

# Passive MMIC Diplexer

# MDPX-0305

Page 1

The MDPX-0305 is a broadband passive MMIC diplexer, a combination high pass and loss pass filter, capable of multiplexing low frequency DC to 3 GHz and high frequency 5 to 26.5 GHz signals. Passive GaAs MMIC technology allows production of smaller filter constructions that replace larger form factor circuit board constructions. Tight fabrication tolerances allow for less unit-to-unit variation than traditional filter technologies. The MDPX-0305 is available as a connectorized module. Low unit to unit variation allows for accurate simulations using the provided S3P file taken from measured production units.



## Features

- 4 GHz Crossover Point
- Low <1dB typical Insertion Loss in Pass band
- High Stop Band Suppression
- RoHS Compliant
- [MDPX-0305UB.S3P](#)

**Electrical Specifications** - Specifications guaranteed +25°C for UB package, measured in a 50Ω system.

Parameter	Frequency Range (GHz)	Min	Typ	Max
<b>Low Pass Filter</b>				
Pass Band Insertion Loss (dB)	DC to 3		1	
Stop Band Rejection (dB)	5 to 16	25	45	
	16 to 26.5	20	40	
Pass Band Return Loss (dB)	DC to 3	10	25	
<b>High Pass Filter</b>				
Pass Band Insertion Loss (dB)	5 to 26.5		0.9	
Stop Band Rejection (dB)	DC to 2.5	25	41	
	2.5 to 5		15	
Pass Band Return Loss (dB)	5 to 26.5	10	20	
Common Port Return Loss (dB)	DC to 3	10	25	
	5 to 26.5	10	20	
Isolation (dB)	DC to 2.5	25	40	
	5 to 16	30	47	
	16 to 26.5	25	45	
Impedance (Ω)			50	

## Part Number Options<sup>1</sup>

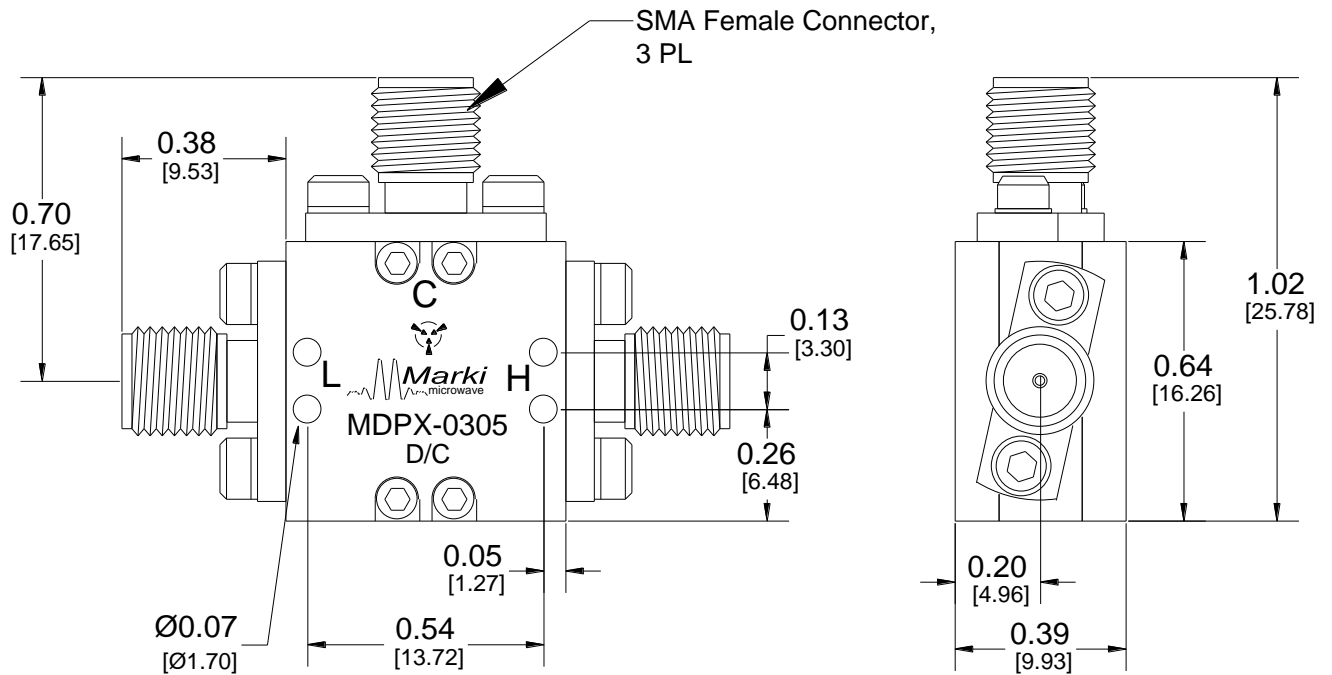
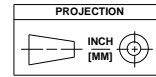
Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification
MDPX-0305	Connectorized Module	UB	RoHS	Active	EAR99

