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Tech Support: support@markimicrowave.com

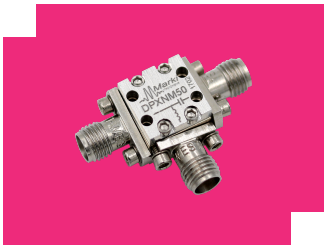
DPXN-M50

Diplexer

DEVICE OVERVIEW

General Description

Available in either a connectorized or miniature surface mount package (0.240 inch x 0.150 inch), the DPX-M50 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 1.2 dB with rejection typically exceeding 25 dB. Besides being ideal for transmitter/receiver applications, the DPX-M50 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

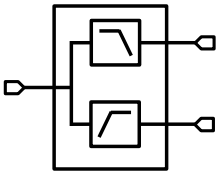
Features

- 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-M50	Diplexer	DPXN	Standard	Consult Factory	Released	EAR99

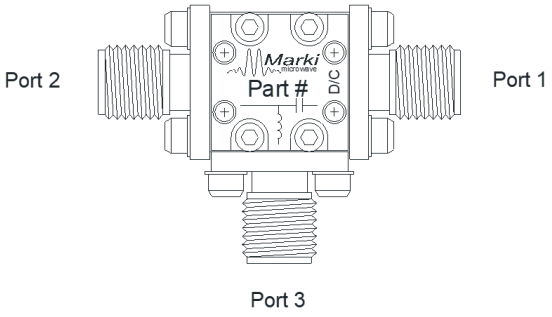
Table Of Contents

Revision History

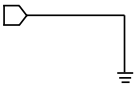
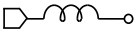
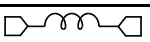
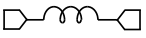
Revision Code	Revision Date	Comment
-	2013-01-01	Datasheet initial Release
A	2019-10-01	Maximum DC Voltage Rating Added

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

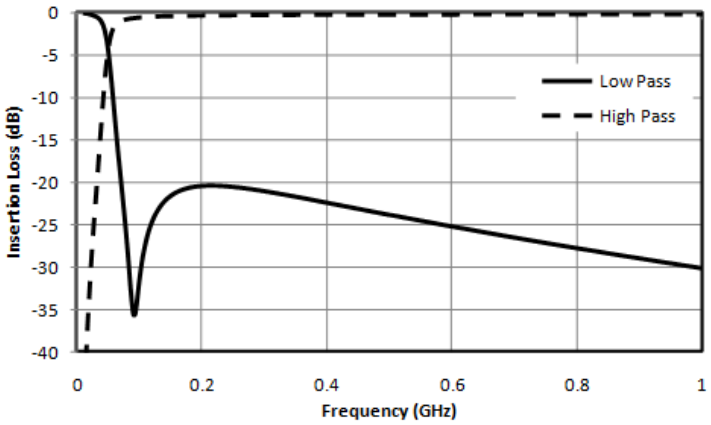
Parameter	Details	Rating
ESD	This device is not sensitive to ESD.	N/A
Dimensions	-	11.94 x 11.94 mm

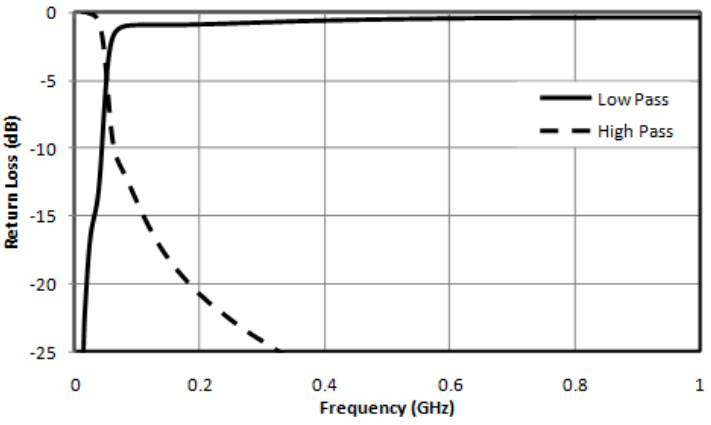
Electrical Specifications

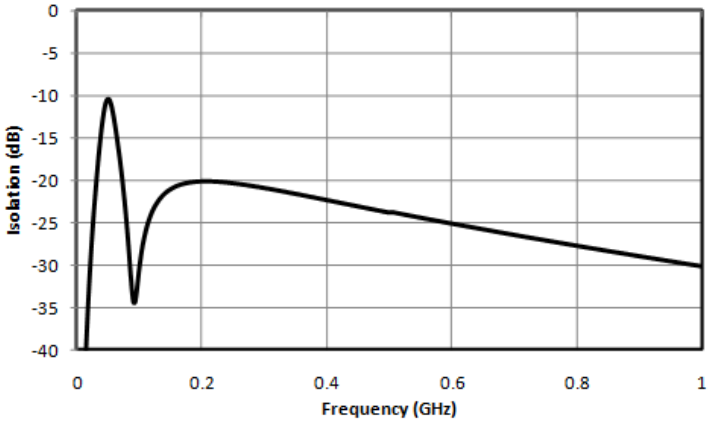
Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

