

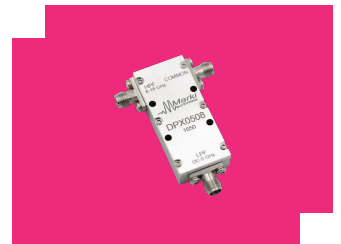
DPX-0508

Broadband Diplexer

DEVICE OVERVIEW

General Description

The DPX-0508 is a broadband low pass/high pass diplexer capable of multiplexing low frequency (DC-5 GHz) and high frequency (8-18 GHz) signals. The novel design offers extremely low insertion loss for both the low pass and high pass channels. The DPX-0508 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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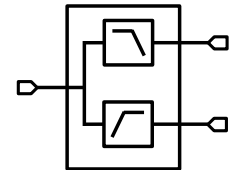
Features

- 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-0508	Broadband Diplexer	<u>Standard</u>	Non-RoHS	Released	EAR99

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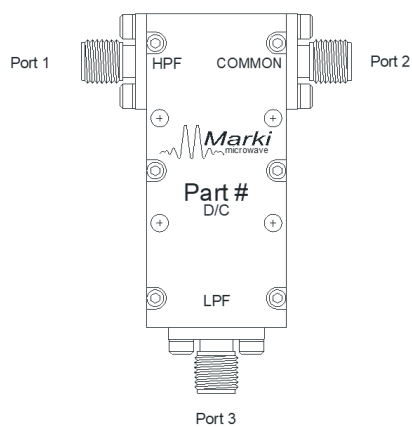
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Revision History

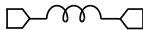
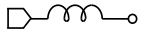
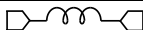
Revision Code	Revision Date	Comment
-	2012-02-09	Datasheet Initial Release

Port Configuration and Functions

Port Diagram



Port Functions

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

Specifications

Package Information

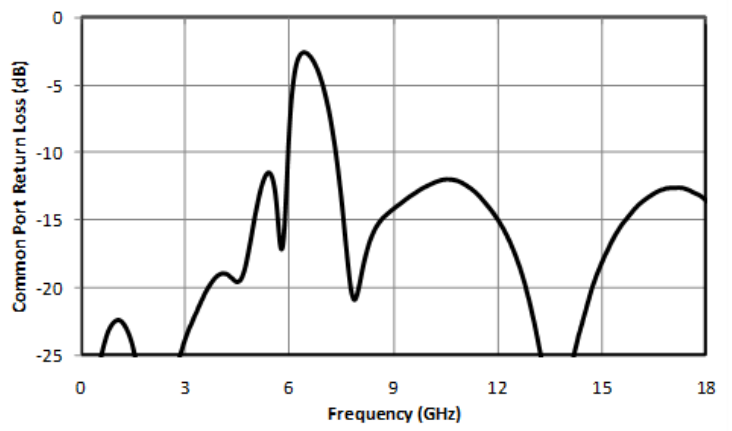
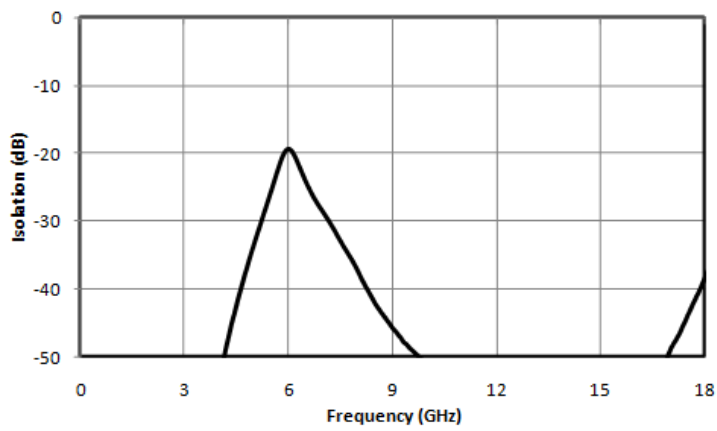
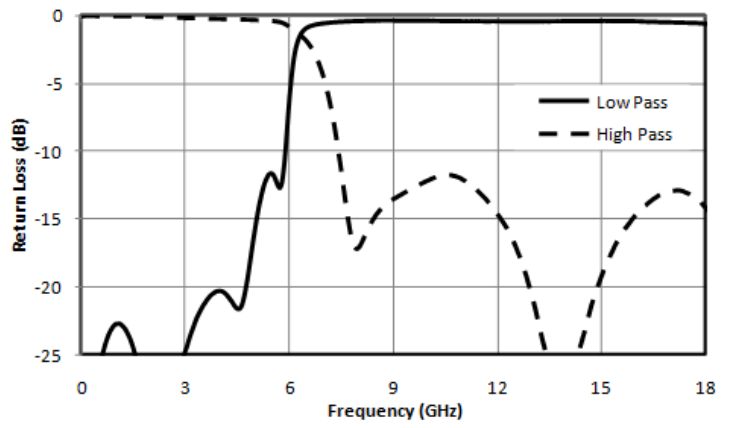
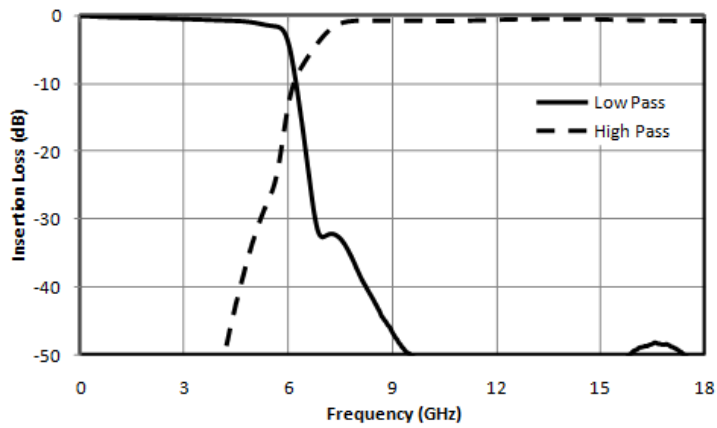
Parameter	Details	Rating
Weight	-	28g
Dimensions	-	20.32 × 45.72 mm

