

# Passive MMIC Diplexer

**MDPX-0407**

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The MDPX-0407 is a broadband passive MMIC diplexer, a combination high pass and low pass filter, capable of multiplexing low frequency DC to 4 GHz and high frequency 7 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-0407 is available as a wire bondable chip or connectorized module. Low unit to unit variation allows for accurate simulations using the provided S3P file taken from measured production units.



### Features

- 5 GHz Crossover Point
- Low <1dB typical Insertion Loss in Pass band
- High Stop Band Suppression
- RoHS Compliant
- [MDPX-0407UB.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 4		0.9	
Stop Band Rejection (dB)	7 to 26.5	25	42	
Pass Band Return Loss (dB)	DC to 4	18	22	
<b>High Pass Filter</b>				
Pass Band Insertion Loss (dB)	7 to 26.5		0.9	
Stop Band Rejection (dB)	DC to 3	25	53	
Pass Band Return Loss (dB)	7 to 26.5	7	17.5	
Common Port Return Loss (dB)	DC to 4	18	22	
	7 to 26.5	7	17.5	
Isolation (dB)	DC to 3	25	38	
	3 to 4		20	
	7 to 26.5	25	38	
Impedance (Ω)			50	

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

<i>Please specify package style by adding to model number.</i>		
Package Styles	Examples	
UB	MDPX-0407UB	
	MDPX-0407 (Model)	UB (Package)

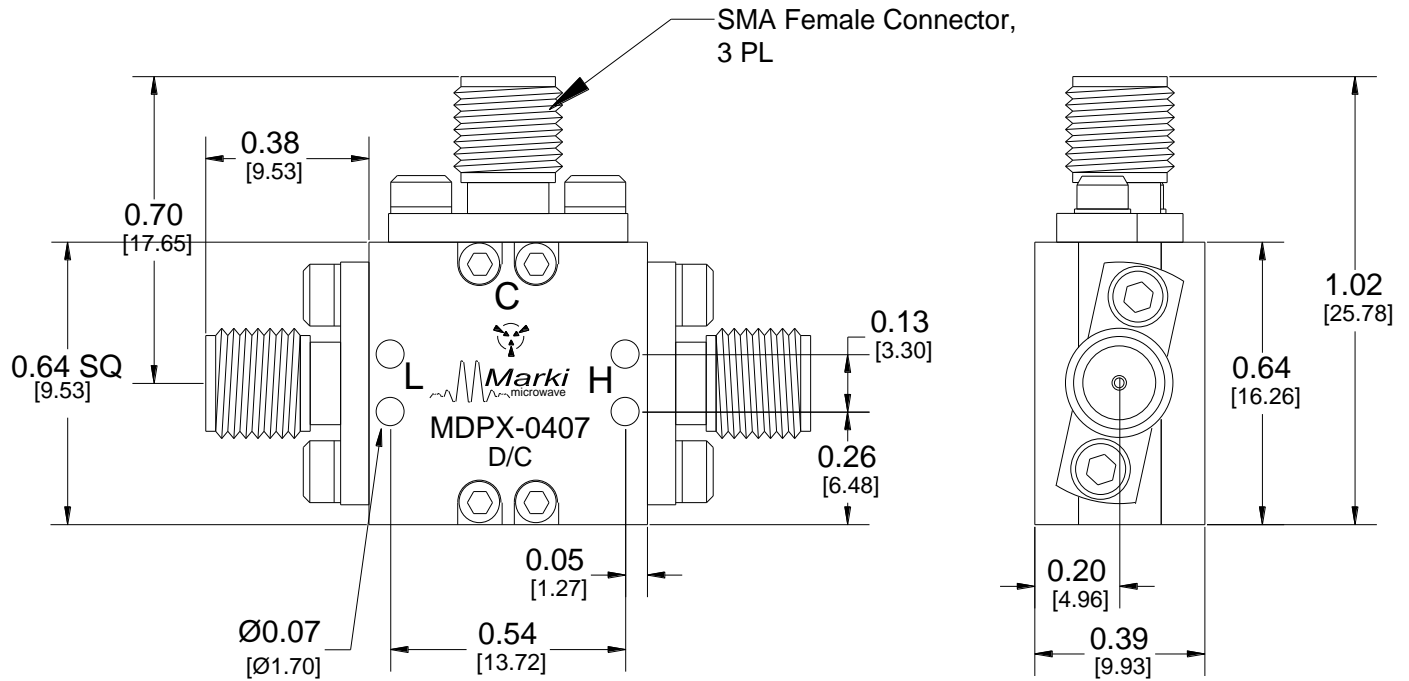
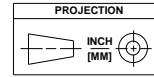
<sup>1</sup>Note: For port locations and I/O designations, refer to the drawings on page 2 of this document.