# Passive MMIC Diplexer

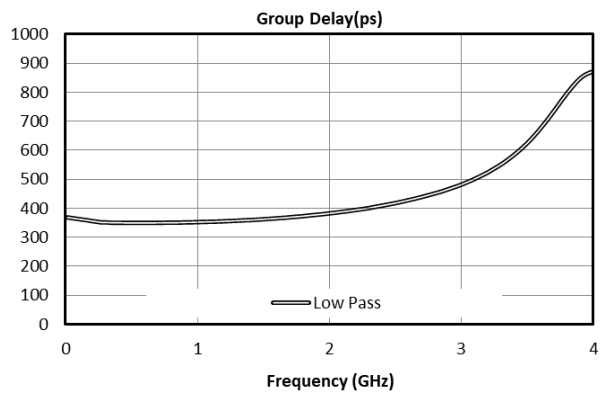
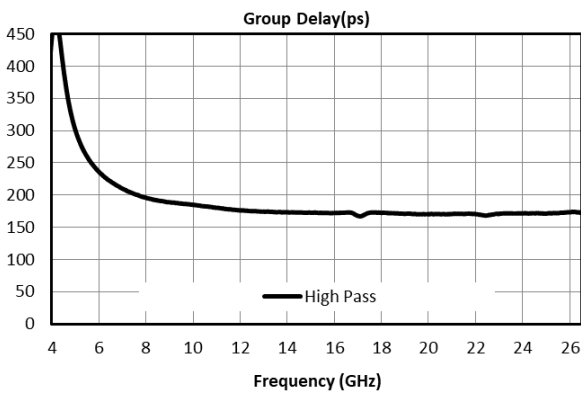
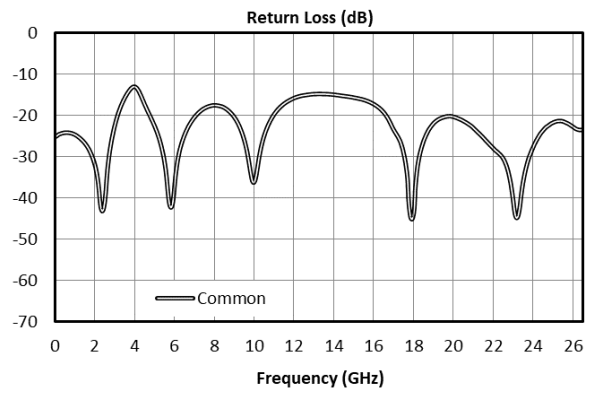
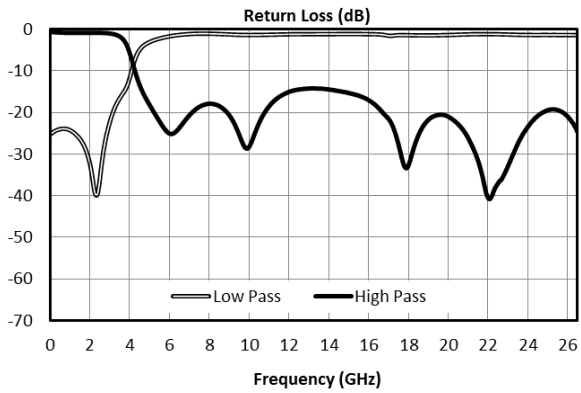
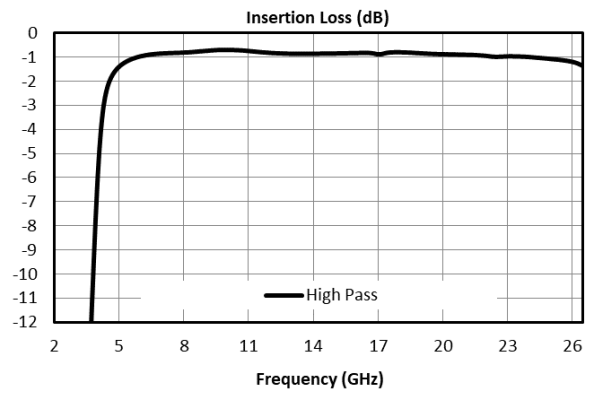
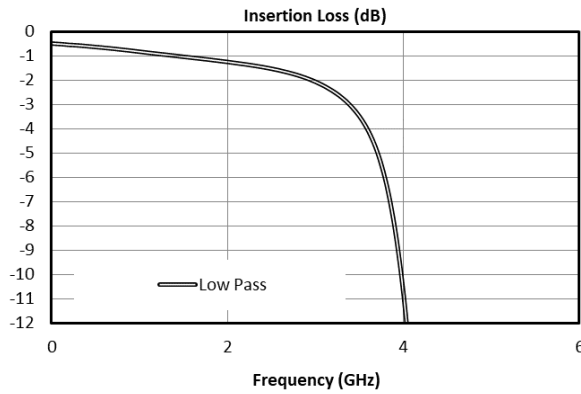
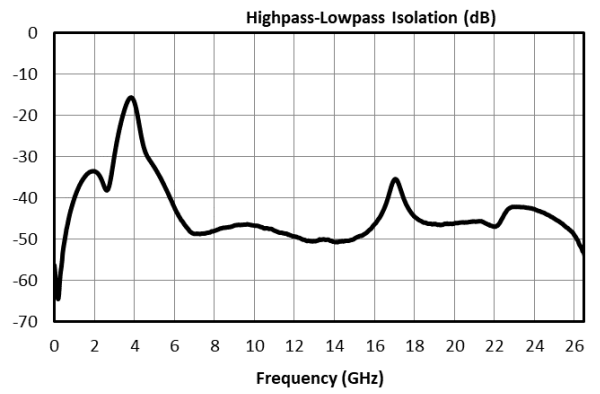
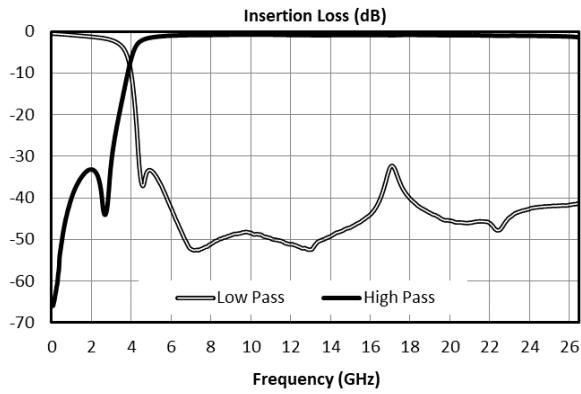
# MDPX-0305