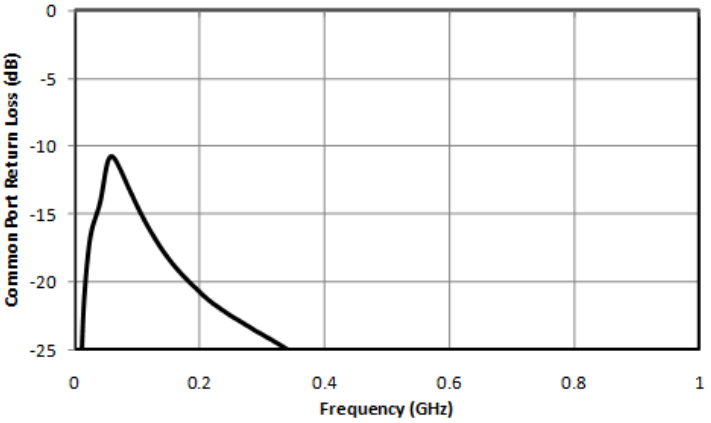
Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
1 dBc Low Passband	-	-	-	0	-	0.035	GHz
1 dBc High Passband	-	-	-	0.07	-	10	GHz
30 dBc Low Pass Rejection Point	<0.015 GHz	-	0.015	25	35	-	dB
30 dBc Low Pass Rejection Point	<0.035 GHz	-	0.035	-	20	-	dB
Common Port Return Loss	0.07 to 10 GHz	0.07	10	-	18	-	dB
Common Port Return Loss	DC to 0.035 GHz	0	0.035	-	18	-	dB
Cross Over Frequency	0.05 GHz	0.05	0.05	-	5	-	%
DC Voltage	-	-	-	-	-	25	V
High Pass Filter, Pass Band Insertion Loss	0.07 - 10 GHz	0.07	10	-	0.7	1.4	dB
High Pass Filter, Pass Band Return Loss	0.07 - 10 GHz	0.07	10	-	18	-	dB
Isolation	<0.03 GHz	-	0.03	14	24	-	dB
Isolation	0.075 - 10 GHz	0.075	10	14	24	-	dB
Low Pass Filter, Pass Band Insertion Loss	DC to 0.035 GHz	0	0.035	-	0.7	1.4	dB
Low Pass Filter, Pass Band Return Loss	DC to 0.035 GHz	0	0.035	-	18	-	dB
Low Pass Filter, Stop Band Rejection	0.07 - 3 GHz	0.07	3	-	24	-	dB
Low Pass Filter, Stop Band Rejection	3 - 10 GHz	3	10	20	30	-	dB
RF Power	-	-	-	-	-	1	W

