pass Band Insertion Loss	-	21.5	40	-	1.5	-	dB
Common Port Return Loss	-	0	17	12	20	-	dB
Common Port Return Loss	-	21.5	40	8	12	-	dB
Isolation	-	0	17	25	40	-	dB
Isolation	-	21.5	40	40	50	-	dB
High Pass Filter, Stop Band Rejection	-	0	17	25	40	-	dB
Impedance	-	-	-	-	50	-	Ω
Low Pass Filter, Pass Band Insertion Loss	-	0	17	-	1.2	-	dB
Low Pass Filter, Pass Band Return Loss	-	0	17	12	20	-	dB
RF Power	-	-	-	-	-	1	W
High Pass Filter, Pass Band Return Loss	-	21.5	40	8	12	-	dB
Low Pass Filter, Stop Band Rejection	-	21.5	40	40	50	-	dB

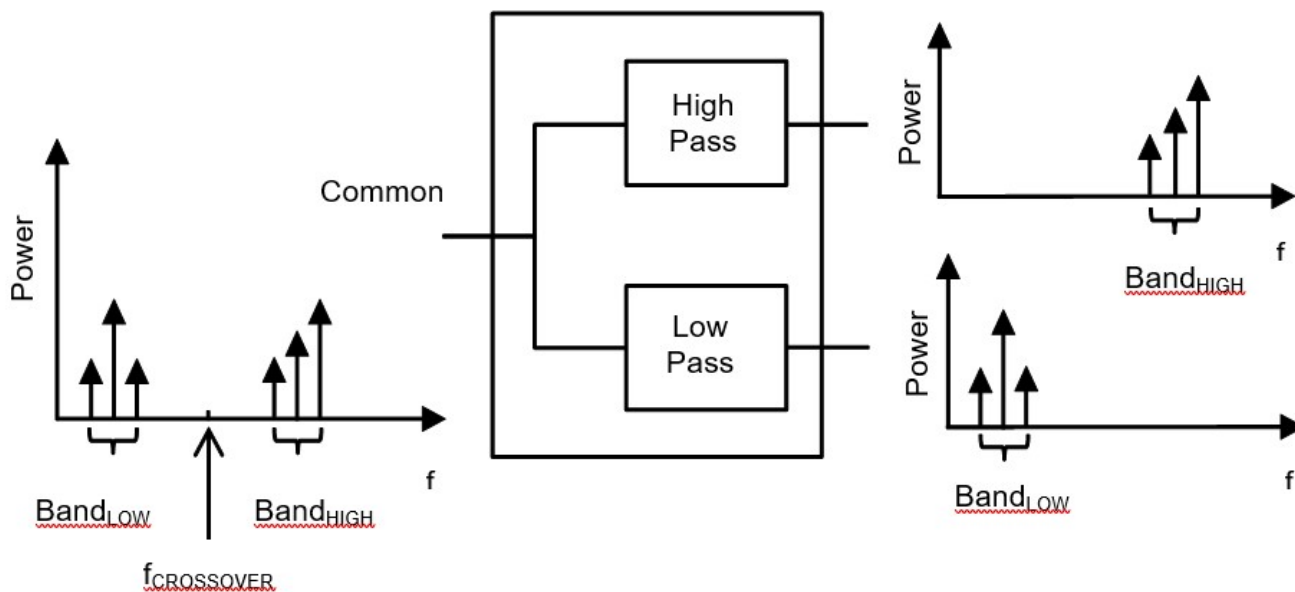
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Typical Performance Plots



Application Circuit

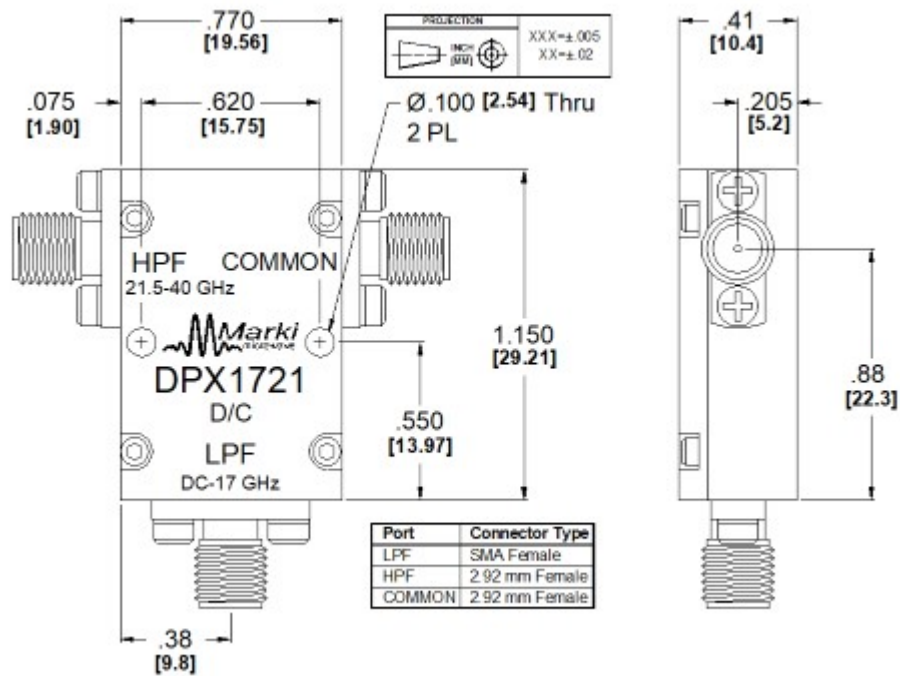


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Mechanical Data

Outline Drawing



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