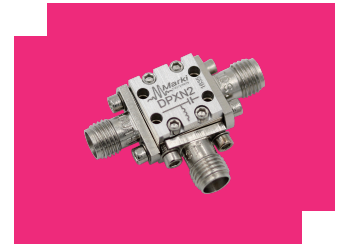


DPXN-2 Diplexer

DEVICE OVERVIEW

General Description

Available in either a connectorized or miniature surface mount package (0.240 inch x 0.150 inch), the DPX-2 is a low cost, high performance diplexer. The unique design offers high pass/low pass signal routing/multiplexing with excellent isolation. Passband insertion loss is less than 1 dB with rejection typically exceeding 25 dB. Besides being ideal for transmitter/receiver applications, the DPX-2 can also be used as an excellent non-reflective low pass (or high pass) filter for systems requiring broadband 50Ω impedance match (such as mixers).



[Download s-parameters here](#)

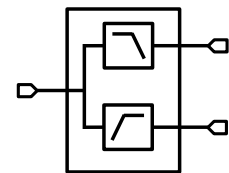
Features

- Low Insertion Loss
- Superior Repeatability
- Low Profile Miniaturized, Reflow Solderable Package Option
- User defined cross over frequencies available

Applications

- Reflectionless Filter Applications
- RF Transceivers

Functional Block Diagram



Part Ordering Options

Part Number	Description	Package	Connectors	Green Status	Product Lifecycle	Export Classification
DPXN-2	Diplexer	DPXN	<u>Standard</u>	Non-RoHS	Released	EAR99

Table Of Contents

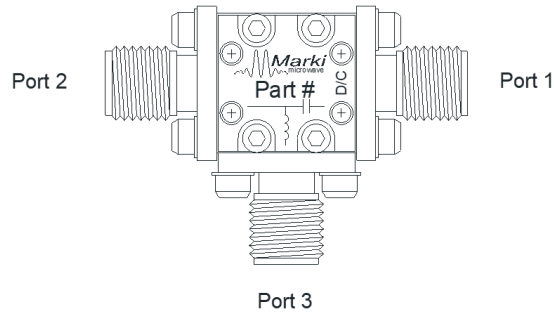
- **Device Overview**
 - General Description
 - Features
 - Applications
 - Functional Block Diagram
- **Port Configuration and Functions**
 - Port Diagram
 - Port Functions
- **Revision History**
- **Specifications**
 - Package Information
 - Electrical Specifications
 - Typical Performance Plots
-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

Revision History

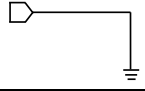

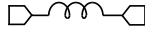

Revision Code	Revision Date	Comment
-	2022-02-11	Datasheet Initial Release

Port Configuration and Functions

Port Diagram



Port Functions

Port	Function	Connector Type	Description	DC Equivalent Circuit
GND	Ground	-	DPXN package ground path is provided through the metal housing and outer coax conductor.	
Port 1	High Pass Filter	-	Port 1 is DC open to Port 2 and Port 3.	
Port 2	Common/Input	-	Port 2 is DC open to Port 1 and short to Port 3.	
Port 3	Low Pass Filter	-	Port 3 is DC open to Port 1 and short to Port 2.	

Specifications

Package Information

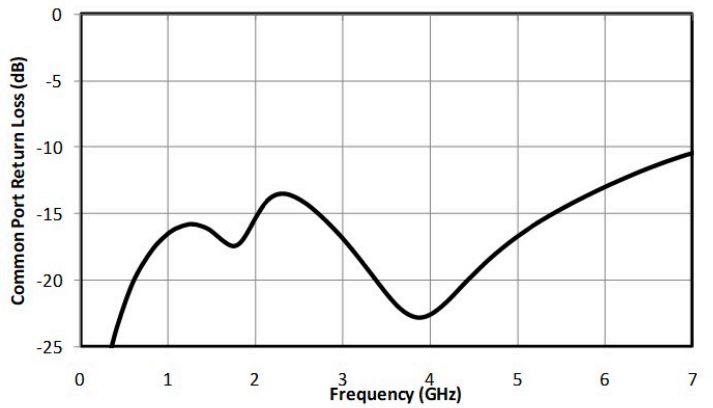
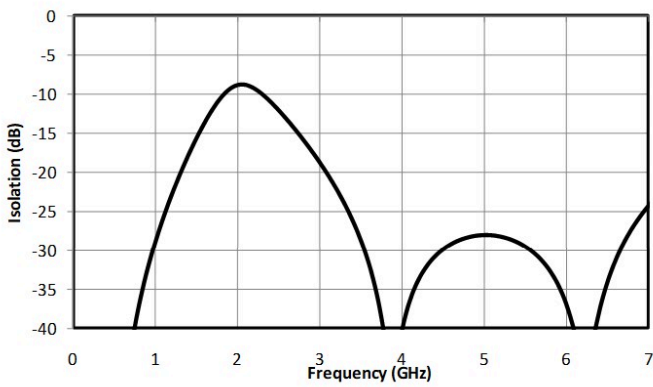
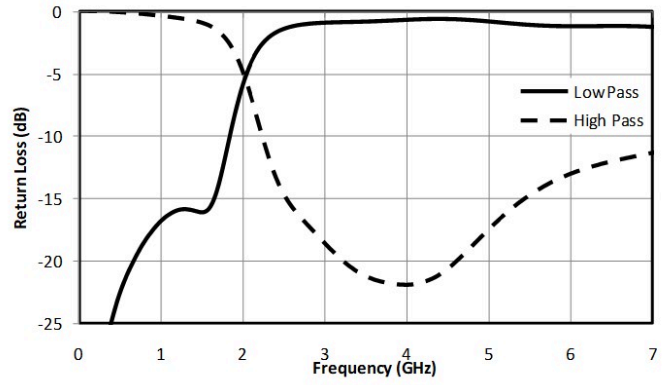
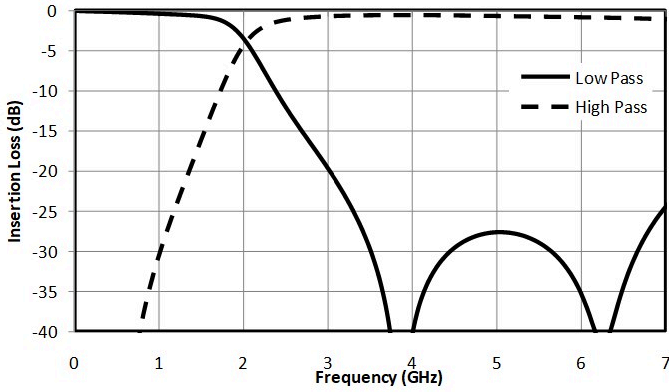
Parameter	Details	Rating
Dimensions	-	11.94 x 11.94 mm