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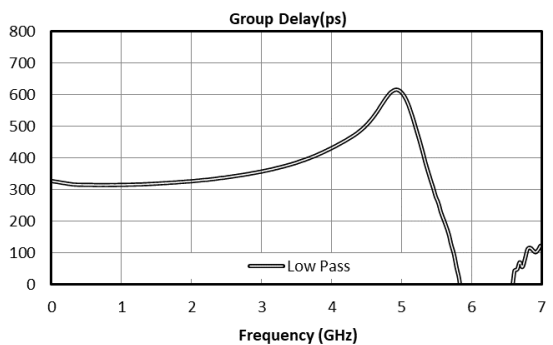
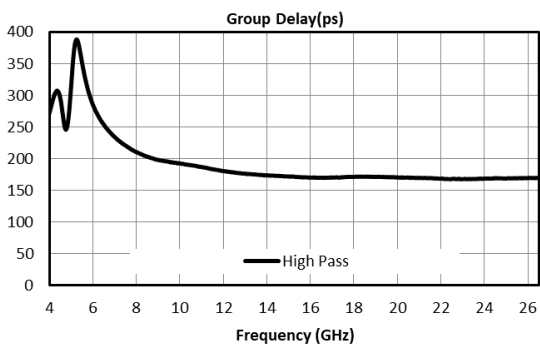
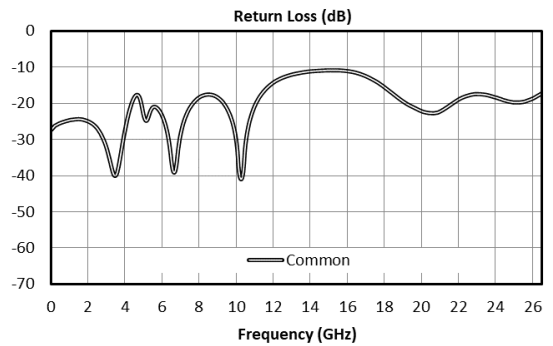
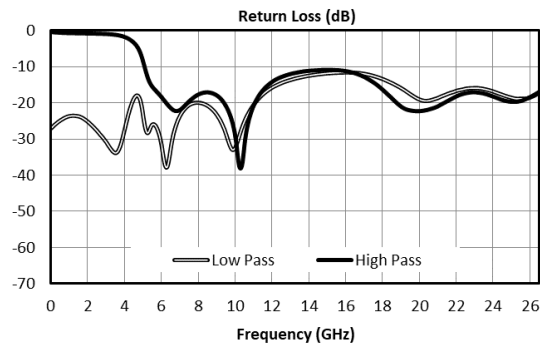
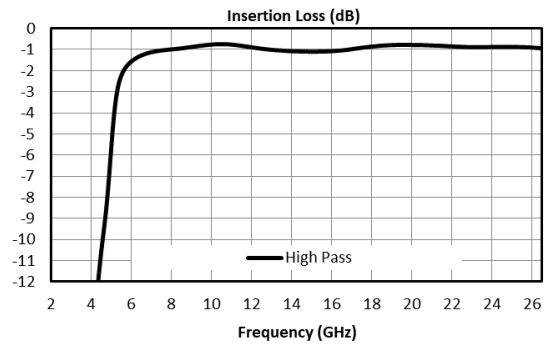
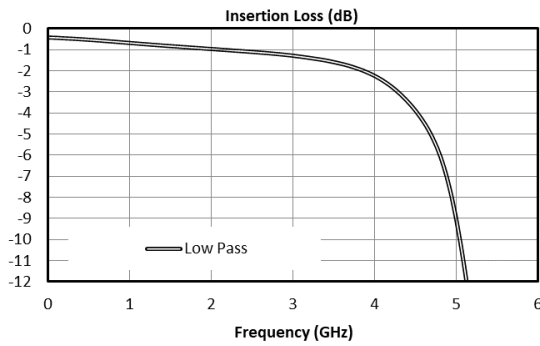
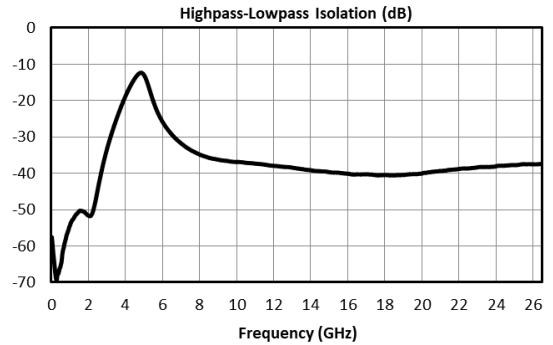
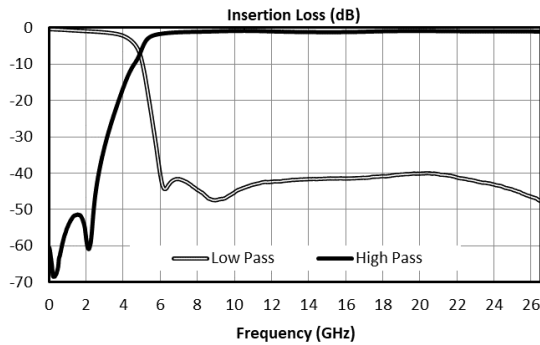
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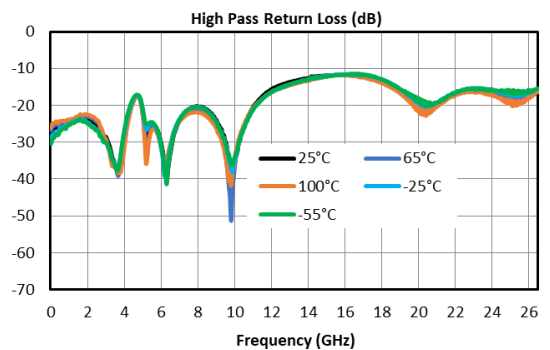