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
30 dBc Low Pass Rejection Point	DC-5 GHz	0	5	25	40	-	dB
Common Port Return Loss	8-18 GHz	8	18	8	12	-	dB
High Pass Filter, Pass Band Insertion Loss	8-18 GHz	8	18	-	1	-	dB
High Pass Filter, Pass Band Return Loss	8-18 GHz	8	18	8	12	-	dB
Impedance	-	-	-	-	50	-	Ω
Isolation	8-18 GHz	8	18	30	45	-	dB
Low Pass Filter, Pass Band Insertion Loss	DC-5 GHz	0	5	-	1	-	dB
Low Pass Filter, Pass Band Return Loss	DC-5 GHz	0	5	12	16	-	dB
Low Pass Filter, Stop Band Rejection	8-18 GHz	8	18	30	45	-	dB
RF Power	-	-	-	-	-	1	W
Common Port Return Loss	DC-5 GHz	0	5	12	16	-	dB
High Frequency Passband	-	-	-	8	-	18	GHz
Isolation	DC-5 GHz	0	5	25	40	-	dB
Low Frequency Passband	-	-	-	0	-	5	GHz
Weight	-	-	-	-	28	-	g

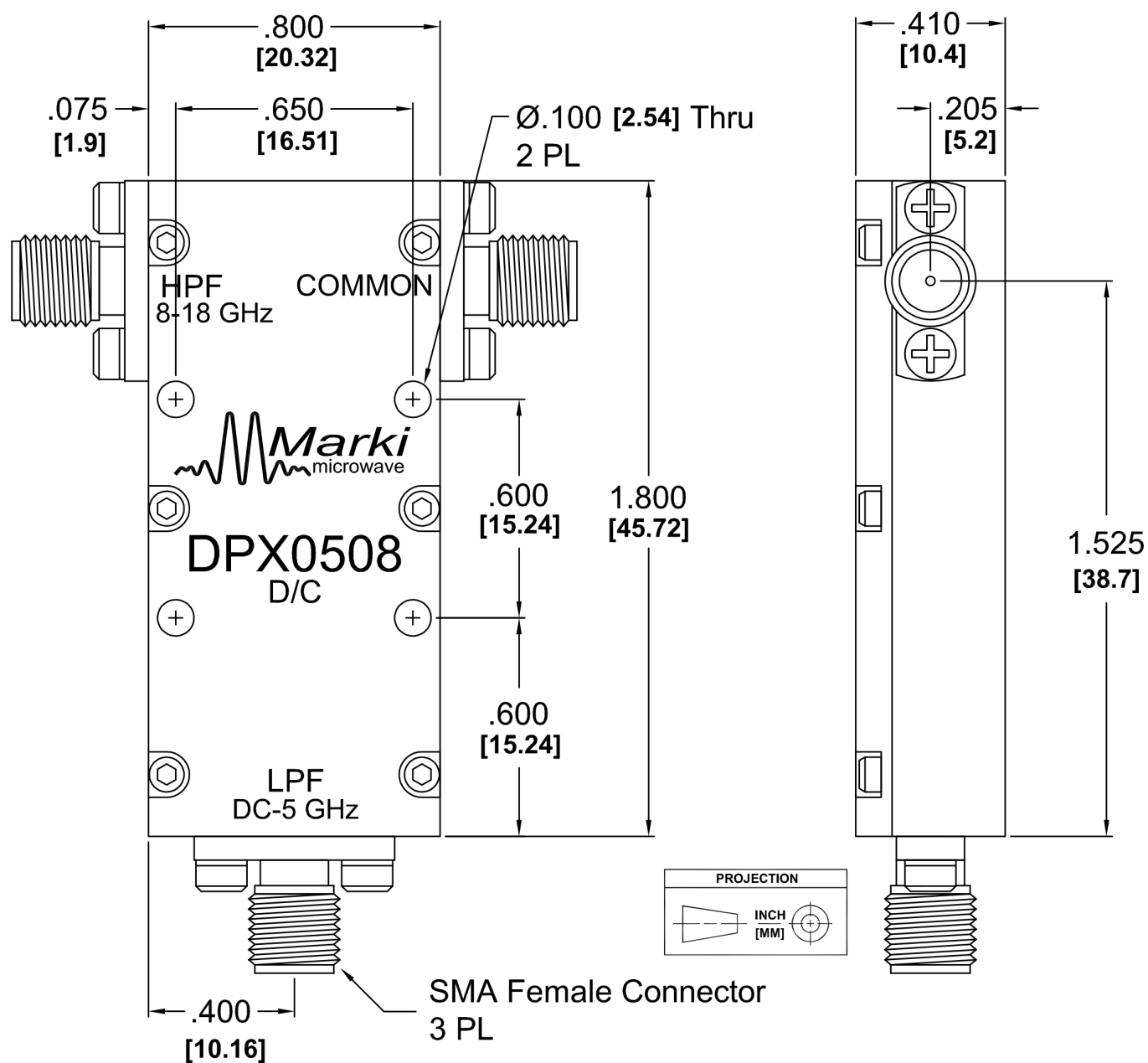
Typical Performance Plots



Mechanical Data

Outline Drawing

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



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