Electrical Specifications

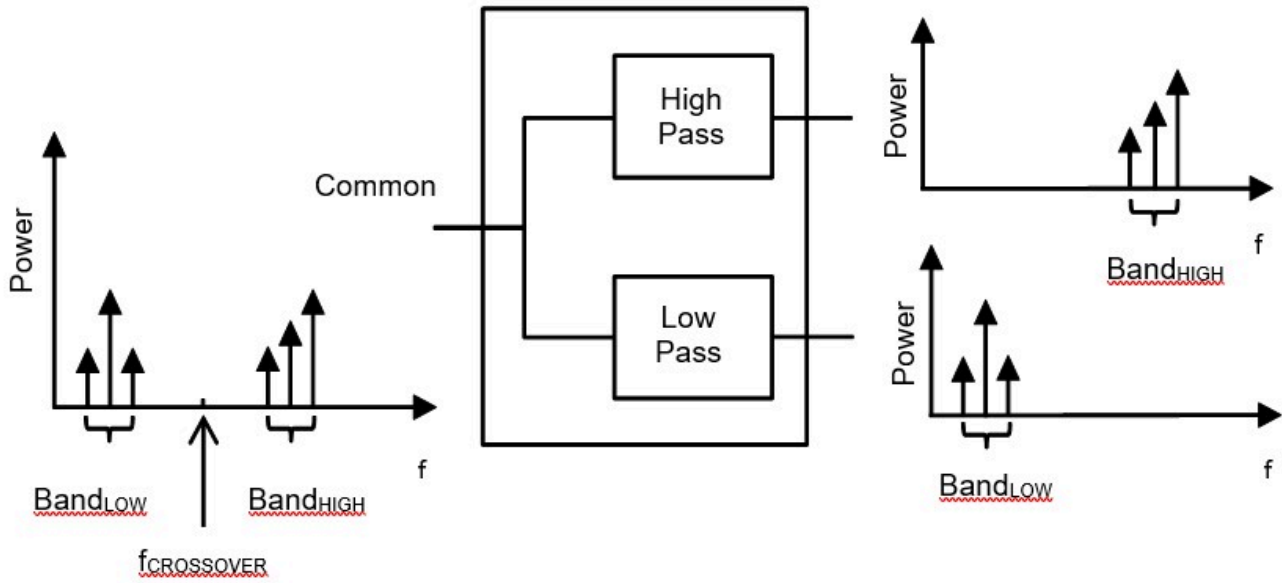
Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
30 dBc Low Pass Rejection Point	<1.5GHz	-	1.5	-	15	-	dB
30 dBc Low Pass Rejection Point	<1GHz	-	1	25	30	-	dB
Common Port Return Loss	<1.5GHz	-	1.5	-	15	-	dB
Common Port Return Loss	-	2.7	7	-	15	-	dB
Cross Over Frequency	-	2.05	2.05	-	5	-	%
High Pass Filter, Pass Band Insertion Loss	-	2.7	7	-	0.6	1.2	dB
High Pass Filter, Pass Band Return Loss	-	2.7	7	-	15	-	dB
Isolation	<1.4GHz	-	1.4	14	25	-	dB
Isolation	-	2.9	7	14	25	-	dB
Low Pass Filter, Pass Band Insertion Loss	-	0	1.5	-	0.6	1.2	dB
Low Pass Filter, Pass Band Return Loss	<1.5GHz	-	1.5	-	15	-	dB
Low Pass Filter, Stop Band Rejection	-	3.5	7	20	25	-	dB
Low Pass Filter, Stop Band Rejection	-	2.7	3.5	-	15	-	dB
RF Power	-	-	-	-	-	1	W
1 dBc High Passband	-	-	-	2.7	-	7	GHz
1 dBc Low Passband	-	-	-	0	-	1.5	GHz

Typical Performance Plots



Application Circuit



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