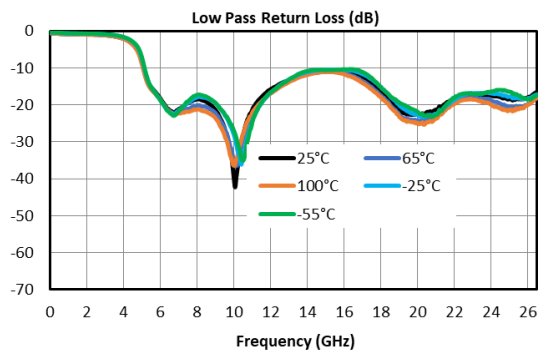
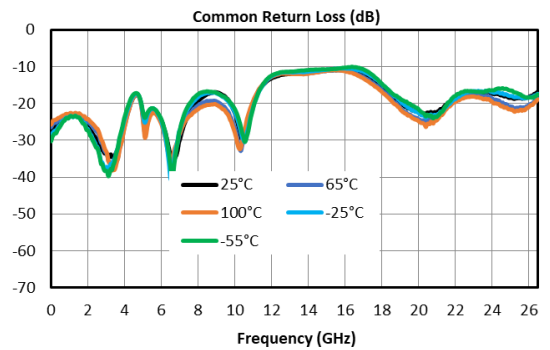
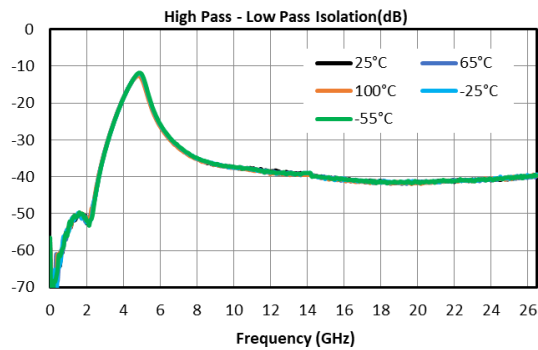
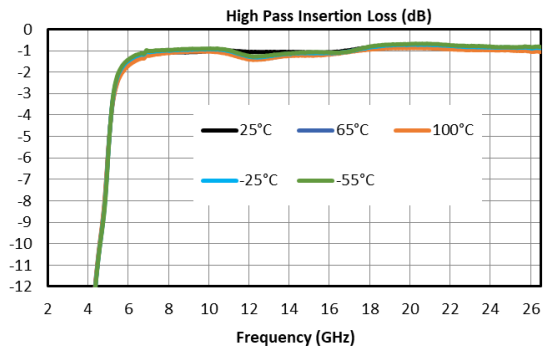
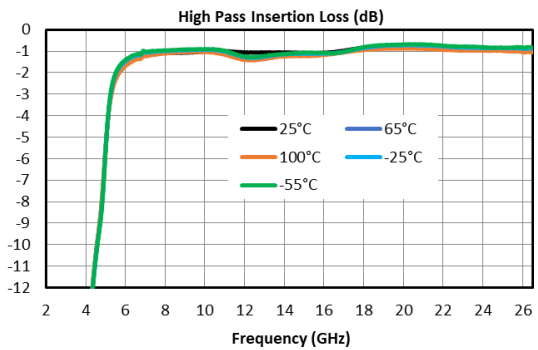
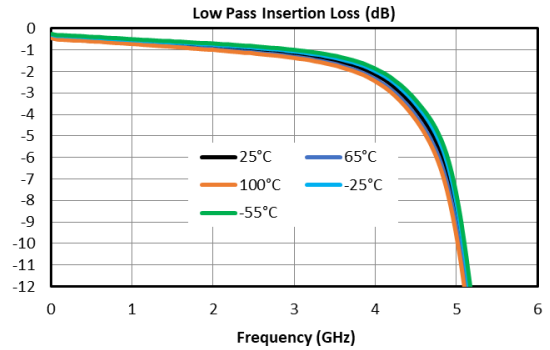
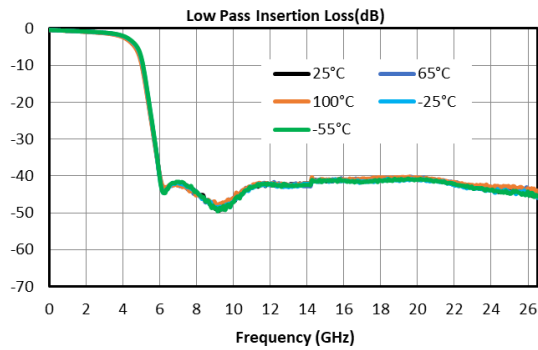
All measurements are Typical.



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
-	May 2021	Datasheet initial Release

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