Page 2

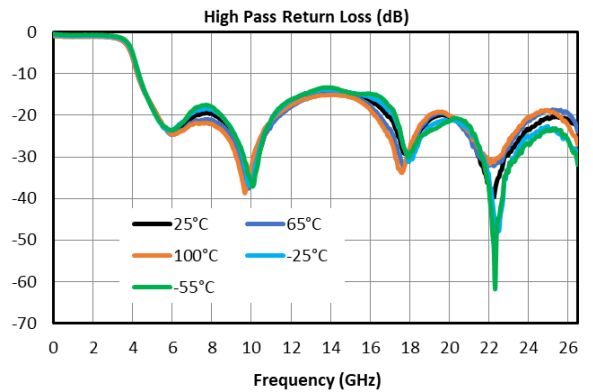
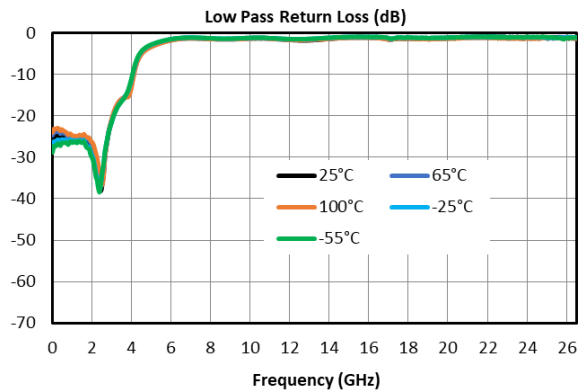
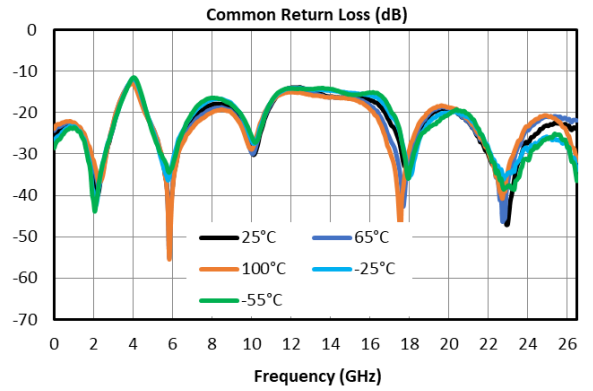
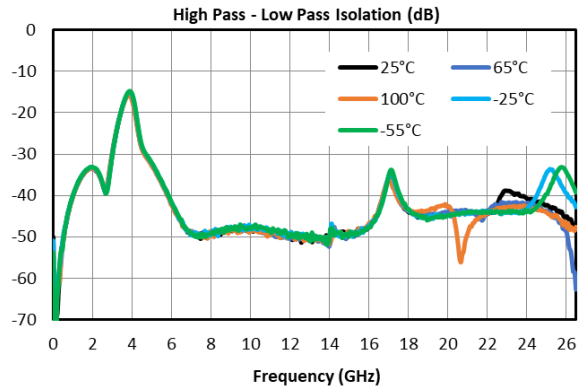
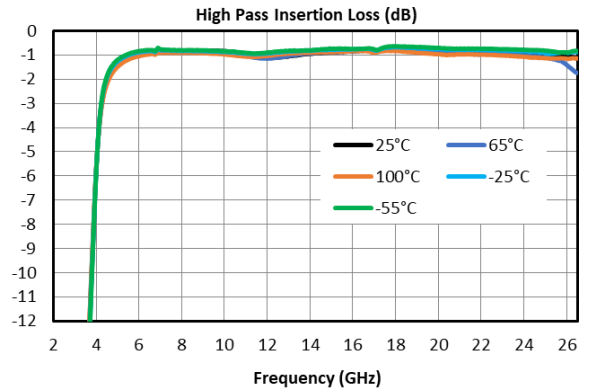
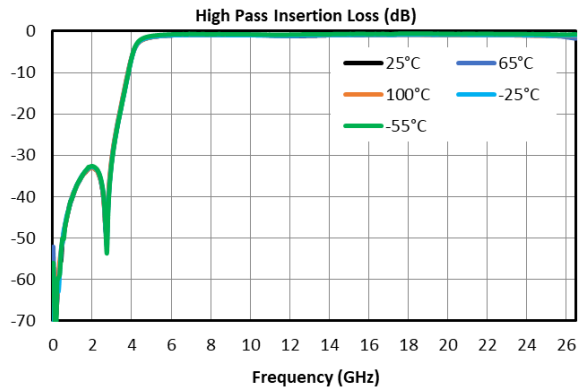
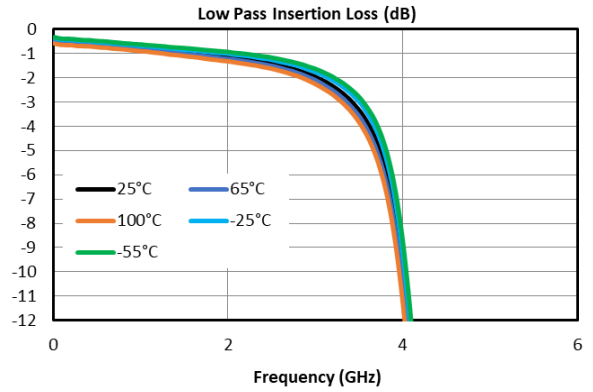
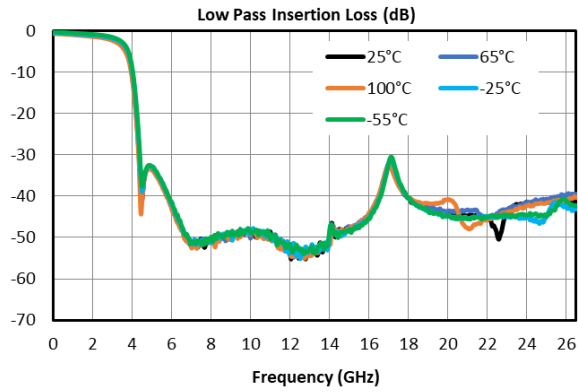
All measurements are Typical.



UB Module Typical Performance



UB Module Typical Performance over temperature



Absolute Maximum Ratings	
Parameter	Maximum Rating
Highpass Port DC Current	N/A
Lowpass Port DC Current	TBD
Common Port DC Current	TBD
RF Power Handling	+30 dBm
Spec Guaranteed Operating Temperature	+25°C
Survivable Operating Temperature	-65°C to +125°C
Storage Temperature	-65°C to +125°C

DATA SHEET NOTES:

1. Group delay calculated using wrapped phase response.
2. Specifications are subject to change without notice. Contact Marki Microwave for the most recent specifications and data sheets.
3. Catalog circuits are continually improved. Configuration control requires custom model numbers and specifications.

Note: Exposure to maximum rating conditions for extended periods may reduce device reliability. There is no damage to device with only one parameter set at the limit and all other parameters set at or below their nominal value. Exceeding any of the limits listed here may result in permanent damage to the device.

**Revision History**

Revision code	Revision Date	Comment
-	July 2021	Datasheet initial Release

Marki Microwave reserves the right to make changes to the product(s) or information contained herein without notice. Marki Microwave makes no warranty, representation, or guarantee regarding the suitability of its products for any particular purpose, nor does Marki Microwave assume any liability whatsoever arising out of the use or application of any product.

© Marki Microwave, Inc.  
[www.markimicrowave.com](http://www.markimicrowave.com)