Typical Performance Plots from DC - 1GHz

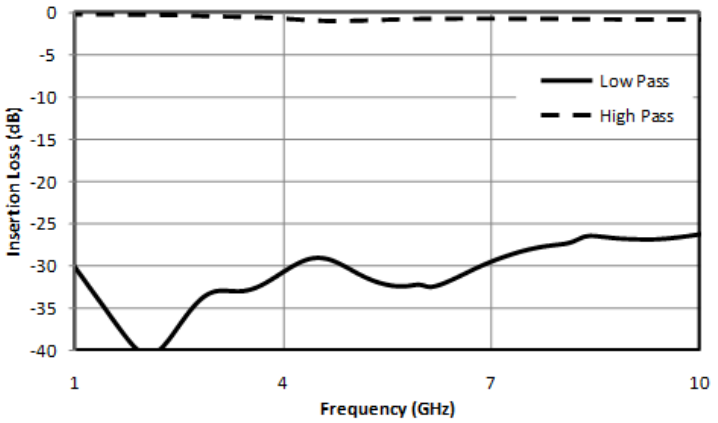


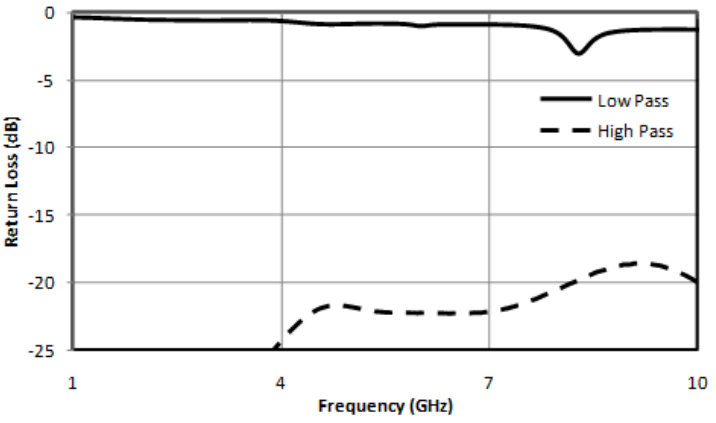


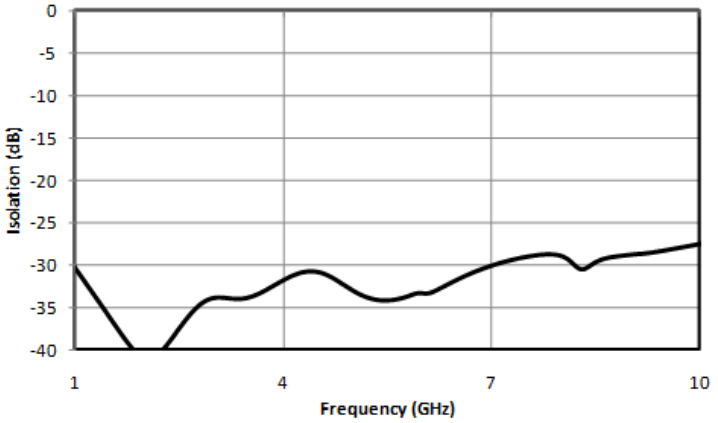


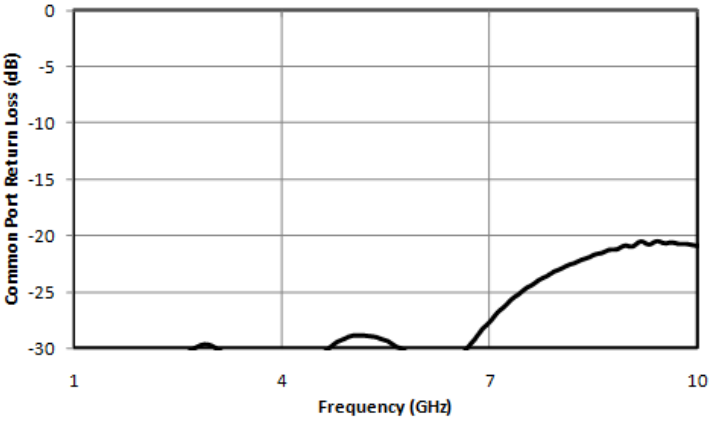


Typical Performance Plots from 1-10GHz





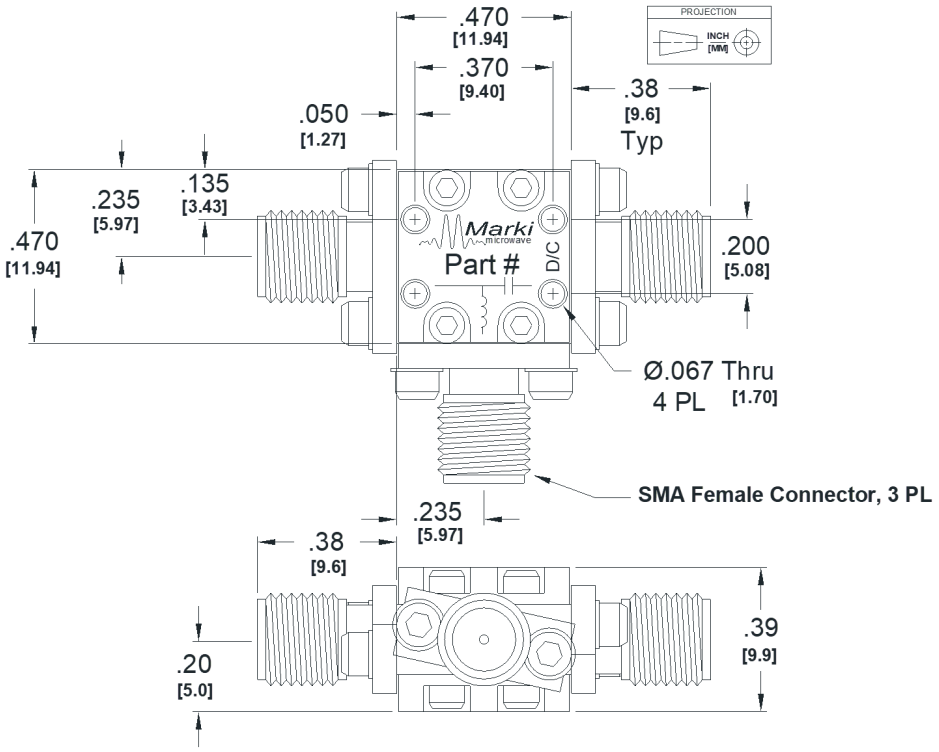




Mechanical Data

Outline Drawing

Download : Outline 2D Drawing | Outline 3D Drawing | Outline 3D STP



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